Output results of CLIME (CLustering by Inferred Models of Evolution)

Dataset:

Num of genes in input gene set: 148
Total number of genes: 20834
Prediction LLR threshold: 0

The CLIME PDF output two sections:

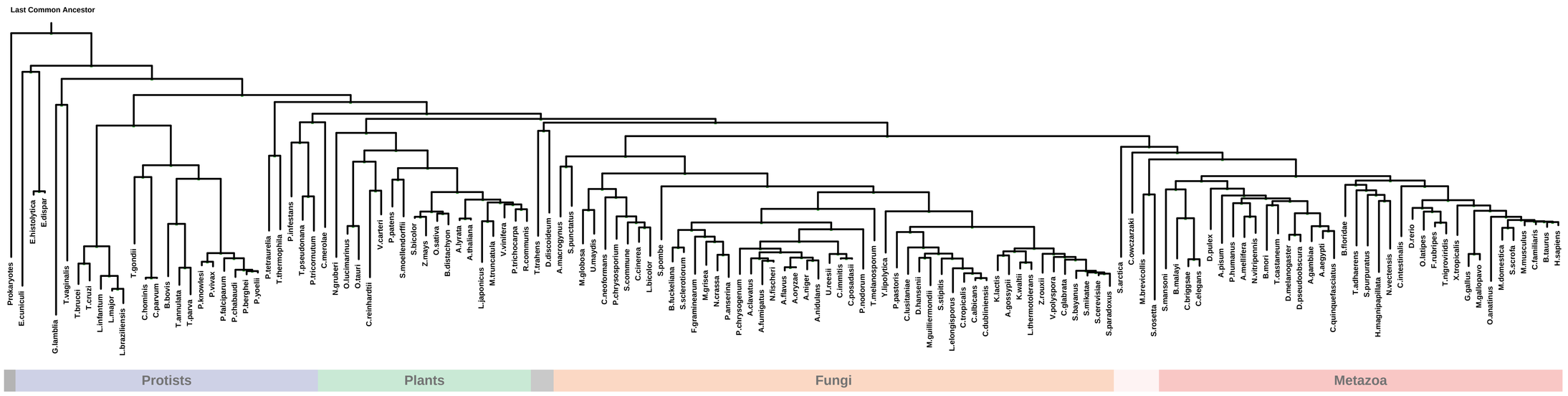
1) Overview of Evolutionarily Conserved Modules (ECMs)

- Top panel shows the predefined species tree.
- Bottom panel shows the partition of input genes into Evolutionary Conserved Modules (ECMs), ordered by ECM strength (shown at right), and separated by horizontal lines.
- Each row show one gene, where the phylogenetic profile indicates presence (blue) or absence (gray) of homologs in each species (column).
- Gene symbols are shown at left. Gray color indicates that the gene is a paralog to a higher scoring gene within the same ECM (based on BLASTP E < 1e-3).

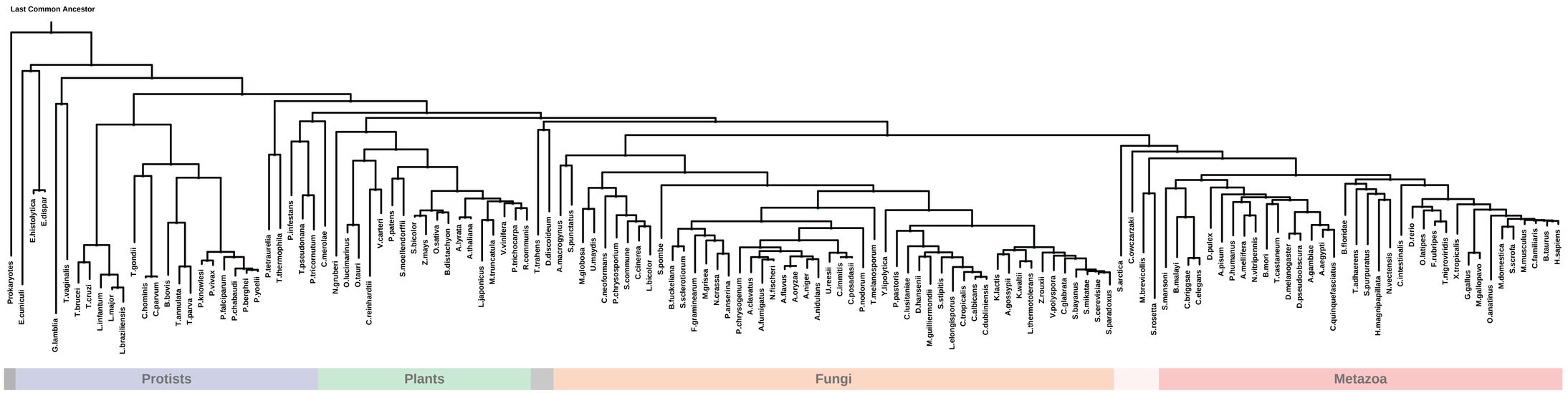
2) Details of each ECM and its expansion ECM+

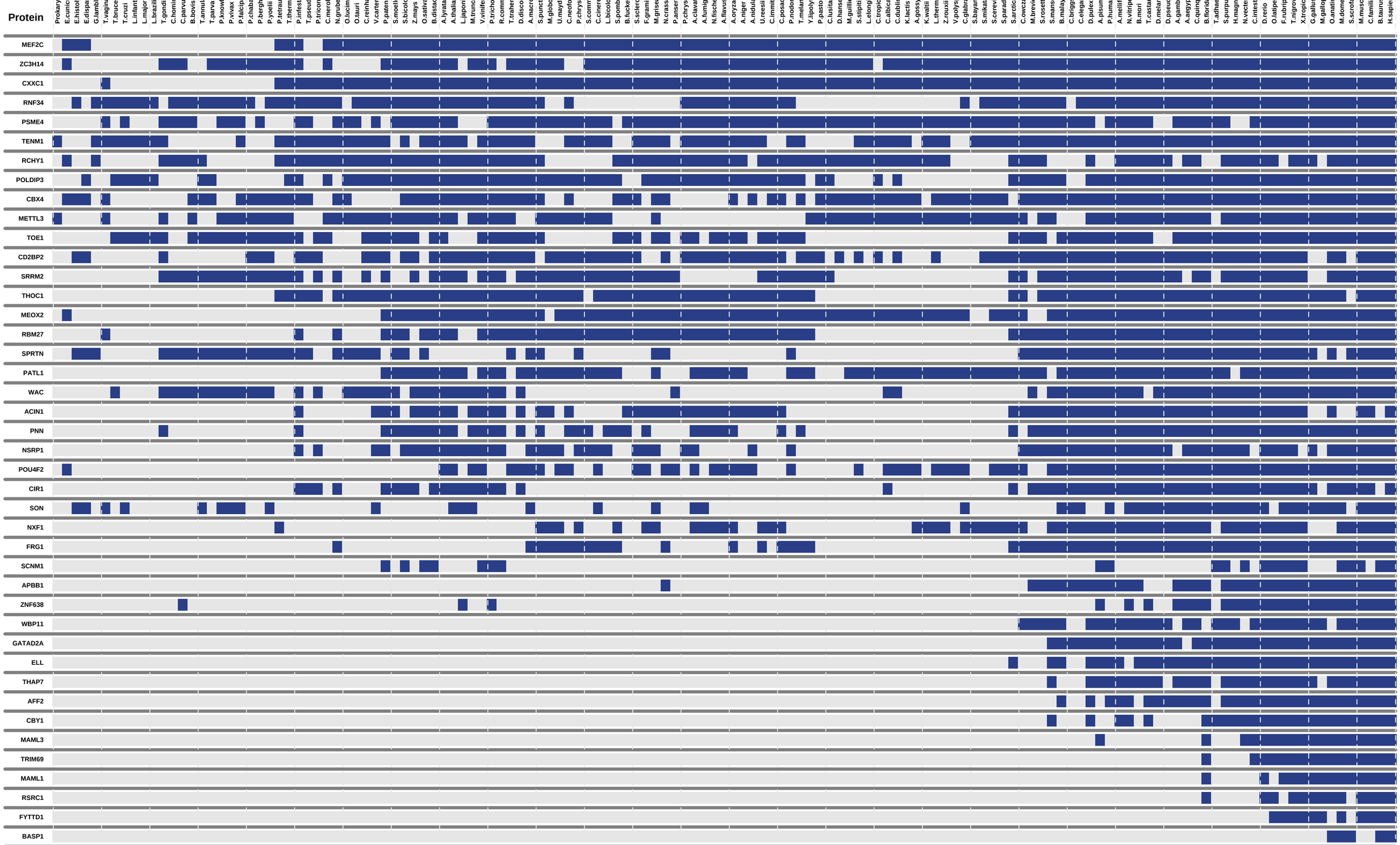
- Top panel shows the inferred evolutionary history on the predefined species tree. Branch color shows the gain event (blue) and loss events (red color, with brighter color indicating higher confidence in loss). Branches before the gain or after a loss are shown in gray.
- Bottom panel shows the input genes that are within the ECM (blue/white rows) as well as all genes in the expanded ECM+ (green/gray rows). The ECM+ includes genes likely to have arisen under the inferred model of evolution relative to a background model, and scored using a log likelihood ratio (LLR).
- PG indicates "paralog group" and are labeled alphabetically (i.e., A, B). The first gene within each paralog group is shown in black color. All other genes sharing sequence similarity (BLAST E < 1e-3) are assigned to the same PG label and displayed in gray.

Overview of Evolutionarily Conserved Modules (ECMs)



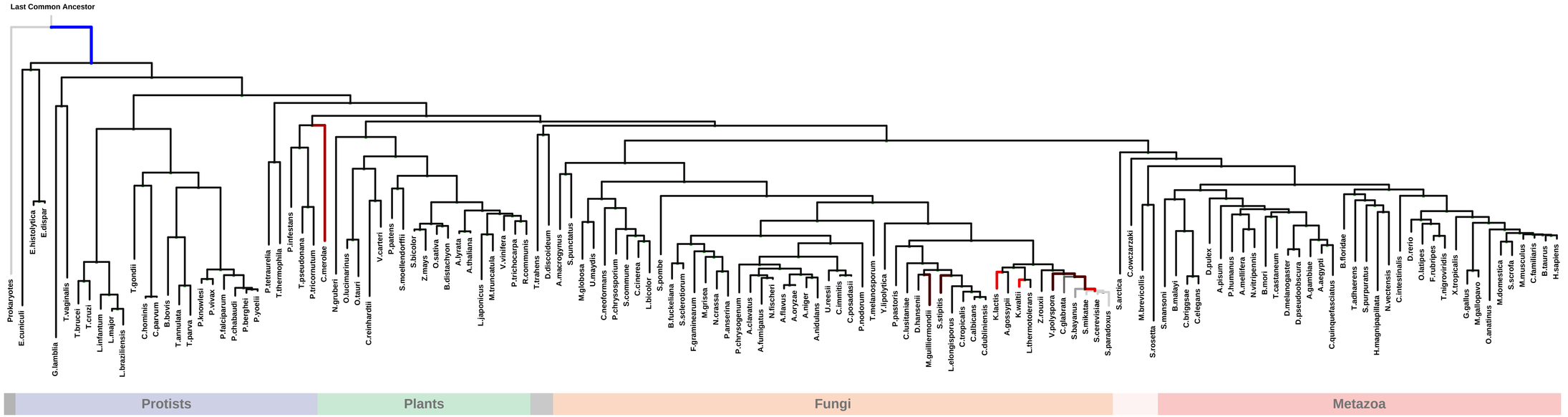
Overview of Evolutionarily Conserved Modules (ECMs)

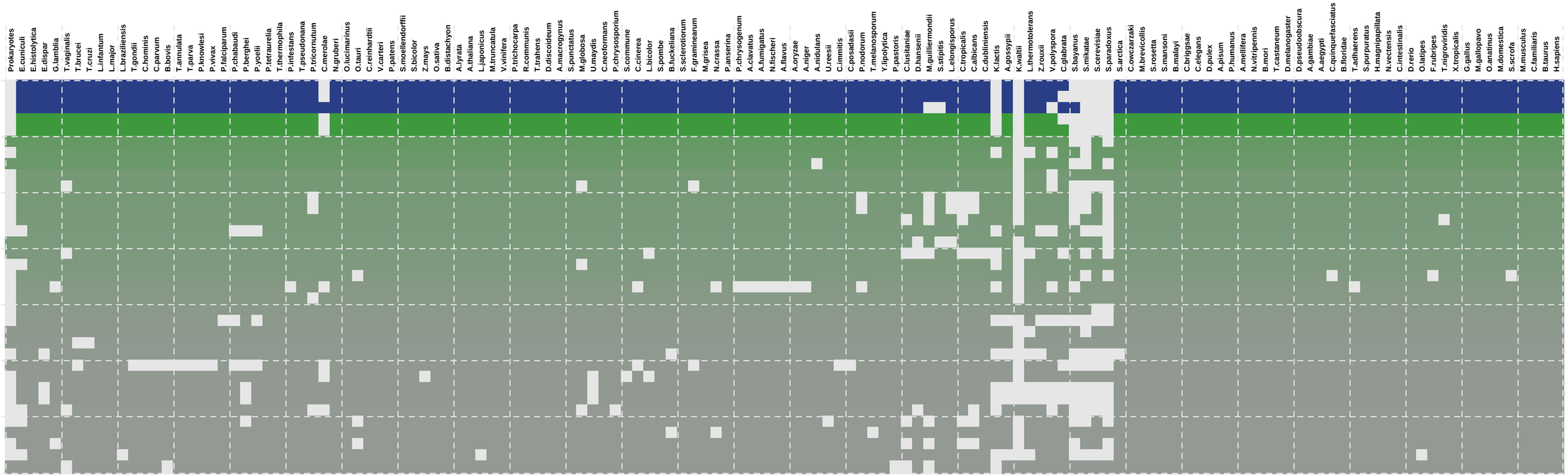




ECM 1, Gene set "nuclear speck", Page 1

Num of ECM Genes: 3. Num of Predicted Genes: 57. ECM Strength: 9.6

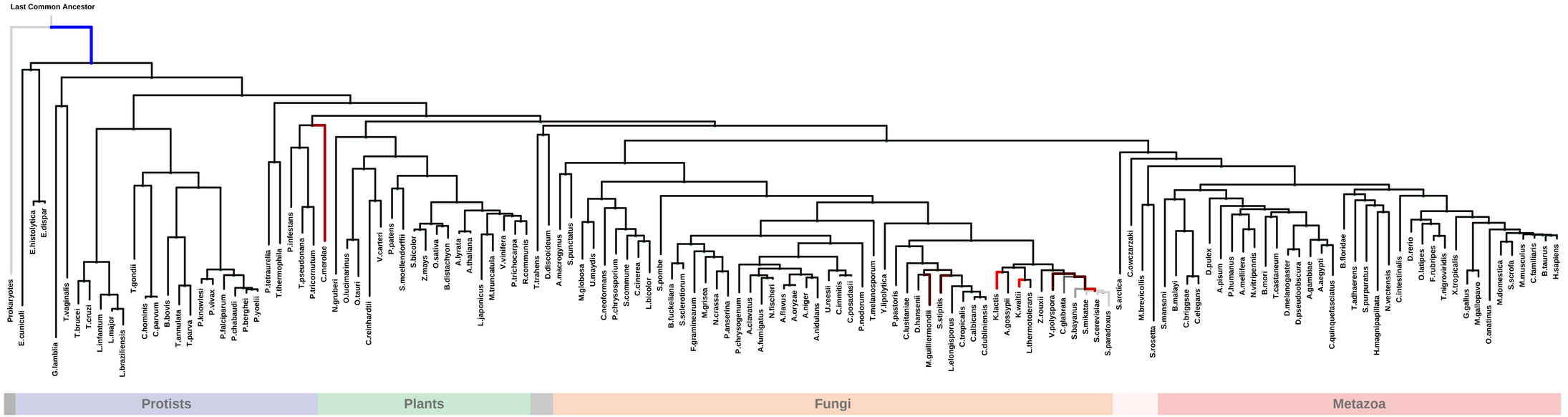


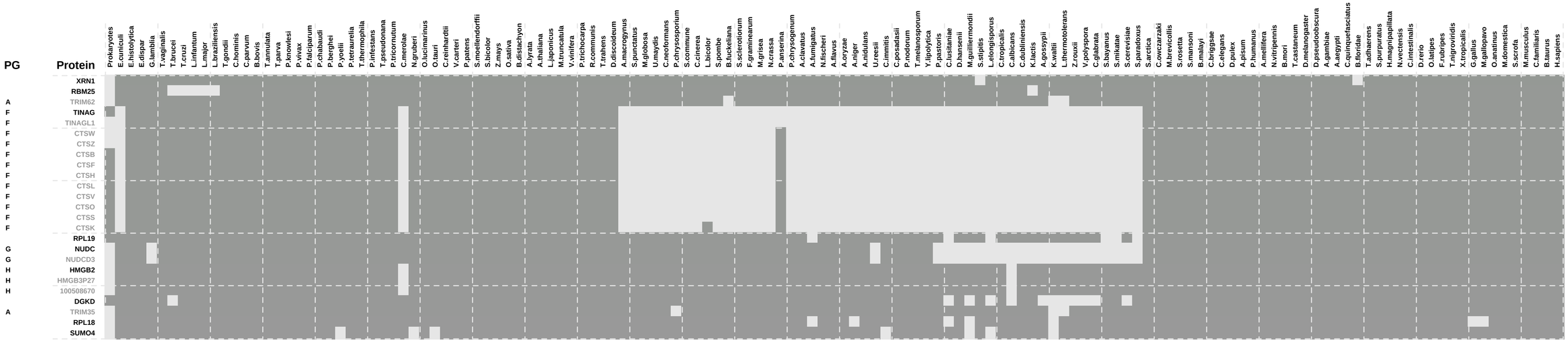


1: nuclear speck || 2: spliceosomal complex || 3: Cajal body || 4: catalytic step 2 spliceosome || 5: PcG protein complex || 6: PRC1 complex || 7: sex chromatin || 8: ubiquitin ligase complex || 9: U12-type spliceosomal complex ||
10: MLL1 complex || 11: nuclear body || 12: cilium || 13: cytosolic small ribosomal subunit || 14: ribosome || 15: small ribosomal subunit || 16: cell body fiber || 17: myelin sheath || 18: cytosolic large ribosomal subunit ||
19: cytosolic ribosome || 20: cortical actin cytoskeleton || 21: filamentous actin || 22: unconventional myosin complex || 23: cytoplasmic mRNA processing body || 24: ribonucleoprotein complex || 25: SCF ubiquitin ligase complex ||

ECM 1, Gene set "nuclear speck", Page 2

Num of ECM Genes: 3. Num of Predicted Genes: 57. ECM Strength: 9.6





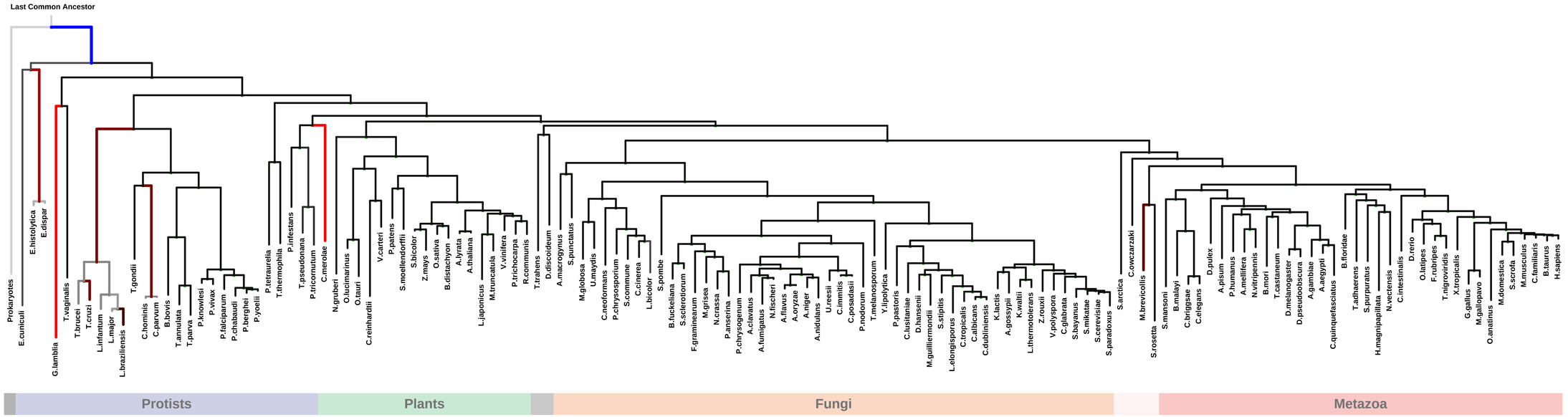
1: intermediate filament cytoskeleton || 2: nuclear speck || 3: basement membrane || 4: extracellular matrix || 5: lysosome || 6: caveola || 7: endolysosome lumen || 8: external side of plasma membrane || 9: melanosome ||
10: sarcolemma || 11: lysosomal lumen || 12: alveolar lamellar body || 13: apical part of cell || 14: microvillus || 15: neuron projection || 16: perikaryon || 17: secretory granule || 18: cytosolic large ribosomal subunit ||
19: condensed chromosome || 20: chromosome || 21: cytoplasmic membrane-bounded vesicle

ECM 2, Gene set "nuclear speck", Page 1

Num of ECM Genes: 8. Num of Predicted Genes: 263. ECM Strength: 6.0

PRESENCE — GAIN — ABSENCE — LOSS

Log-likelihood Ratio Scale: 0 10 20 30 40 50 60

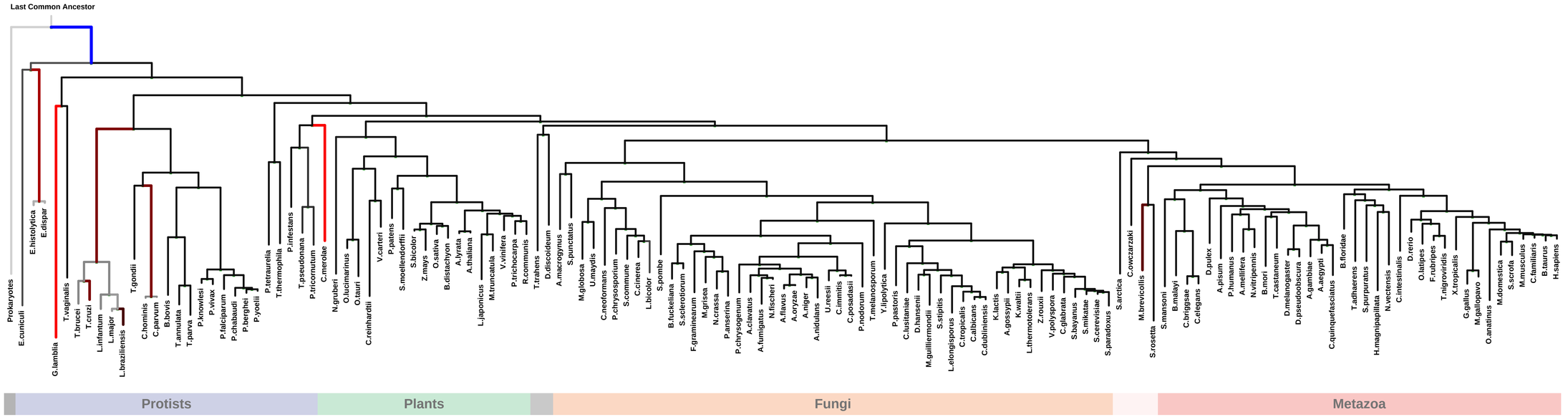


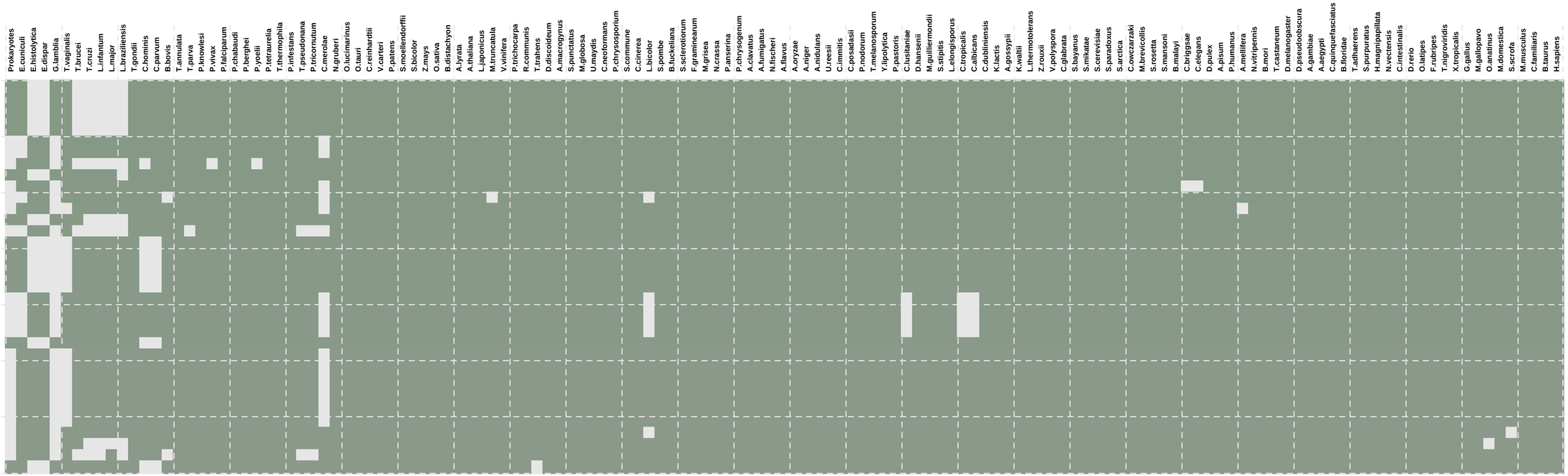
PG	Protein	LLR	Notes
A	CCNL1		1
B	LUC7L2		1
B	PRPF40A		1 / 2
A	LUC7L3		1 / 3
A	PRPF40B		1
C	PRPF18		1 / 4
	WBP4		1 / 4
	PRPF3		1 / 4 / 5
B	LUC7L	34.1	
D	CNGA4	18.0	6
E	CCDC130	17.0	
D	CNGB3	16.3	7
F	HAGHL	15.9	
G	SLC2A11	15.6	
H	MYO10	15.4	8 / 9 / 10 / 11 / 12 / 13 / 14
H	MYO7B	15.4	12
I	HMGB1	15.4	13 / 15 / 16
J	KCNAB1	14.9	
	BUD31	14.1	
K	SETD2	13.9	17
	DCP2	13.0	18 / 19
D	CNGA1	11.1	20
L	ANGEL1	11.0	
L	PDE12	11.0	
L	ANGEL2	11.0	
L	CCRN4L	11.0	
M	GPD1L	10.9	21
M	GPD1	10.9	21
	POLA2	10.4	22
G	SLC2A13	10.4	
N	IGF2BP2	9.8	23
N	IGF2BP3	9.6	
I	HMGB3	9.3	17
I	HMG20A	9.1	
C	CCNK	9.1	

1: nuclear speck || 2: nuclear matrix || 3: focal adhesion || 4: spliceosomal complex || 5: Cajal body || 6: intracellular cyclic nucleotide activated cation channel complex || 7: photoreceptor outer segment || 8: cell cortex ||
9: filopodium membrane || 10: filopodium tip || 11: lamellipodium || 12: myosin complex || 13: neuron projection || 14: ruffle || 15: condensed chromosome || 16: transcriptional repressor complex || 17: chromosome ||
18: cytoplasmic mRNA processing body || 19: RNA-induced silencing complex || 20: photoreceptor outer segment membrane || 21: glycerol-3-phosphate dehydrogenase complex || 22: alpha DNA polymerase:primase complex || 23: cytoskeletal part

ECM 2, Gene set "nuclear speck", Page 2

Num of ECM Genes: 8. Num of Predicted Genes: 263. ECM Strength: 6.0

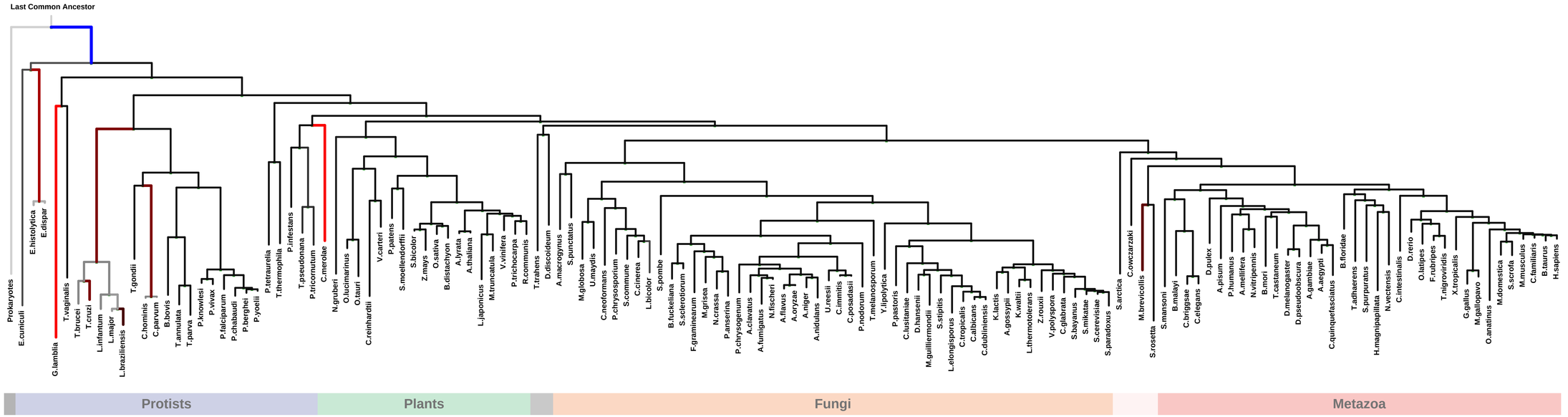




1: chromosome || 2: ESC/E(Z) complex || 3: pronucleus || 4: chromatin || 5: chromosome, centromeric region || 6: nuclear heterochromatin || 7: myofibril || 8: T-tubule || 9: Z disc || 10: endosome || 11: histone methyltransferase complex ||
12: cell cortex || 13: lysosomal membrane || 14: melanosome || 15: myosin complex || 16: photoreceptor connecting cilium || 17: photoreceptor inner segment || 18: photoreceptor outer segment || 19: stereocilium || 20: synapse ||
21: apical part of cell || 22: axon || 23: clathrin-coated endocytic vesicle || 24: clathrin-coated vesicle membrane || 25: coated pit || 26: cytoplasmic membrane-bounded vesicle || 27: DNA-directed RNA polymerase II, holoenzyme ||

ECM 2, Gene set "nuclear speck", Page 3

Num of ECM Genes: 8. Num of Predicted Genes: 263. ECM Strength: 6.0

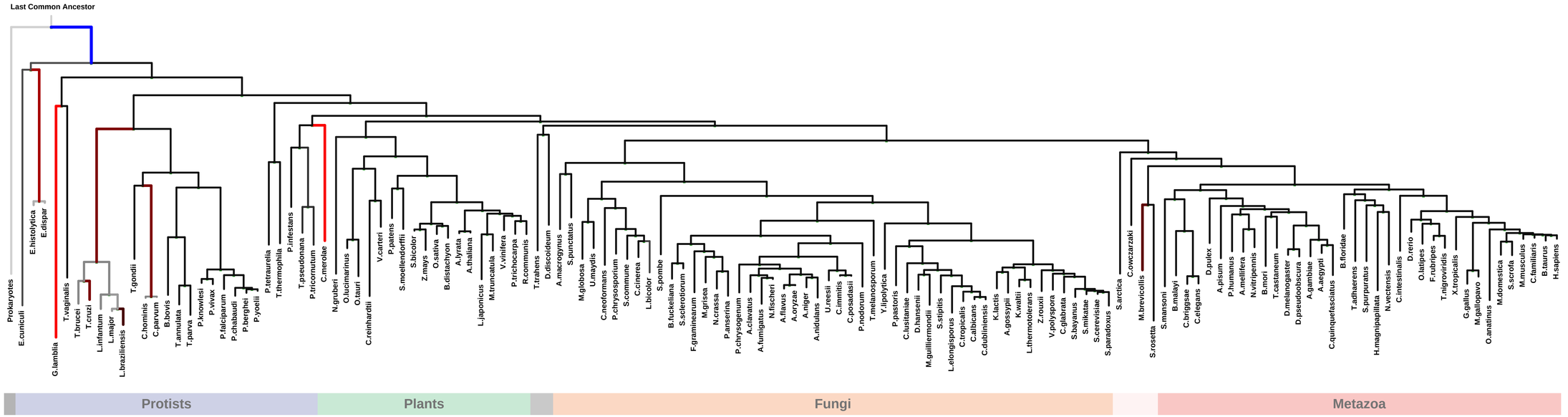


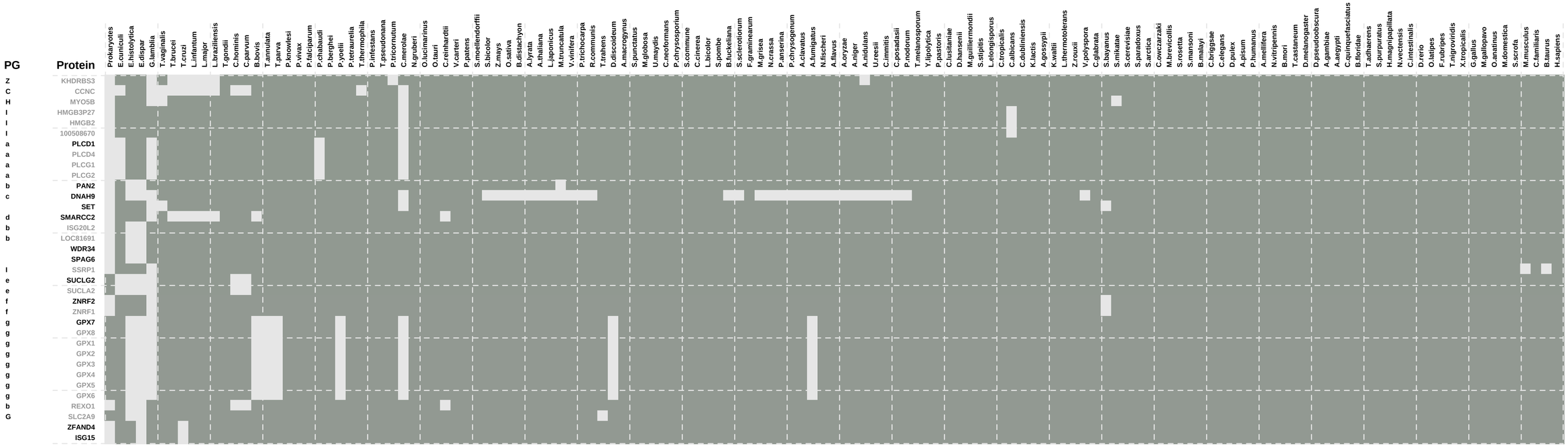
PG	Protein	LLR	Notes
G	SLC2A5	6.2	
U	ATRN	5.9	
U	KLHL14	5.8	1
J	KCNAB2	5.8	2
V	EIF4G3	5.7	3
	BUD13	5.7	
I	HMGB4	5.6	4
	RAVER2	5.5	
I	HMGB3P22	5.4	
	YEATS4	5.4	5 / 6
	TRRAP	5.4	5 / 7 / 8 / 9
I	TOX4	5.1	10 / 11
	WDR45	5.0	
W	SHMT2	5.0	12 / 13 / 14
W	SHMT1	5.0	
	RABL6	5.0	
	EPHX4	4.9	
X	RPH3A	4.8	15 / 16 / 17
X	SYT6	4.8	15 / 17 / 18
U	ZBTB8A	4.8	
Y	SMARCD1	4.7	19 / 20 / 21 / 22
T	MAP1LC3B	4.7	23 / 24 / 25 / 26 / 27 / 28 /
T	MAP1LC3B2	4.7	24 / 26 / 28
T	MAP1LC3A	4.7	23 / 24 / 26 / 28 / 30 / 31
I	HMG20B	4.6	4
	CWC22	4.5	32 / 33
N	IGF2BP1	4.4	34 / 35 / 36 / 37 / 38
	TLE6	4.3	39
	SNW1	4.3	10 / 32 / 33 / 40
	PSMD13	4.2	41 / 42 / 43
	WDR74	4.2	
D	HCN3	4.1	
	COX15	4.0	44 / 45
H	MYO1D	4.0	46 / 47 / 48
Z	KHDRBS2	4.0	

1: neuron projection || 2: juxtaparanode region of axon || 3: eukaryotic translation initiation factor 4F complex || 4: chromosome || 5: NuA4 histone acetyltransferase complex || 6: nuclear matrix || 7: PCAF complex || 8: STAGA complex ||
9: transcription factor TFTC complex || 10: chromatin || 11: PTW/PP1 phosphatase complex || 12: microtubule cytoskeleton || 13: mitochondrial intermembrane space || 14: mitochondrial nucleoid || 15: extrinsic to membrane || 16: secretory granule ||
17: synaptic vesicle membrane || 18: perinuclear endoplasmic reticulum || 19: chromatin remodeling complex || 20: nBAF complex || 21: npBAF complex || 22: SWI/SNF complex || 23: autophagic vacuole || 24: autophagic vacuole membrane ||

ECM 2, Gene set "nuclear speck", Page 4

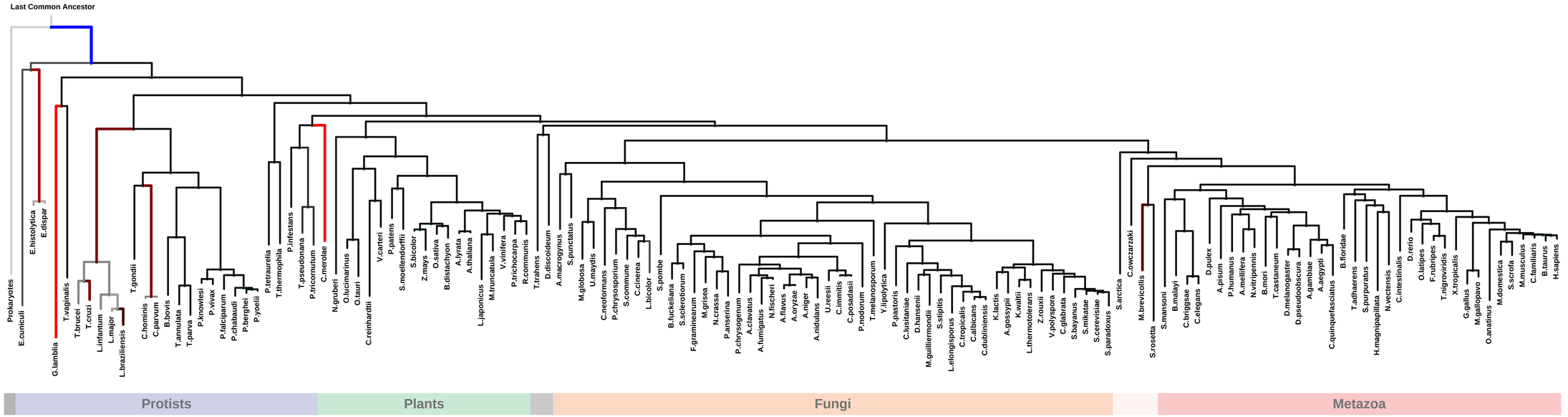
Num of ECM Genes: 8. Num of Predicted Genes: 263. ECM Strength: 6.0

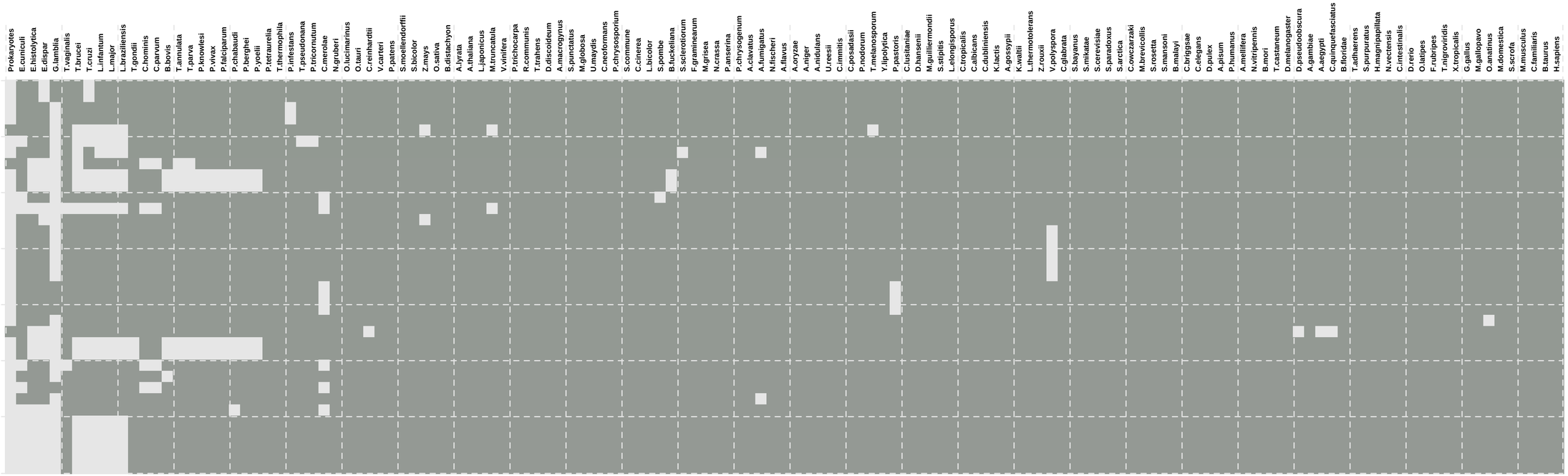




ECM 2, Gene set "nuclear speck", Page 5

Num of ECM Genes: 8. Num of Predicted Genes: 263. ECM Strength: 6.0

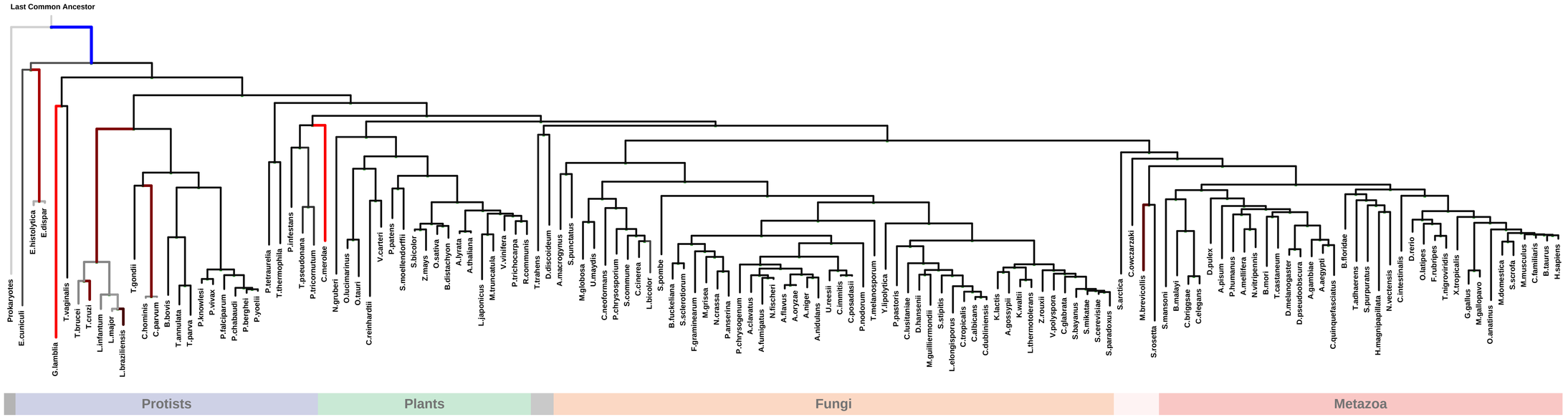


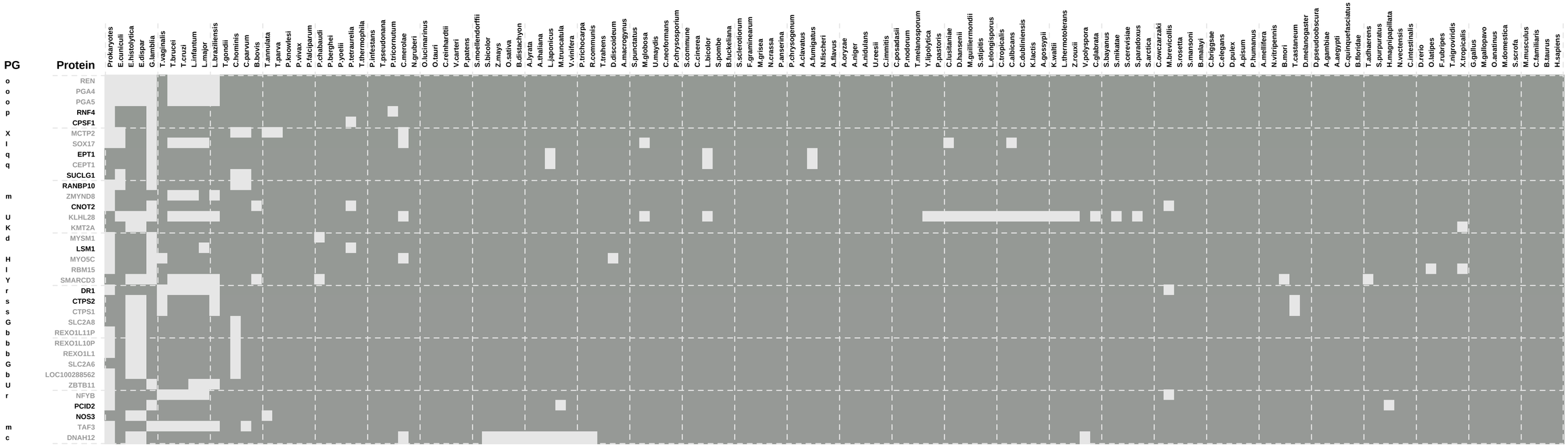


1: nuclear heterochromatin || 2: peroxisomal matrix || 3: peroxisome || 4: autosome || 5: X chromosome || 6: XY body || 7: Y chromosome || 8: kinetochore || 9: Sin3 complex || 10: transcriptional repressor complex ||
11: nuclear pore || 12: mitotic spindle || 13: ruffle membrane || 14: early endosome || 15: stress fiber || 16: ribonucleoside-diphosphate reductase complex || 17: MOZ/MORF histone acetyltransferase complex || 18: NuA4 histone acetyltransferase complex ||
19: Piccolo NuA4 histone acetyltransferase complex || 20: eukaryotic translation initiation factor 4F complex || 21: cleavage furrow || 22: alveolar lamellar body || 23: lysosome || 24: endosome || 25: extracellular matrix || 26: lysosomal lumen ||

ECM 2, Gene set "nuclear speck", Page 6

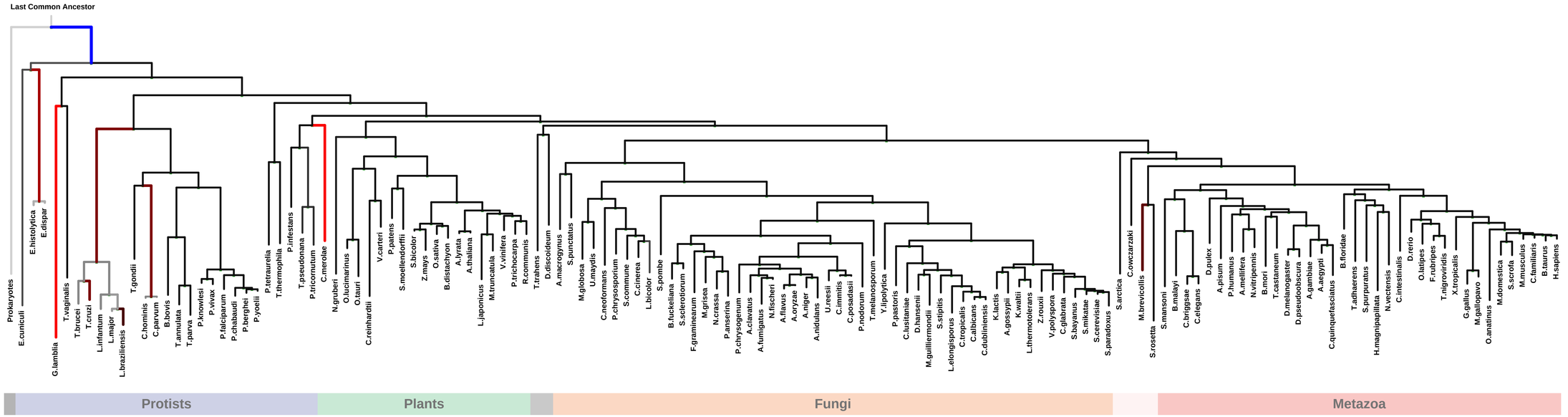
Num of ECM Genes: 8. Num of Predicted Genes: 263. ECM Strength: 6.0

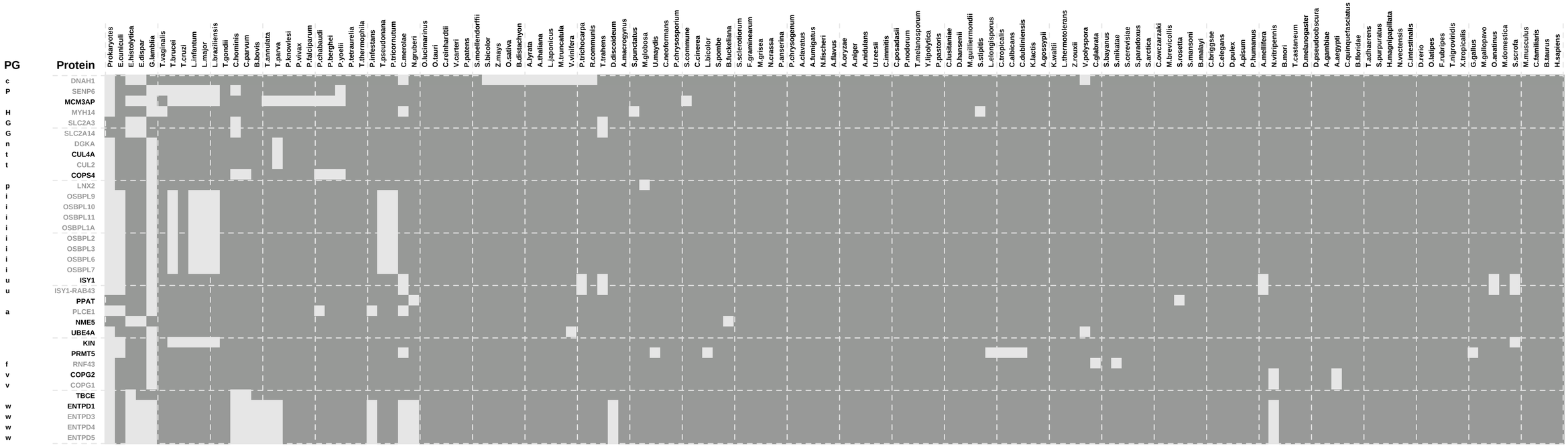




ECM 2, Gene set "nuclear speck", Page 7

Num of ECM Genes: 8. Num of Predicted Genes: 263. ECM Strength: 6.0

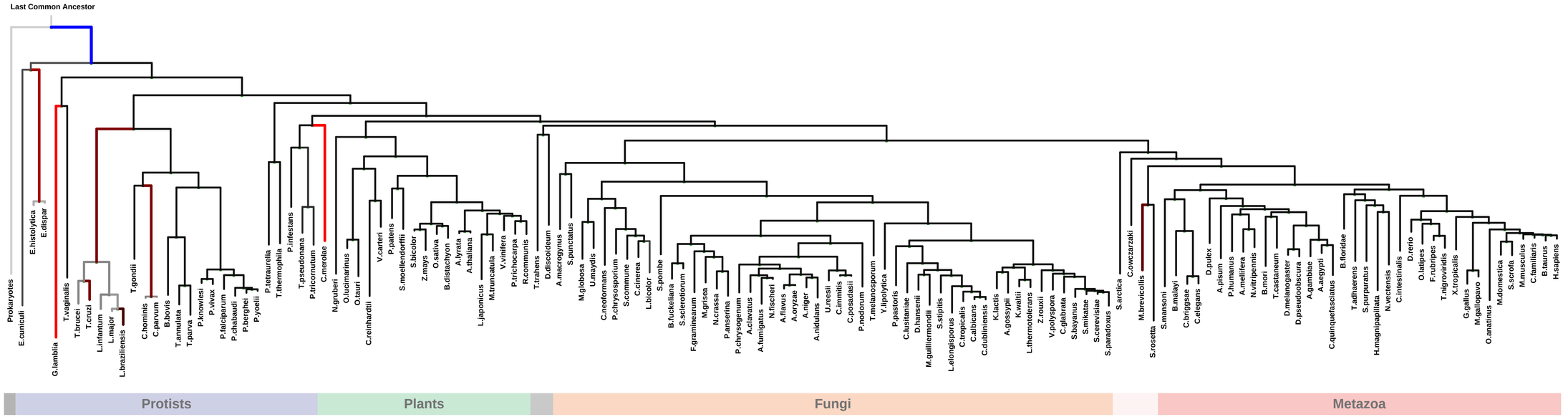


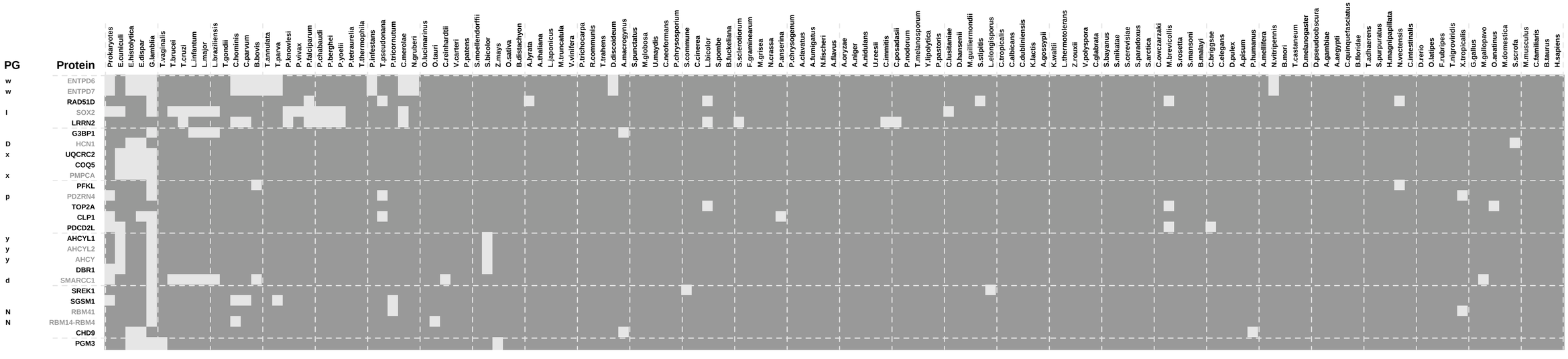


1: axonemal dynein complex || 2: cilium axoneme || 3: dynein complex || 4: axon || 5: growth cone || 6: myosin complex || 7: stress fiber || 8: Cul4A-RING ubiquitin ligase complex || 9: Cul4-RING ubiquitin ligase complex ||
10: Cul2-RING ubiquitin ligase complex || 11: signalosome || 12: late endosome || 13: lysosomal membrane || 14: catalytic step 2 spliceosome || 15: ubiquitin ligase complex || 16: nuclear matrix || 17: nuclear envelope || 18: COPI vesicle coat ||
19: autophagic vacuole membrane || 20: cytoplasmic vesicle || 21: integral to Golgi membrane

ECM 2, Gene set "nuclear speck", Page 8

Num of ECM Genes: 8. Num of Predicted Genes: 263. ECM Strength: 6.0

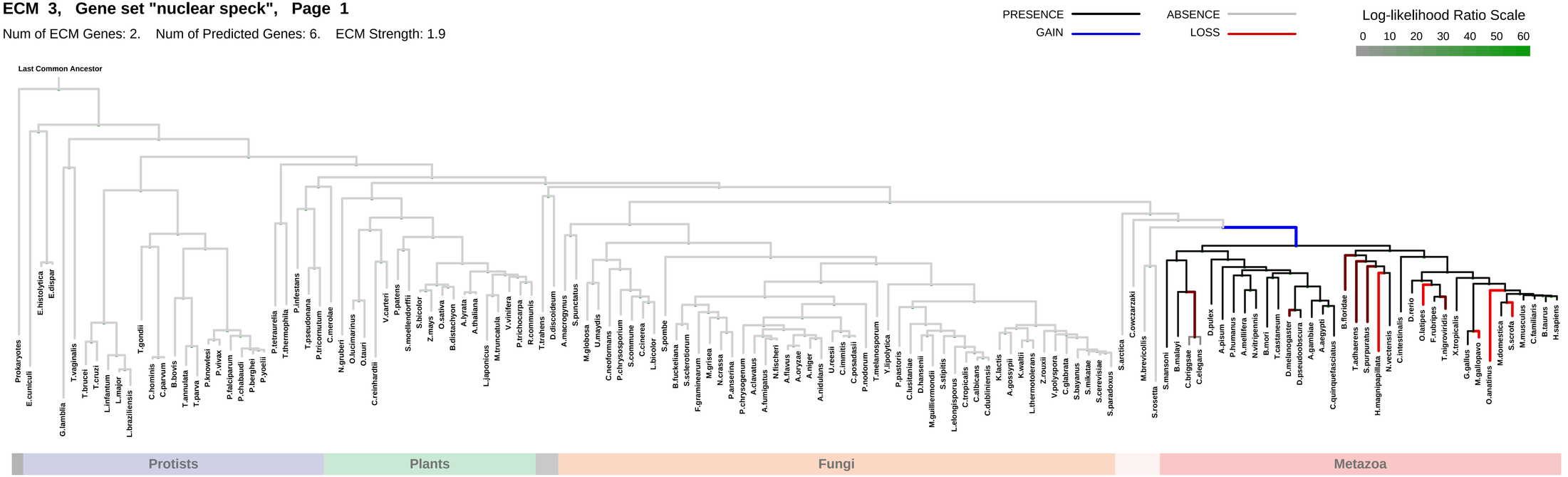


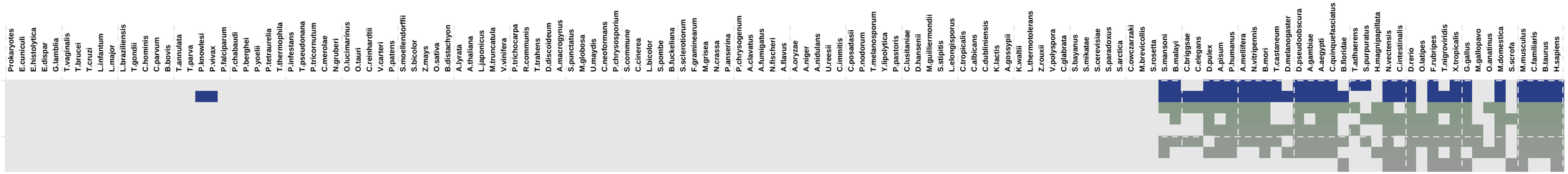


1: cytoplasmic vesicle membrane || 2: axon || 3: dendrite || 4: mitochondrial respiratory chain complex III || 5: 6-phosphofructokinase complex || 6: centriole || 7: nuclear chromosome || 8: nucleoid || 9: synaptonemal complex ||
10: tRNA-intron endonuclease complex || 11: melanosome || 12: nBAF complex || 13: npBAF complex || 14: SWI/SNF complex || 15: WINAC complex || 16: XY body || 17: spliceosomal complex

ECM 3, Gene set "nuclear speck", Page 1

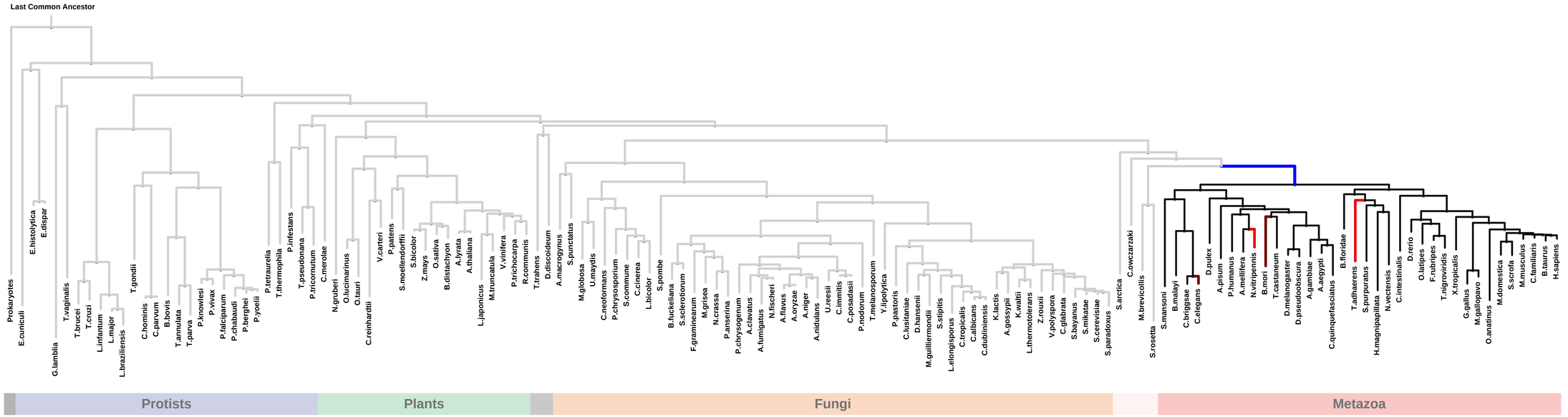
Num of ECM Genes: 2. Num of Predicted Genes: 6. ECM Strength: 1.9

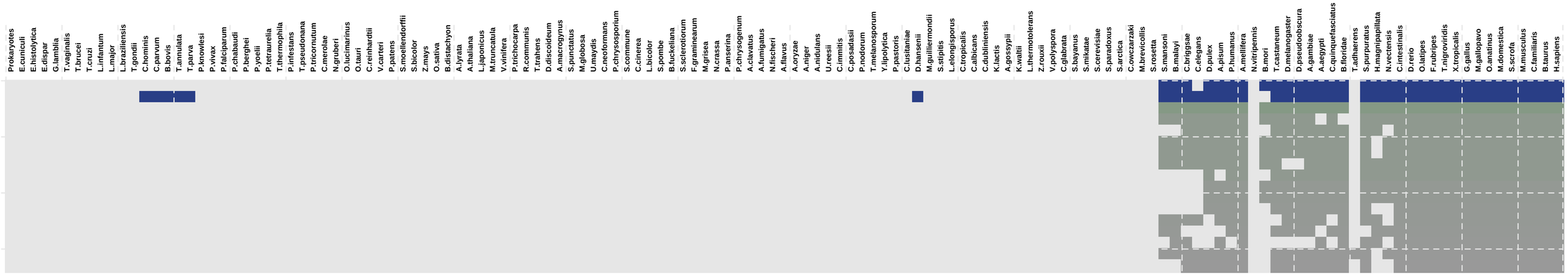




ECM 4, Gene set "nuclear speck", Page 1

Num of ECM Genes: 2. Num of Predicted Genes: 15. ECM Strength: 1.1



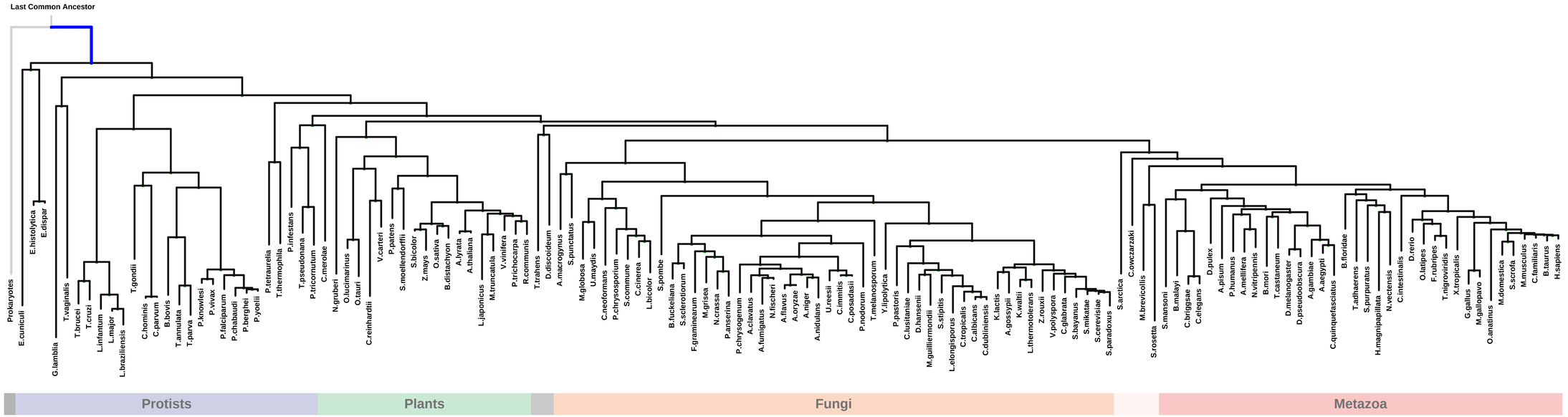


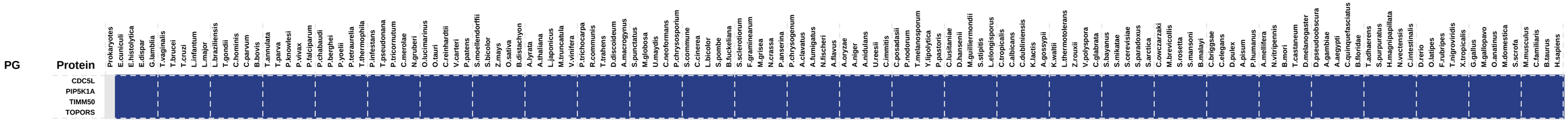
PG	Protein	LLR	Notes
	EIF4ENIF1		1 / 2
	FAM76B		1
	PDGFRL	8.5	
	MRPL35	4.5	3
A	PDGFA	4.2	4 / 5 / 6
B	CSRNP3	4.0	
B	CSRNP2	4.0	
	CCDC51	3.8	
A	PGF	3.8	
C	ELL3	2.0	7
C	100510742	2.0	
A	VEGFB	1.9	6
	MVB12A	1.7	8 / 9 / 10
	TMEM150C	1.3	
	C1orf106	0.9	
	OR5AU1	0.3	
A	PDGFB	0.1	4 / 6 / 11

1: nuclear speck || 2: PML body || 3: mitochondrial ribosome || 4: endoplasmic reticulum lumen || 5: microvillus || 6: platelet alpha granule lumen || 7: transcription elongation factor complex || 8: aggresome || 9: late endosome membrane || 10: microtubule organizing center || 11: basolateral plasma membrane

ECM 5, Gene set "nuclear speck", Page 1

Num of ECM Genes: 4. Num of Predicted Genes: 0. ECM Strength: 0.0

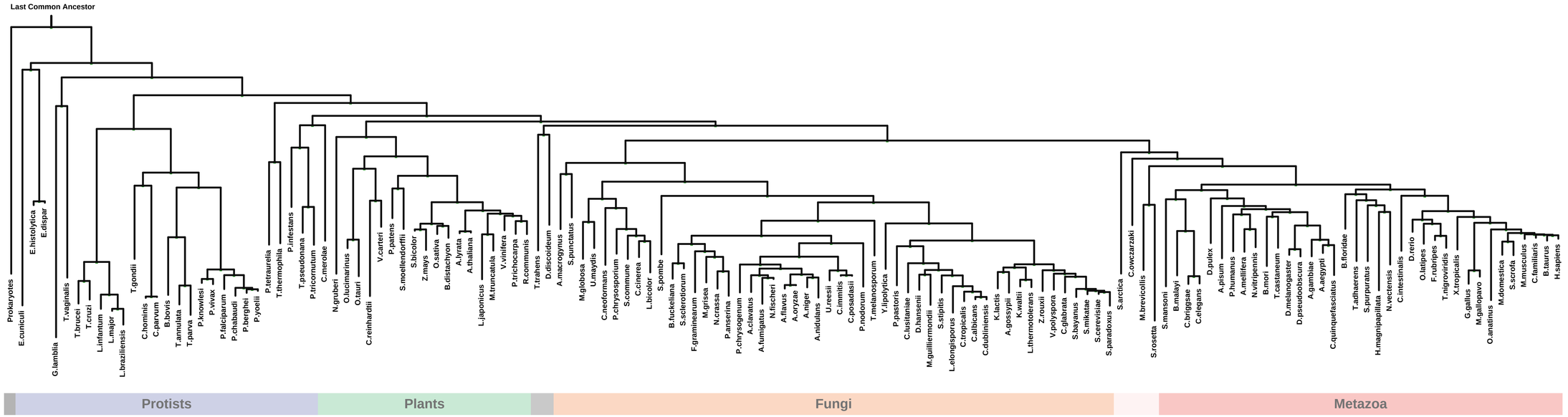




1: catalytic step 2 spliceosome || 2: nuclear speck || 3: Prp19 complex || 4: lamellipodium || 5: mRNA cleavage and polyadenylation specificity factor complex || 6: ruffle membrane || 7: mitochondrial inner membrane presequence translocase complex ||
8: centriole || 9: cilium basal body || 10: cytoplasmic dynein complex || 11: gamma-tubulin complex || 12: midbody || 13: photoreceptor connecting cilium || 14: PML body || 15: spindle pole

ECM 6, Gene set "nuclear speck", Page 1

Num of ECM Genes: 29. Num of Predicted Genes: 0. ECM Strength: 0.0

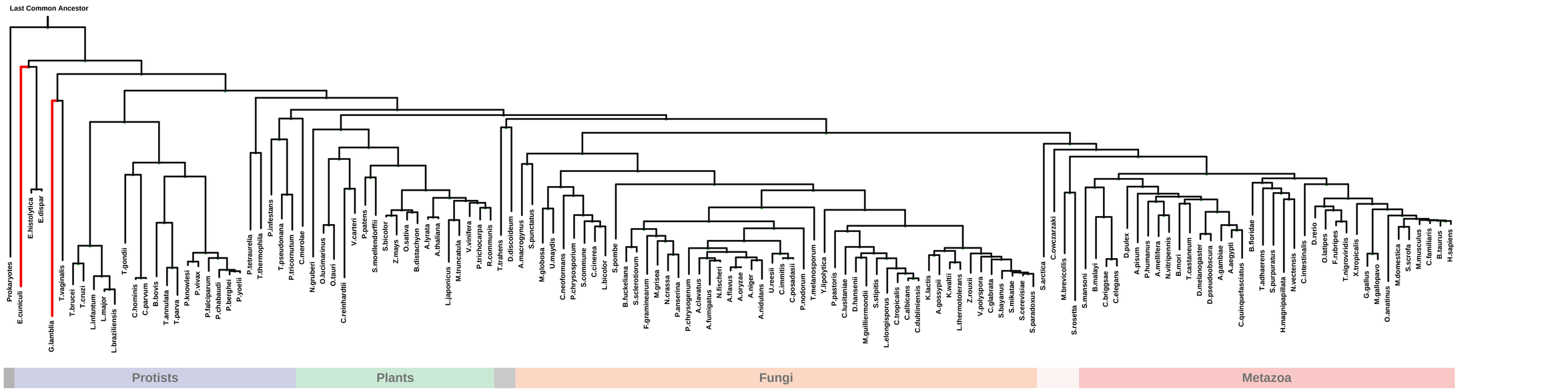


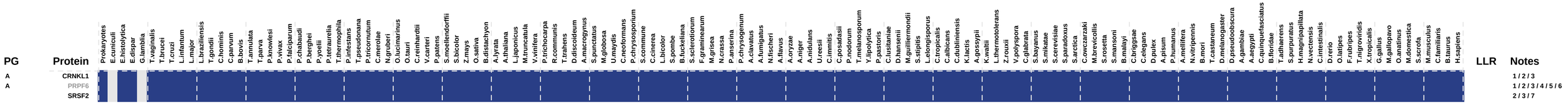
PG	Protein	LLR	Notes
A	CLK2		1
A	CLK3		1 / 2 / 3
A	CSNK1A1		1 / 4 / 5 / 6
B	DDX39B		1 / 7 / 8 / 9 / 10
B	DDX46		1 / 11
	EFTUD2		1 / 7 / 11 / 12
B	EIF4A3		1 / 12 / 13
	EP400		1 / 14
A	NEK6		1 / 15 / 16
C	NONO		1 / 17 / 18
D	PLRG1		1 / 12
E	PPIG		1 / 17
E	PPIH		1 / 7 / 19 / 20
	PPP1CC		1 / 4 / 21 / 22 / 23 / 24 / 25
D	PRPF19		1 / 12 / 26 / 27 / 28
D	PRPF4		1 / 7 / 11 / 19
A	PSKH1		1 / 15
C	PSPC1		1 / 17 / 18
C	RBM11		1
C	RBM39		1 / 29
C	RBM4		1 / 30
C	RBM8A		1 / 12 / 13
D	RFWD2		1 / 31
	SETD1B		1 / 32 / 33 / 34
	SRP54		1 / 35
C	SRSF1		1 / 12
C	SRSF10		1
C	SRSF3		1
C	SRSF5		1

1: nuclear speck || 2: acrosomal vesicle || 3: intermediate filament cytoskeleton || 4: condensed chromosome kinetochore || 5: mRNA cleavage and polyadenylation specificity factor complex || 6: ribonucleoprotein complex || 7: spliceosomal complex ||
8: transcription export complex || 9: U4 snRNP || 10: U6 snRNP || 11: Cajal body || 12: catalytic step 2 spliceosome || 13: exon-exon junction complex || 14: NuA4 histone acetyltransferase complex || 15: microtubule organizing center ||
16: spindle pole || 17: nuclear matrix || 18: paraspeckles || 19: U4/U6 snRNP || 20: U4/U6 x U5 tri-snRNP complex || 21: cleavage furrow || 22: midbody || 23: mitochondrial outer membrane || 24: MLL5-L complex || 25: PTW/PP1 phosphatase complex ||
26: Prp19 complex || 27: spindle || 28: ubiquitin ligase complex || 29: microtubule cytoskeleton || 30: cytoplasmic stress granule || 31: focal adhesion || 32: chromosome || 33: histone methyltransferase complex || 34: Set1C/COMPASS complex ||
35: signal recognition particle, endoplasmic reticulum targeting

ECM 7, Gene set "nuclear speck", Page 1

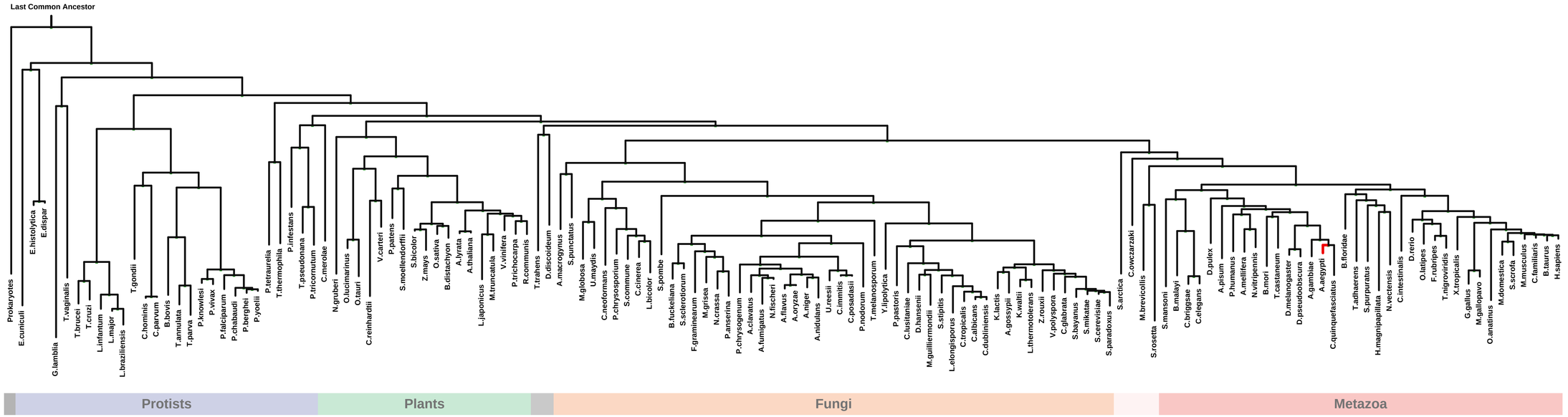
Num of ECM Genes: 3. Num of Predicted Genes: 0. ECM Strength: 0.0

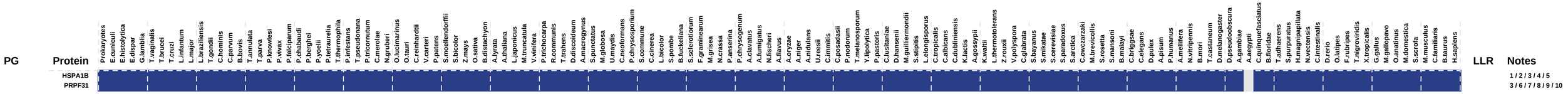




ECM 8, Gene set "nuclear speck", Page 1

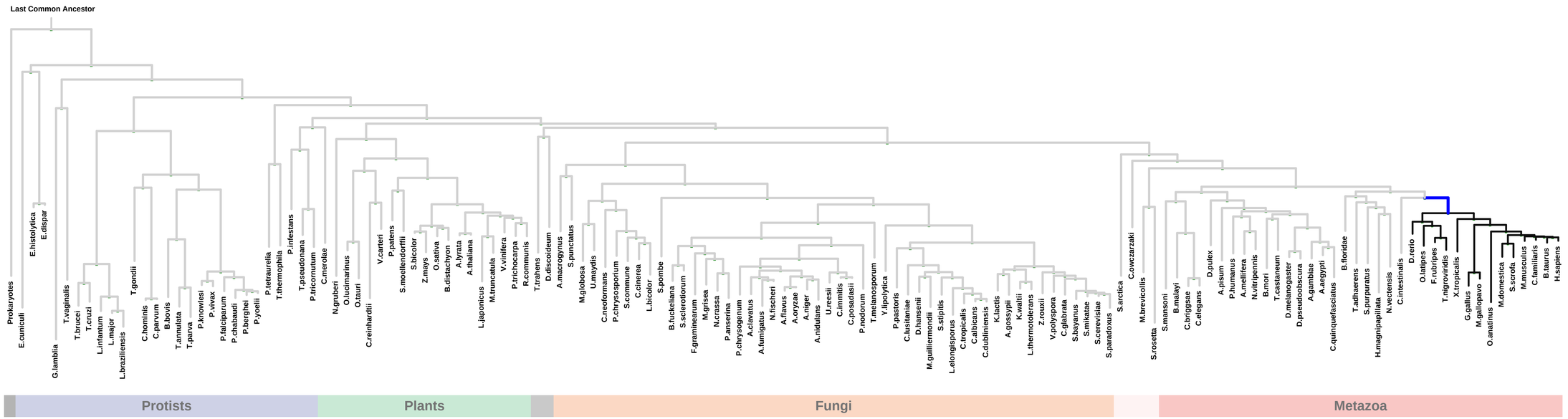
Num of ECM Genes: 2. Num of Predicted Genes: 0. ECM Strength: 0.0





ECM 9, Gene set "nuclear speck", Page 1

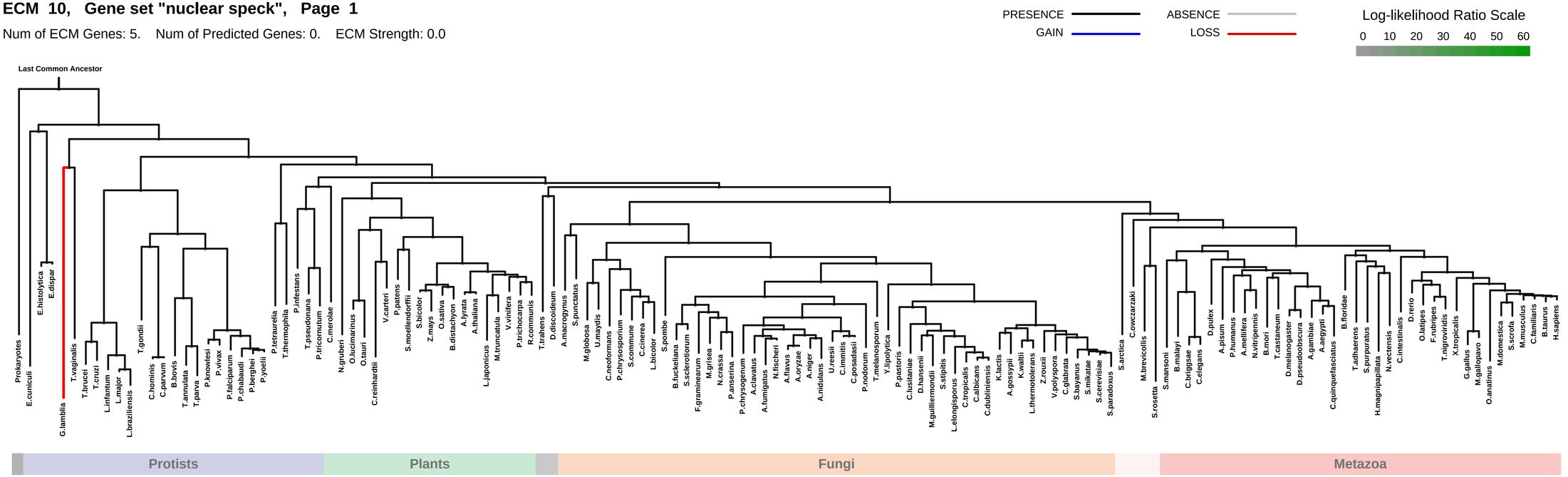
Num of ECM Genes: 2. Num of Predicted Genes: 0. ECM Strength: 0.0



| PG | Protein | Prokaryotes | E.cuniculi | E.histolytica | E.dispar | G.lamblia | T.vaginalis | T.brucei | T.cruzi | L.infantum | L.major | L.braziliensis | T.gondii | C.hominis | C.parvum | B.bovis | T.annulata | T.parva | P.knowlesi | P.vivax | P.falciparum | P.chabaudi | P.berghei | P.yoelii | P.tetraurelia | T.thermophila | P.infestans | T.pseudonana | P.tricornutum | C.merolae | N.gruberi | O.lucimarinus | O.tauri | C.reinhardtii | V.carteri | P.patens | S.moellendorffii | S.bicolor | Z.mays | O.sativa | B.distachyon | A.lyrata | A.thaliana | L.japonicus | M.truncatula | V.vinifera | P.trichocarpa | R.communis | T.trahens | D.discoideum | A.macrogynus | S.punctatus | M.globosa | U.maydis | C.neoformans | P.chrysosporium | S.commune | C.cinerea | L.bicolor | S.pombe | B.fuckeliana | S.sclerotiorum | F.graminearum | M.grisea | N.crassa | P.anserina | P.chrysogenum | A.clavatus | A.fumigatus | A.flavus | A.oryzae | A.niger | A.nidulans | U.reesii | C.immitis | C.posadasii | P.nodorum | T.melanosporum | Y.lipolytica | P.pastoris | C.lusitaniae | D.hansenii | M.guilliermondii | S.stipitis | L.elongisporus | C.tropicalis | C.albicans | C.dubliniensis | K.lactis | A.gossypii | K.waltii | L.thermotolerans | Z.rouxii | V.polyspora | C.glabrata | S.bayanus | S.mikatae | S.cerevisiae | S.paradoxus | S.arctica | C.owczarzaki | M.brevicollis | S.rosetta | S.mansoni | B.malayi | C.briggsae | C.elegans | D.pulex | A.pisum | P.humanus | A.mellifera | N.vitripennis | B.mori | T.castaneum | D.melanogaster | D.pseudoobscura | A.gambiae | A.aegypti | C.quinquefasciatus | B.floridae | T.adhaerens | S.purpuratus | H.magnipapillata | N.vectensis | C.intestinalis | D.rerio | O.latipes | F.rubripes | T.nigroviridis | X.tropicalis | G.gallus | M.gallopavo | O.anatinus | M.domestica | S.scrofa | M.musculus | C.familiaris | B.taurus | H.sapiens | LLR | Notes |
|---|---|---

ECM 10, Gene set "nuclear speck", Page 1

Num of ECM Genes: 5. Num of Predicted Genes: 0. ECM Strength: 0.0

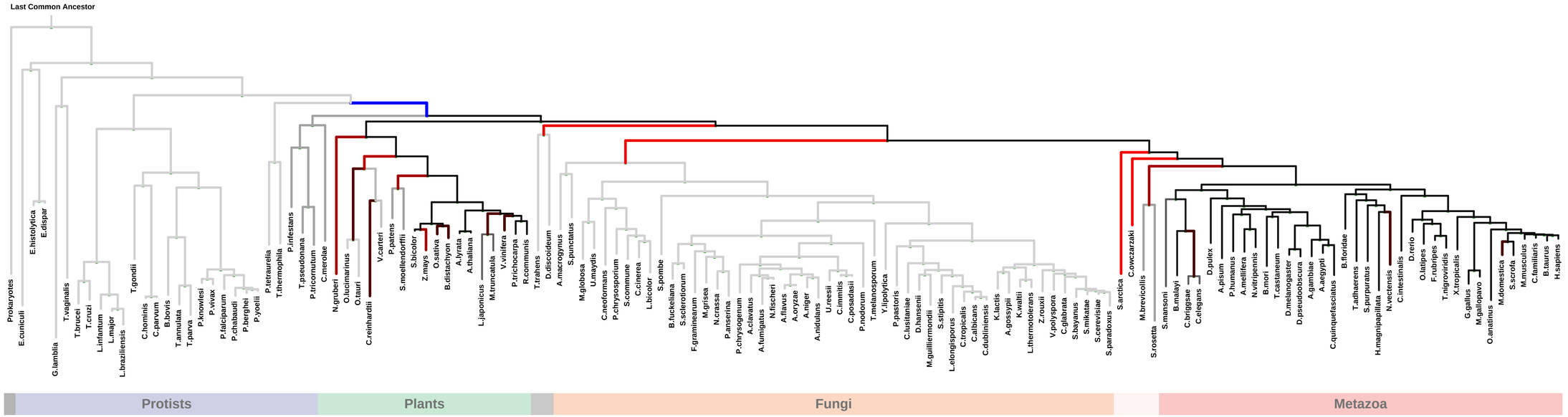


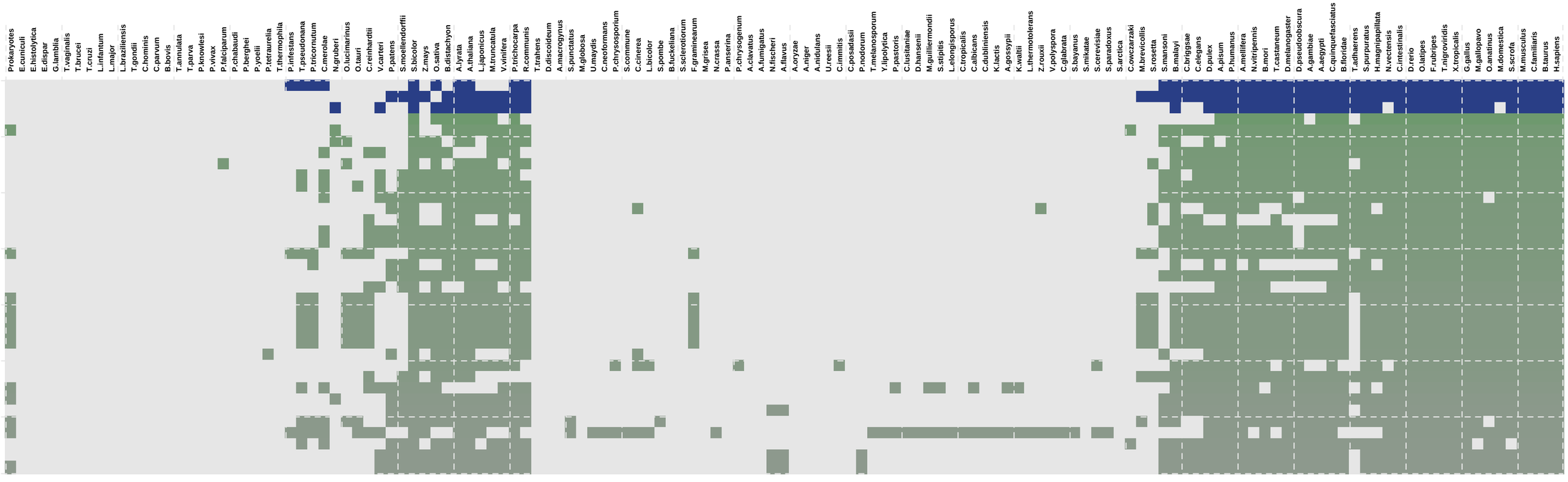
PG	Protein	LLR	Notes
A	RNPS1		1 / 2
A	SART3		2
A	SNRNP70		2 / 3
A	SRSF4		2
	ALYREF		2 / 4 / 5

1: exon-exon junction complex || 2: nuclear speck || 3: spliceosomal complex || 4: catalytic step 2 spliceosome || 5: transcription export complex

ECM 11, Gene set "nuclear speck", Page 1

Num of ECM Genes: 3. Num of Predicted Genes: 51. ECM Strength: 0.0

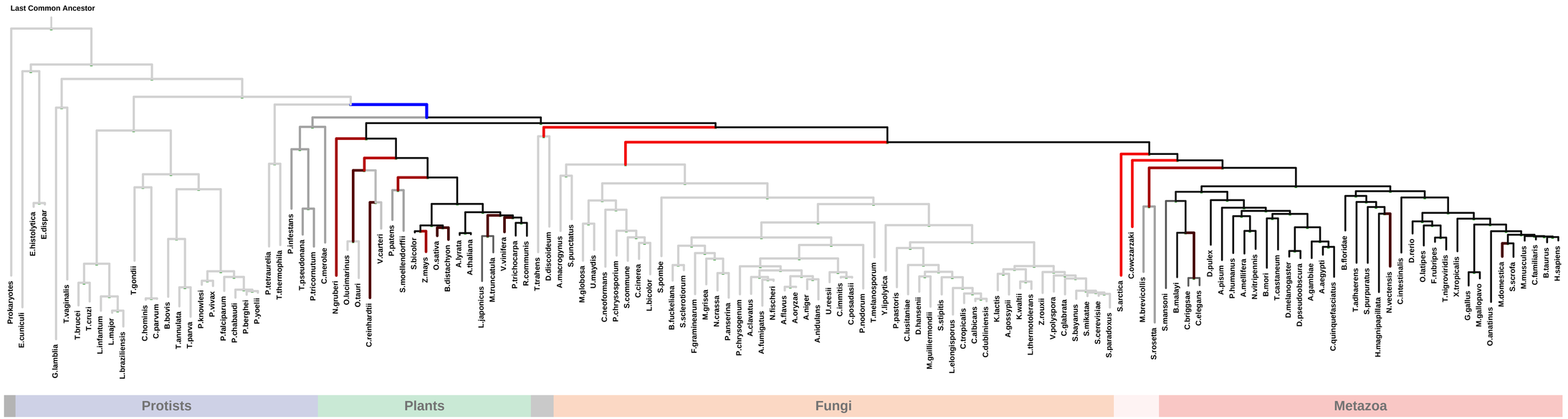


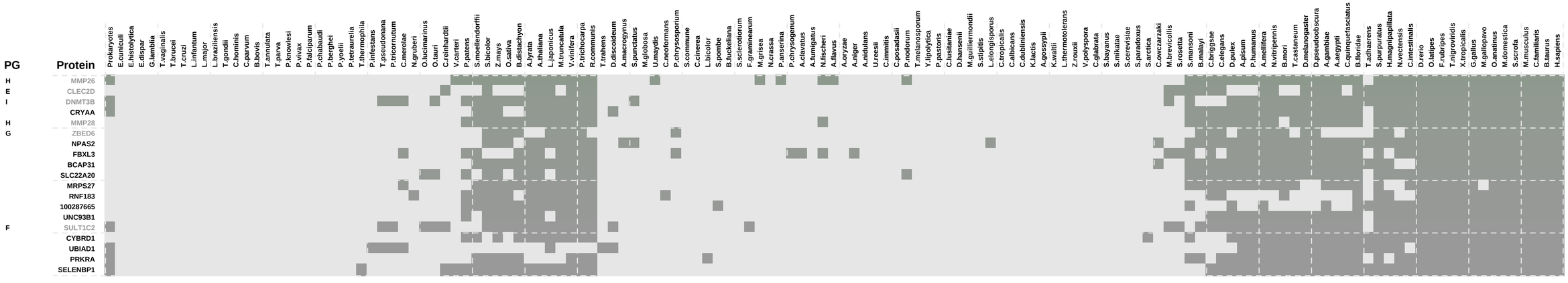


1: chromosome || 2: nuclear matrix || 3: nuclear speck || 4: spliceosomal complex || 5: heterochromatin || 6: NuRD complex || 7: histone deacetylase complex || 8: dendrite || 9: DNA replication factor A complex || 10: nuclear chromosome, telomeric region || 11: large ribosomal subunit || 12: chromosome, centromeric region || 13: euchromatin || 14: nuclear heterochromatin || 15: caveola || 16: proteinaceous extracellular matrix

ECM 11, Gene set "nuclear speck", Page 2

Num of ECM Genes: 3. Num of Predicted Genes: 51. ECM Strength: 0.0

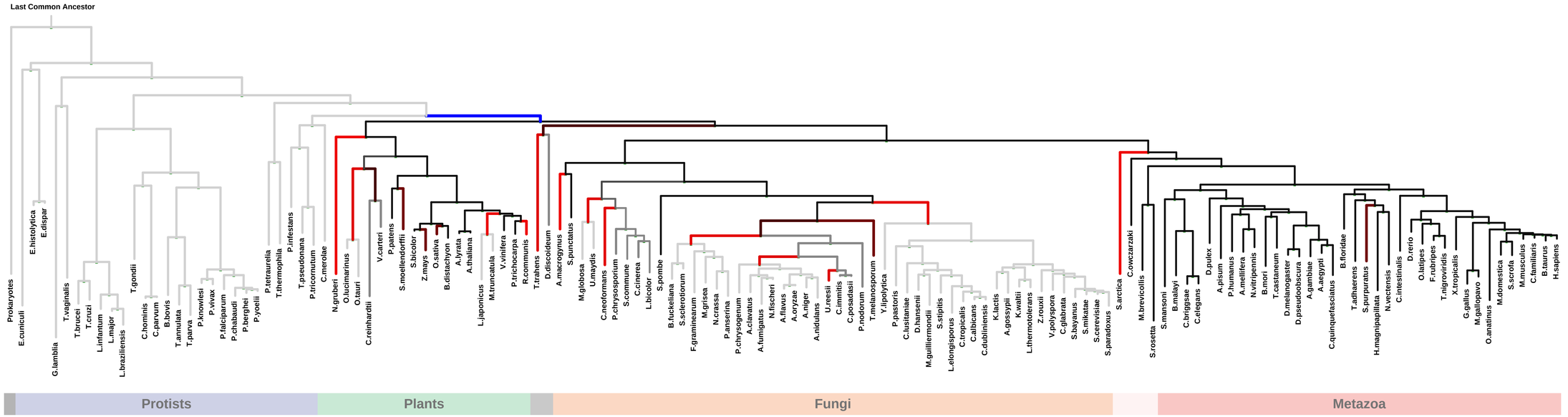


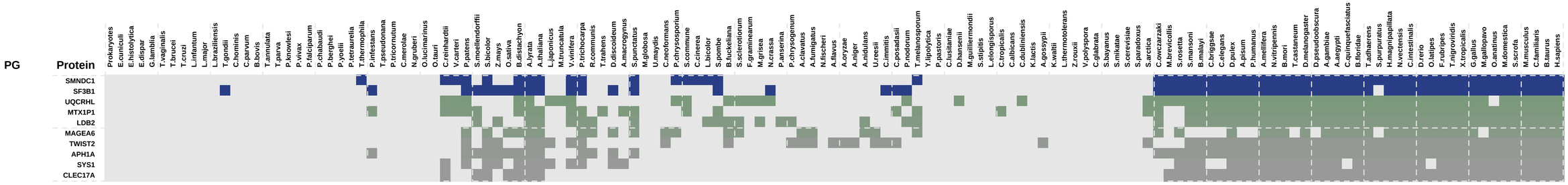


1: proteinaceous extracellular matrix || 2: chromosome, centromeric region || 3: nuclear heterochromatin || 4: SCF ubiquitin ligase complex || 5: ubiquitin ligase complex || 6: endoplasmic reticulum-Golgi intermediate compartment membrane ||
7: integral to lumenal side of endoplasmic reticulum membrane || 8: lipid particle || 9: ribosome || 10: early phagosome || 11: endosome || 12: lysosome || 13: microtubule cytoskeleton || 14: brush border membrane

ECM 12, Gene set "nuclear speck", Page 1

Num of ECM Genes: 2. Num of Predicted Genes: 8. ECM Strength: 0.0

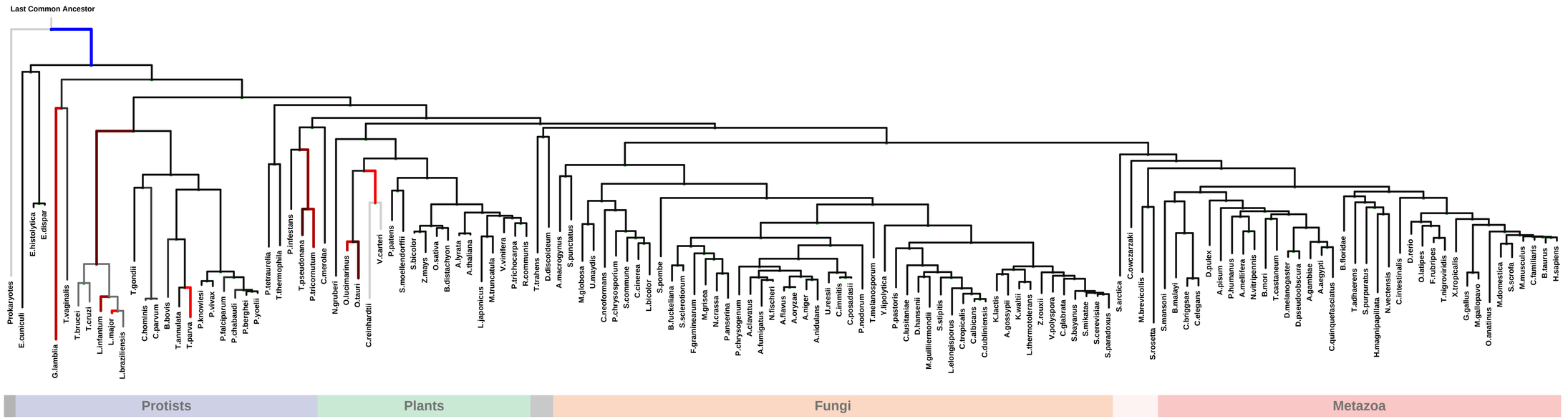


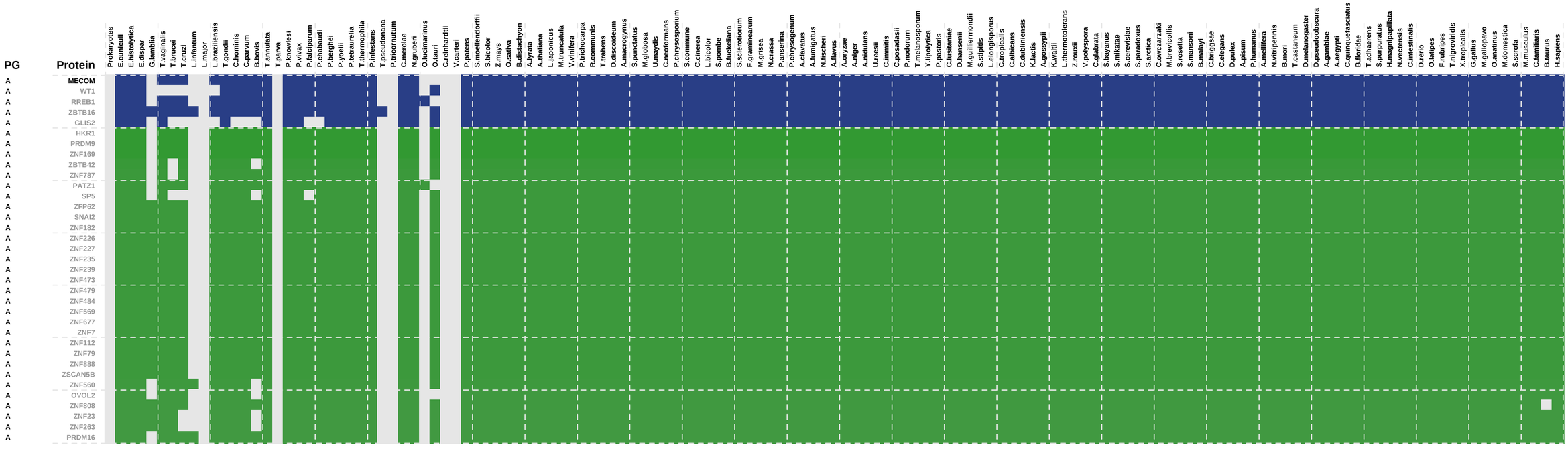


1: Cajal body || 2: nuclear speck || 3: spliceosomal complex || 4: catalytic step 2 spliceosome || 5: U12-type spliceosomal complex || 6: Golgi cisterna membrane

ECM 13, Gene set "nuclear speck", Page 1

Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6



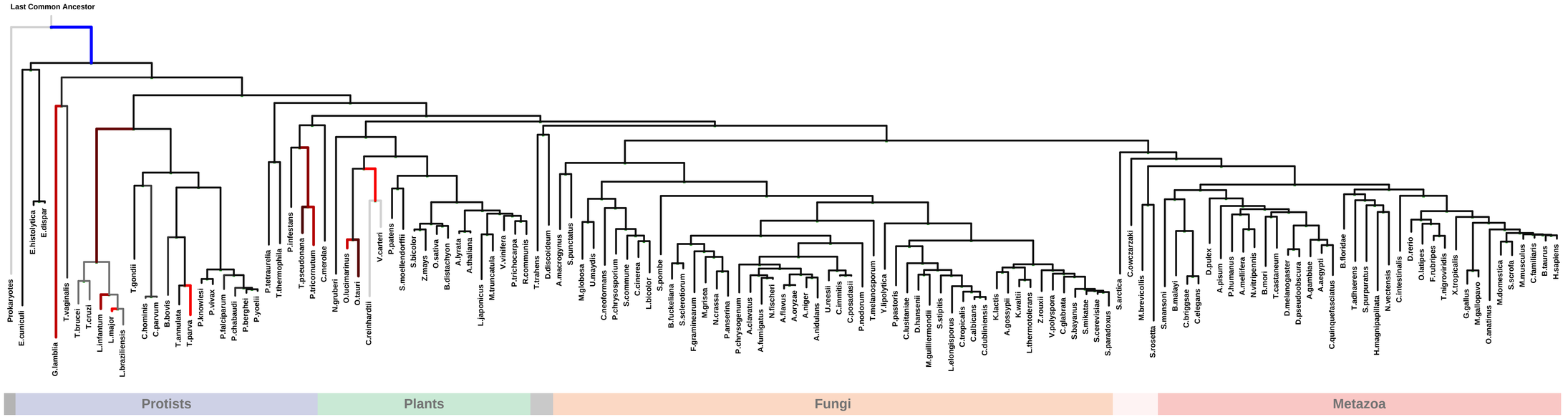


ECM 13, Gene set "nuclear speck", Page 2

Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6

PRESENCE ABSENCE
GAIN LOSS

Log-likelihood Ratio Scale
0 10 20 30 40 50 60

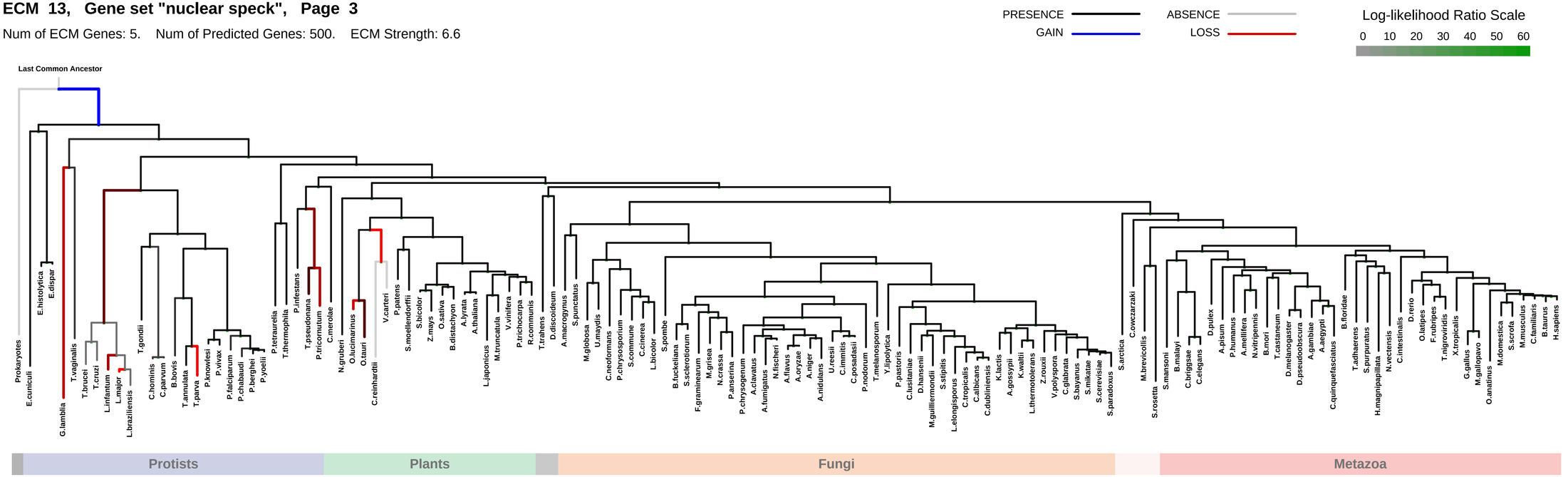


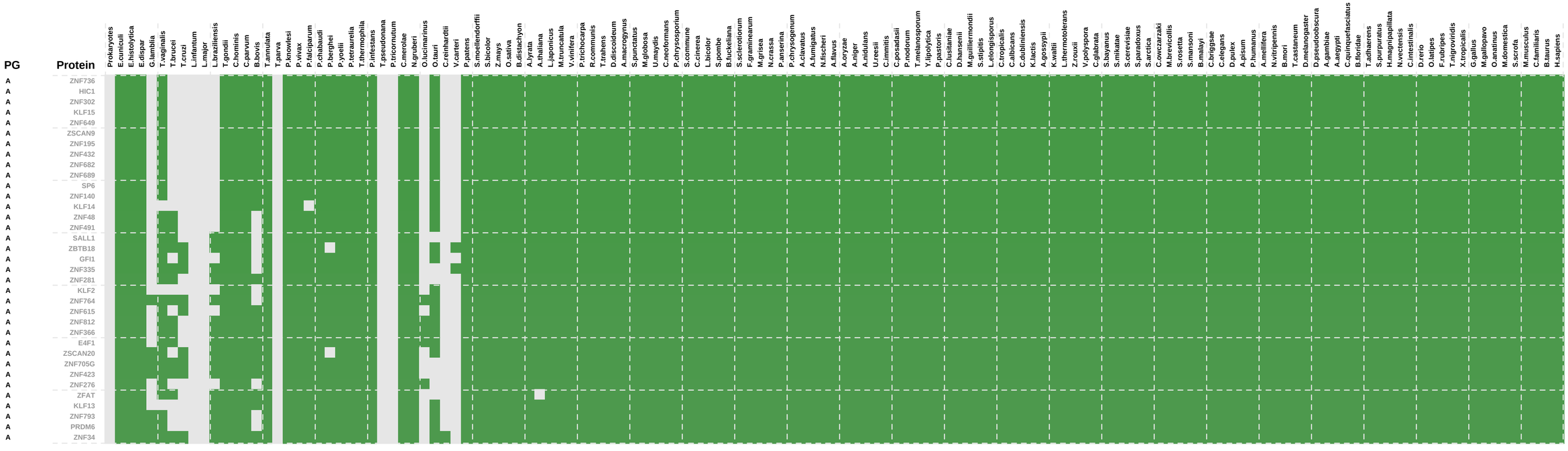
PG	Protein	LLR	Notes
	PRDM16	37.5	
	PRDM16	37.5	
A	ZNF521	37.0	
A	ZNF80	36.8	
A	SP1	36.8	1
A	GLI4	36.5	
A	REPIN1	36.5	2
A	ZNF774	36.5	
A	ZFP64	36.5	
A	ZNF559	36.5	
A	ZNF284	36.5	
A	ZBTB7B	36.5	
A	ZNF599	36.5	
A	ZNF629	36.5	
A	ZNF667	35.9	
A	ZNF497	35.9	
A	ZNF514	35.9	
A	ZNF771	35.9	
A	ZNF35	35.9	3
A	ZNF527	35.9	
A	ZNF354B	35.9	
A	ZNF468	35.9	
A	ZNF251	35.9	
	ZNF865	35.9	
A	ZNF865	35.9	
A	ZNF229	35.9	
A	ZFP3	35.9	
A	ZNF662	35.8	
A	ZNF114	35.6	
A	SP8	35.6	
A	ZNF394	35.6	
A	SP9	35.6	
A	ZSCAN16	35.6	
A	ZNF716	35.6	
A	ZNF727	35.4	

1: protein-DNA complex || 2: nuclear origin of replication recognition complex || 3: cell

ECM 13, Gene set "nuclear speck", Page 3

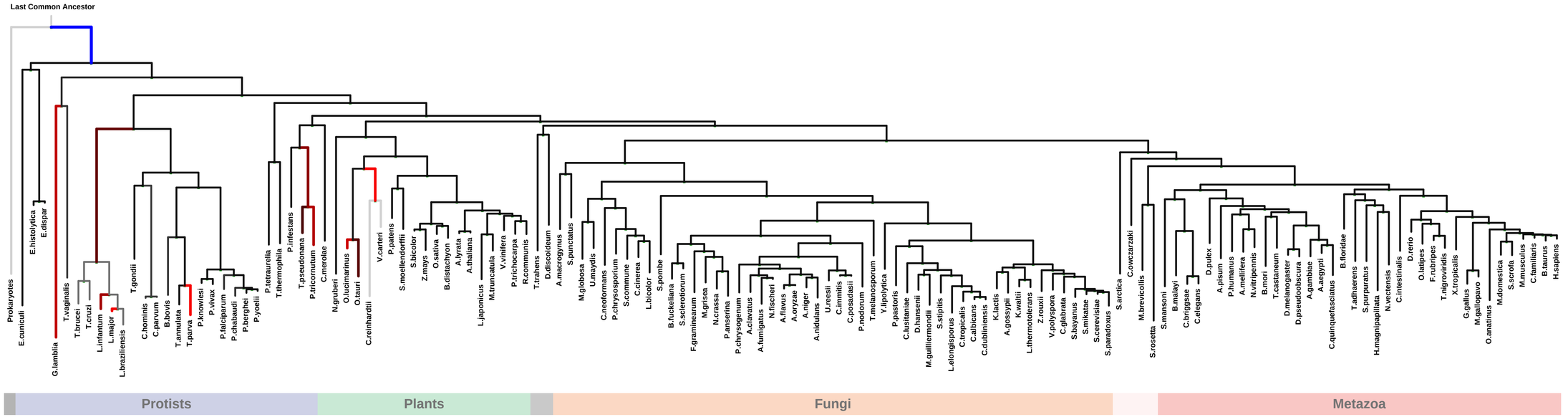
Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6





ECM 13, Gene set "nuclear speck", Page 4

Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6

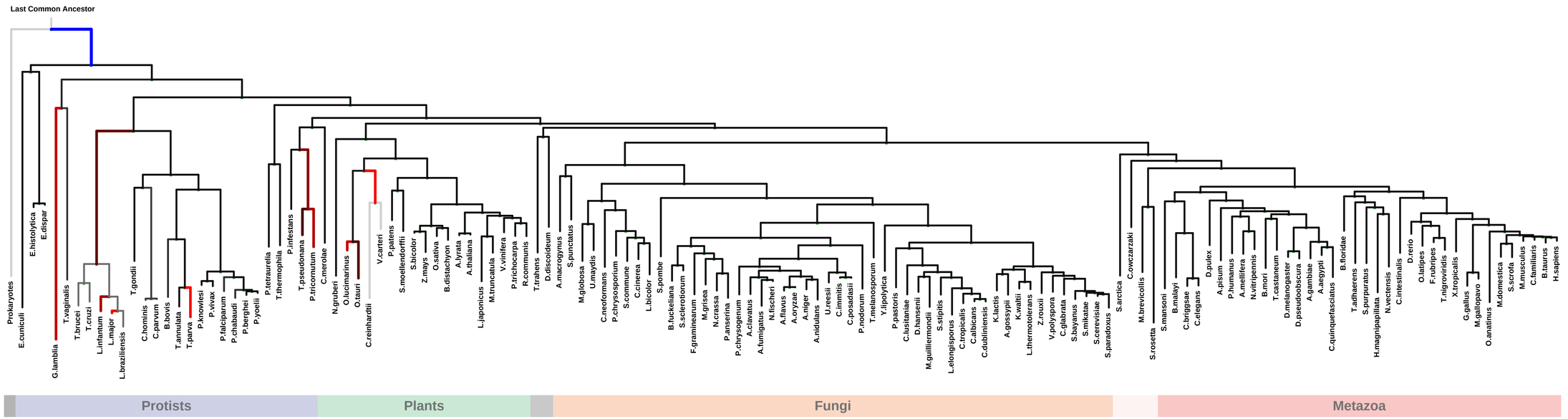


PG	Protein	LLR	Notes
A	FEZF2	32.5	
A	KLF5	32.5	
A	KLF11	32.5	
A	ZNF700	32.4	
A	ZKSCAN2	32.4	
A	ZNF619	32.4	
	ZNF84	**32.2**	
A	ZNF84	32.2	
A	ZNF480	32.1	
A	ZNF778	32.1	
A	ZKSCAN3	32.1	
A	ZNF672	32.1	
	ZNF568	**32.1**	
A	ZNF19	32.1	
A	ZNF57	32.1	
A	ZNF570	32.1	
A	ZNF836	32.1	
A	ZNF596	32.1	
A	ZNF234	32.1	
A	ZNF710	32.1	
A	PRDM5	32.1	
A	ZNF383	32.1	
A	ZNF268	32.1	
A	ZFP69B	32.1	
A	ZNF557	32.1	
A	ZNF766	31.9	
A	ZNF407	31.8	
A	ZNF282	31.6	
A	KLF3	31.5	
A	ZNF597	31.5	
A	ZFP57	31.4	1
A	ZNF524	31.4	
A	ZNF506	31.3	
A	ZNF675	31.3	
A	ZNF510	31.3	

1: nuclear heterochromatin

ECM 13, Gene set "nuclear speck", Page 5

Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6

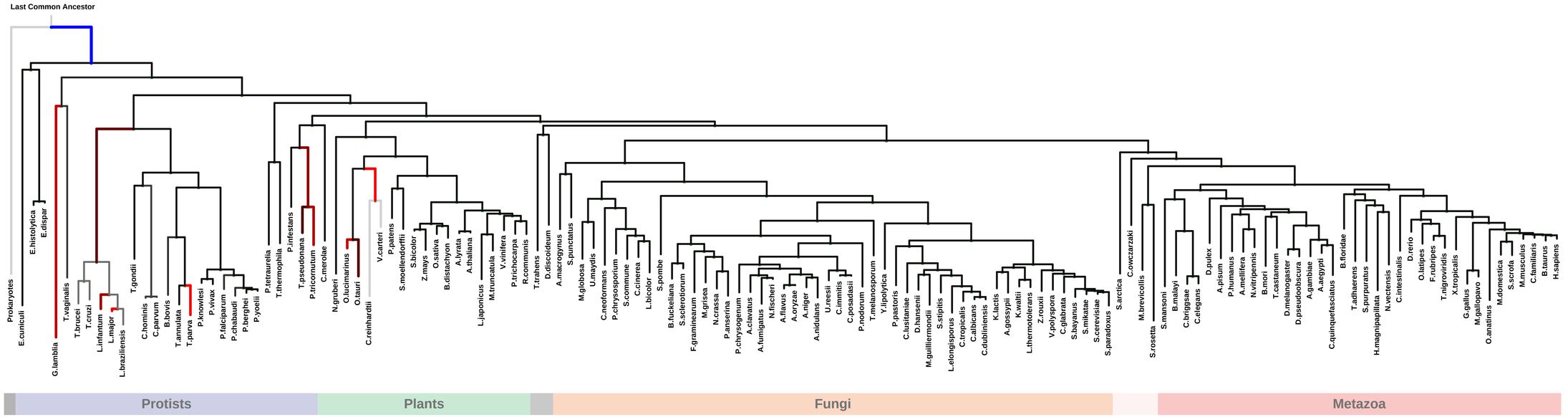


PG	Protein	LLR	Notes
A	LOC100287477	31.3	
A	ZNF10	31.3	
A	ZNF691	31.3	
A	ZNF697	31.3	
A	ZNF382	31.3	
A	ZNF587B	31.3	
A	ZNF701	31.3	
A	ZNF551	31.3	
A	ZNF708	31.3	
A	ZNF709	31.3	
A	ZNF552	31.3	
A	ZNF2	31.3	
A	ZNF718	31.3	
A	ZNF397	31.3	
A	ZNF202	31.3	
A	ZNF416	31.3	
A	ZNF418	31.3	
A	ZNF274	31.3	
A	ZNF772	31.3	
A	ZNF214	31.3	
A	ZNF777	31.3	
A	ZNF572	31.3	
A	ZNF585A	31.3	
A	ZNF467	31.3	
A	ZNF224	31.3	1
A	ZFP2	31.3	
A	ZNF605	31.3	
A	ZNF606	31.3	
A	ZNF835	31.3	
A	ZNF165	31.3	
A	ZKSCAN1	31.3	
A	ZNF628	31.3	
A	ZNF852	31.3	
A	ZNF18	31.3	
A	MZF1	31.3	

1: transcriptional repressor complex

ECM 13, Gene set "nuclear speck", Page 6

Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6



PG	Protein	LLR	Notes
A	ZSCAN26	31.3	1 / 2
A	ZNF350	31.3	
A	ZNF501	31.3	
A	ZSCAN22	31.3	
A	ZSCAN23	31.3	
A	ZSCAN30	31.3	
A	ZNF671	31.3	
A	RBAK	31.2	
A	ZNF304	31.2	
A	ZNF721	31.2	
A	ZNF613	31.2	
A	ZNF735	31.2	
A	ZNF417	31.2	
A	ZNF737	31.2	
A	ZNF761	31.2	
A	ZNF517	31.2	
A	ZNF620	31.2	
A	ZNF626	31.2	
A	ZNF32	31.2	
A	ZNF322P1	31.2	
A	ZNF334	31.2	
A	ZNF547	31.2	
A	ZNF660	31.2	
A	ZNF549	31.2	
A	ZNF664	31.2	
A	ZNF439	31.2	
A	ZNF257	31.2	
A	ZFP30	31.2	
A	ZNF813	31.2	
A	SNAI3	31.2	
A	ZNF233	31.2	
A	ZNF678	31.2	
A	ZNF107	31.2	
A	ZNF841	31.2	
A	ZNF221	31.2	

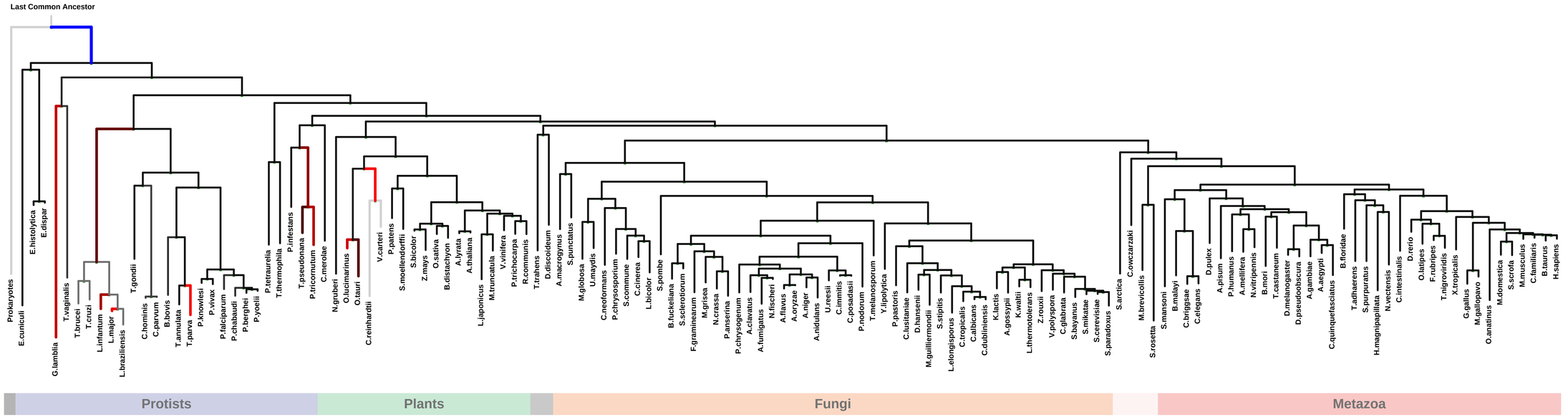
1: nuclear matrix || 2: transcriptional repressor complex

ECM 13, Gene set "nuclear speck", Page 7

Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6

PRESENCE
GAIN
ABSENCE
LOSS

Log-likelihood Ratio Scale
0 10 20 30 40 50 60

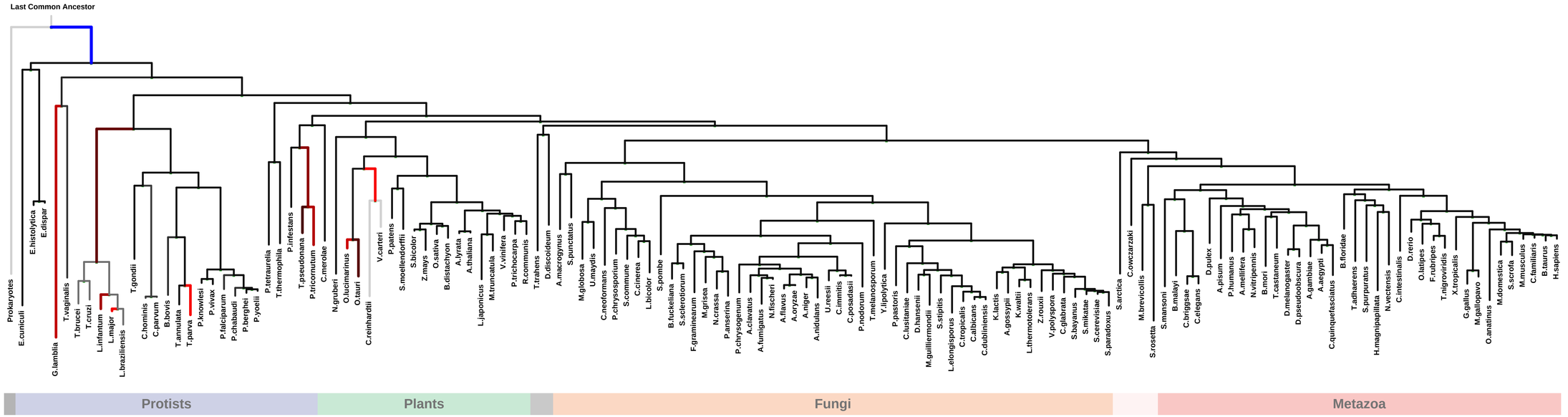


PG	Protein	LLR	Notes
A	ZNF192P1	31.2	
A	ZNF17	31.2	
A	ZNF571	31.2	
A	ZNF98	31.2	
A	ZNF492	31.2	
A	ZNF493	31.2	
A	ZNF595	31.2	
A	ZNF285	31.2	
A	ZSCAN25	31.2	
A	ZNF300	31.2	
A	PRDM4	31.0	
A	ZIM2	30.8	
A	PRDM1	30.8	
A	GLIS1	30.8	
A	ZNF433	30.4	
A	ZNF500	30.4	
A	ZNF555	30.2	
A	ZNF784	29.9	
A	PRDM12	29.9	
A	SALL3	29.9	
A	FIZ1	29.9	
A	SP3	29.9	1 / 2
A	729863	29.7	
A	100505654	29.7	
A	ZNF728	29.7	
A	ZNF354C	29.6	
A	ZNF740	29.6	
A	ZNF337	29.6	
A	ZNF286B	29.6	
A	ZNF723	29.6	
A	ZNF625	29.6	
A	ZNF436	29.6	
A	ZIK1	29.6	
A	ZNF45	29.6	
A	ZNF286A	29.6	

1: PML body || 2: transcriptional repressor complex

ECM 13, Gene set "nuclear speck", Page 8

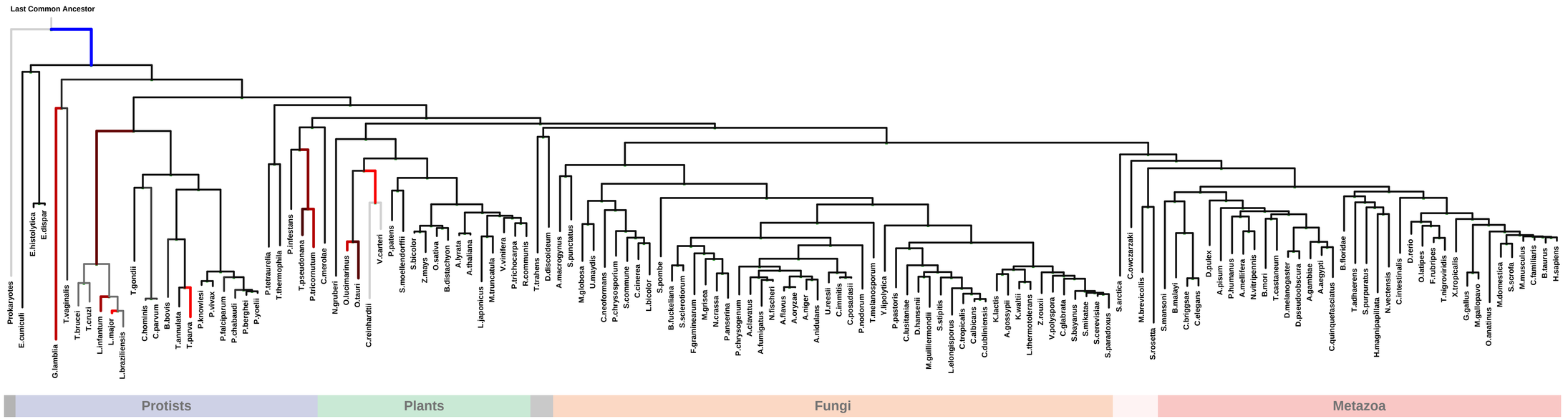
Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6



PG	Protein	LLR	Notes
A	ZNF705E	29.5	
A	ZNF319	29.5	
A	ZNF705B	29.5	
A	ZNF683	29.5	
A	ZNF705A	29.5	
A	ZNF705D	29.5	
A	ZNF101	29.5	
A	FEZF1	29.4	
A	OVOL1	29.4	
A	ZBTB47	29.3	
A	ZNF653	29.2	
A	ZNF485	29.1	
A	ZNF391	29.1	
A	ZNF155	29.1	
A	ZNF860	29.1	
A	ZNF12	29.1	
A	ZNF322	29.1	
A	ZNF530	29.1	
A	ZNF534	29.1	
A	ZIC2	29.1	
A	ZNF692	29.1	
A	KLF16	29.1	
A	ZNF568	29.1	
A	ZNF410	29.0	
A	ZNF177	28.9	
A	ZNF805	28.9	
A	ZNF883	28.9	
A	ZNF77	28.9	
A	ZNF559-ZNF177	28.9	
A	ZSCAN10	28.9	
A	ZNF184	28.9	
A	ZNF566	28.9	
A	ZNF345	28.9	
A	ZNF670	28.9	
A	ZNF543	28.9	

ECM 13, Gene set "nuclear speck", Page 9

Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6

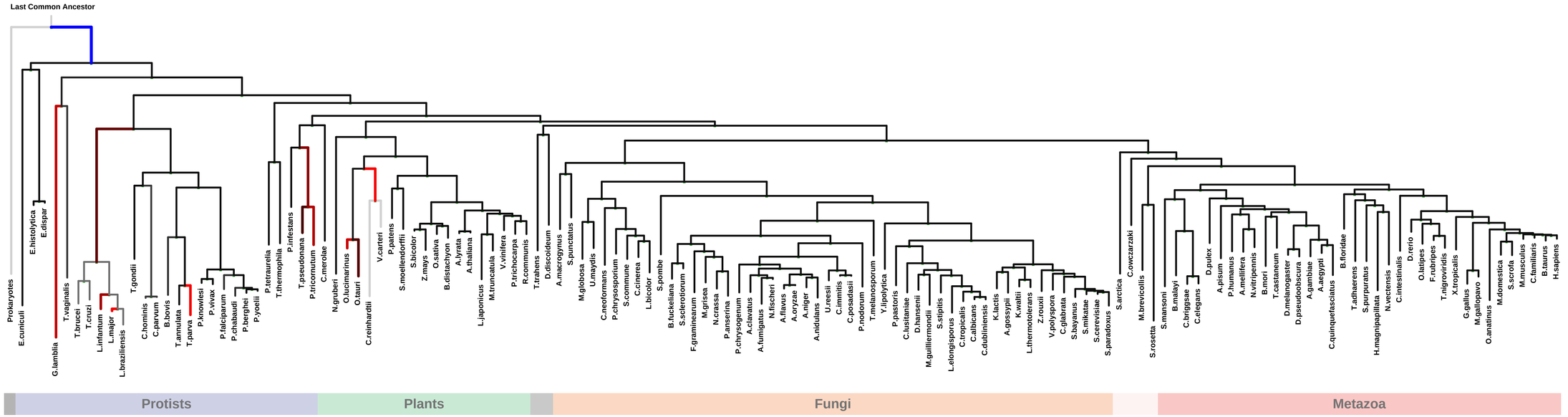


PG	Protein	LLR	Notes
A	ZSCAN32	28.9	
A	ZNF652	28.9	
A	ZNF70	28.9	
A	PLAGL1	28.6	
A	ZNF230	28.6	
A	ZNF341	28.6	
A	ZNF610	28.6	
A	ZBTB45	28.6	
A	ZNF24	28.6	
A	ZBTB20	28.6	
A	SP2	28.6	
A	KLF7	28.6	
A	ZNF354A	28.6	
A	SCRT2	28.5	1
A	MAZ	28.5	
A	ZNF781	28.5	
A	KLF17	28.5	
A	ZNF142	28.5	
A	ZNF287	28.3	
A	ZNF623	28.3	
A	ZNF829	28.3	
A	ZNF624	28.3	
A	ZNF141	28.3	
A	ZNF225	28.3	
A	ZNF121	28.3	
A	ZNF696	28.3	
A	ZNF845	28.3	
A	ZNF846	28.3	
A	ZNF347	28.3	
A	ZFP90	28.3	
A	ZNF584	28.3	
A	ZNF41	28.3	
A	ZNF880	28.3	
A	ZNF175	28.3	2
A	ZNF556	28.3	

1: nuclear chromatin || 2: intermediate filament cytoskeleton

ECM 13, Gene set "nuclear speck", Page 10

Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6

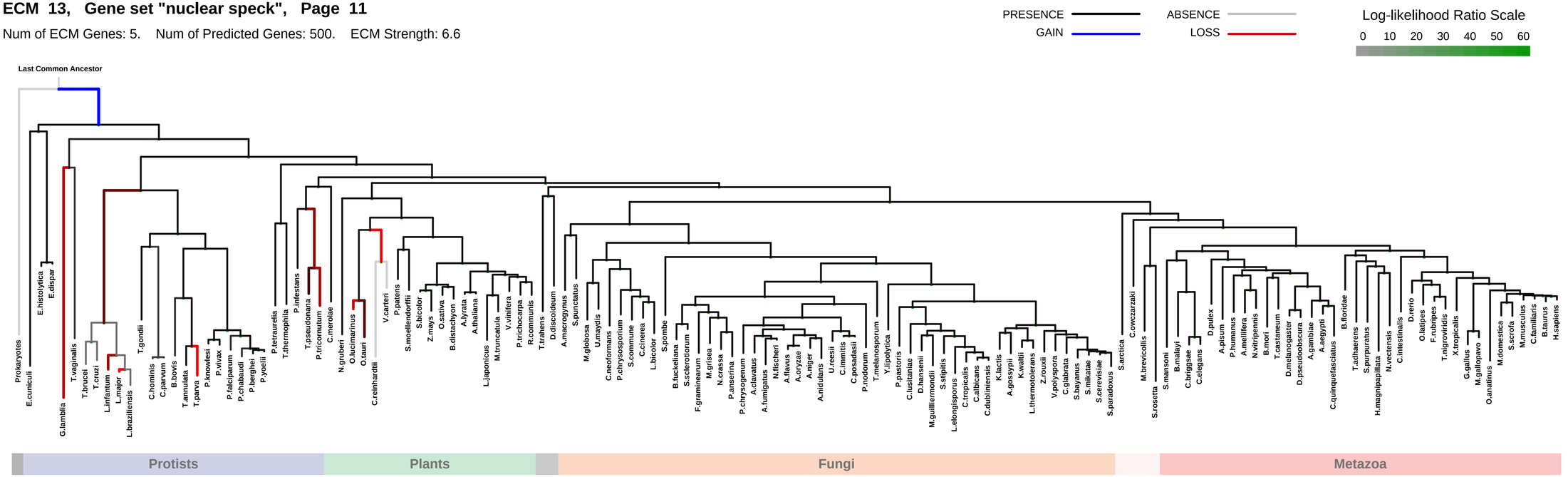


PG	Protein	LLR	Notes
A	ZNF415	28.3	1
A	ZNF558	28.3	
A	ZNF665	28.3	
A	ZNF25	28.3	
A	ZNF189	28.3	
A	ZNF71	28.3	
A	ZNF160	28.3	
A	ZNF562	28.3	
A	ZNF419	28.3	
A	ZKSCAN8	28.3	
A	ZNF131	28.2	
A	ZNF449	28.1	
A	ZNF782	28.0	
A	PLAGL2	28.0	
A	ZNF853	28.0	
A	ZNF641	28.0	
A	ZFP42	28.0	
A	ZNF76	28.0	
A	ZNF460	28.0	
A	ZNF143	28.0	
A	YY1	28.0	2 / 3 / 4
A	YY2	28.0	
A	GLI2	27.9	5
A	KLF1	27.9	6
A	ZXDA	27.9	
A	ZXDB	27.9	
A	ZFP82	27.9	
A	ZNF550	27.9	
A	PLAG1	27.5	
A	ZNF707	27.4	
A	BCL6B	27.4	
A	ZNF148	27.4	
A	ZNF430	27.2	
A	ZNF681	27.2	
A	ZNF215	27.2	

1: microtubule cytoskeleton || 2: Ino80 complex || 3: nuclear matrix || 4: PcG protein complex || 5: motile primary cilium || 6: nuclear chromatin

ECM 13, Gene set "nuclear speck", Page 11

Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6

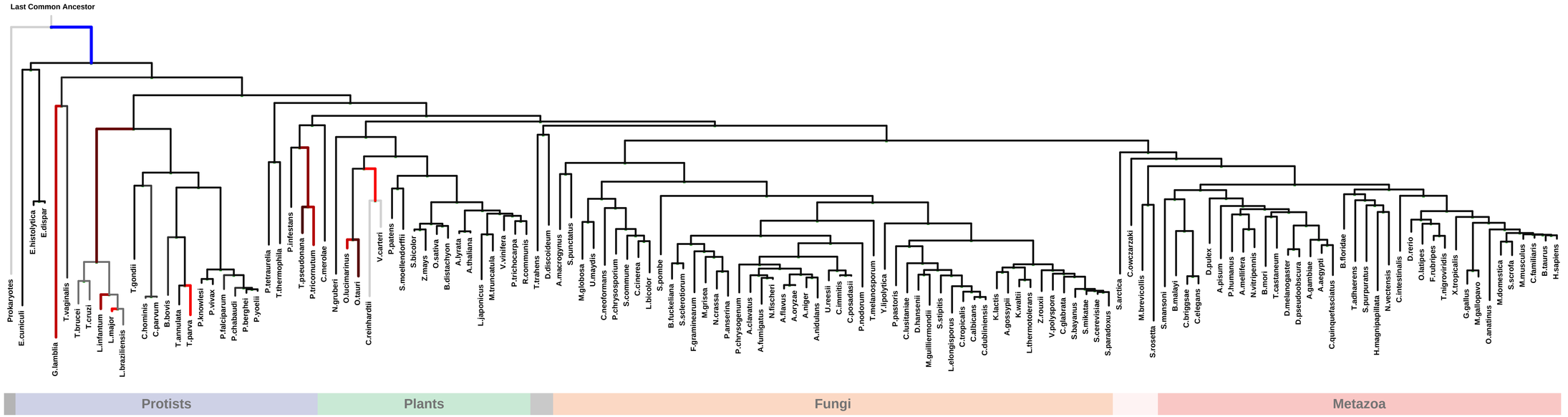


PG	Protein	LLR	Notes
A	ZIC1	27.0	
A	SP4	26.9	
A	IKZF1	26.9	1
A	ZEB1	26.9	
A	ZNF367	26.6	
A	ZNF711	26.5	
A	SNAI1	26.4	
A	ZNF585B	26.3	
A	LOC100131479	26.3	
A	SALL2	26.3	2
A	ZEB2	26.2	
A	LOC100129144	26.1	
A	ZSCAN12	25.8	
A	HIC2	25.8	3
A	ZSCAN5D	25.7	
A	ZNF324B	25.7	
A	ZNF333	25.7	
A	ZNF236	25.7	
	ZSCAN5D	**25.7**	
A	SALL4	25.7	4
A	SP7	25.7	
A	IKZF4	25.6	
A	ZBTB6	25.6	
A	ZNF607	25.6	
A	ZSCAN21	25.6	
A	EGR4	25.5	
A	ZNF222	25.5	
A	LOC400682	25.5	
A	ZNF614	25.5	
A	ZNF490	25.5	
A	ZKSCAN4	25.5	
A	ZNF133	25.5	
A	ZNF83	25.5	
A	ZNF668	25.5	
A	ZNF223	25.5	

1: centromeric heterochromatin || 2: NuRD complex || 3: focal adhesion || 4: heterochromatin

ECM 13, Gene set "nuclear speck", Page 12

Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6

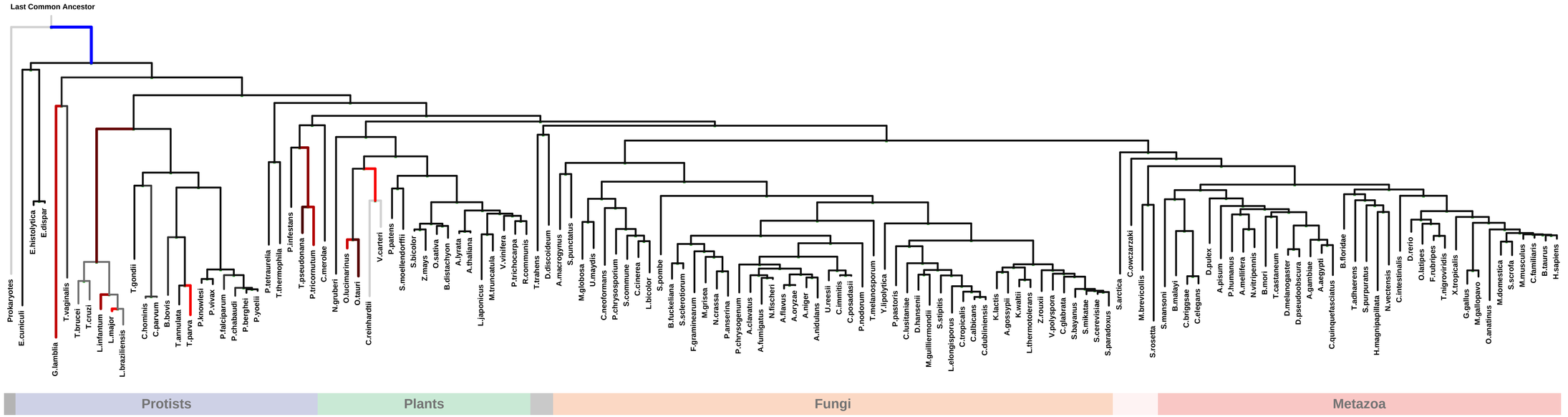


PG	Protein	LLR	Notes
A	ZNF594	25.2	
A	ZNF627	25.2	
A	GLI3	25.2	1 / 2 / 3
A	KLF9	25.1	
A	ZNF773	25.0	
A	ZNF200	25.0	
A	KLF10	24.9	
A	ZNF806	24.9	
A	PRDM10	24.9	
A	SCRT1	24.9	
A	ZNF763	24.9	
A	ZNF442	24.9	
A	100287841	24.9	
A	100290283	24.9	
A	ZNF563	24.9	
A	KLF12	24.8	
A	ZNF232	24.4	
A	ZNF75D	24.4	
A	ZNF770	24.4	
A	ZNF213	24.4	
A	PRDM14	24.3	
A	ZBTB49	24.3	
A	ZNF621	24.2	
A	ZNF75A	24.2	
A	ZNF355P	24.2	
A	ZNF730	24.2	
A	ZFP41	24.2	
A	ZNF117	24.2	
A	OSR1	24.2	
A	ZKSCAN5	24.2	
A	ZNF22	24.0	
A	ZNF43	24.0	
A	BCL11B	24.0	
A	ZIC3	23.9	
A	ZNF684	23.8	

1: cilium || 2: mediator complex || 3: transcriptional repressor complex

ECM 13, Gene set "nuclear speck", Page 13

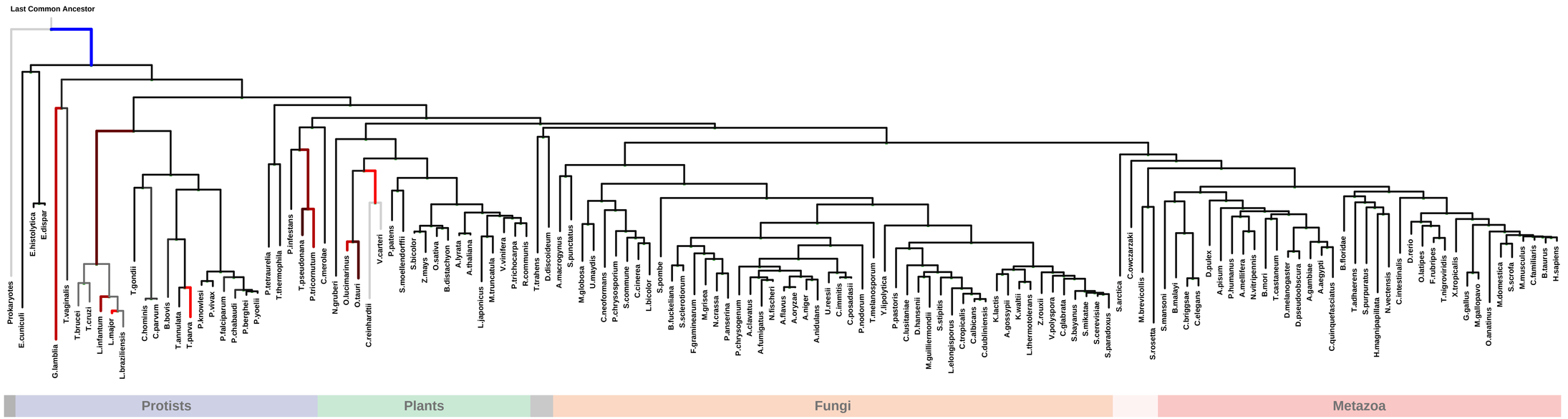
Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6



PG	Protein	LLR	Notes
A	ZKSCAN7	23.8	
A	ZNF85	23.8	
A	ZFP14	23.8	
A	ZNF578	23.8	
A	ZNF250	23.8	
A	ZNF454	23.8	
A	ZNF154	23.8	
A	ZNF878	23.8	
A	ZNF461	23.8	
A	ZSCAN31	23.8	
A	ZNF729	23.8	
A	ZNF256	23.8	
A	ZNF99	23.8	
A	ZNF792	23.8	
A	ZNF329	23.8	
A	ZNF132	23.8	
A	ZFP1	23.8	
A	ZNF658	23.8	
A	ZNF749	23.8	
A	ZNF81	23.8	
A	ZNF264	23.8	
A	ZNF564	23.8	
A	ZNF529	23.8	
A	ZNF567	23.8	
A	ZNF266	23.8	
A	ZNF33A	23.8	
A	ZNF134	23.8	
A	ZNF205	23.8	
A	ZNF311	23.8	
A	ZNF674	23.8	
A	ZNF630	23.7	
A	LOC100287163	23.7	
A	ZNF717	23.7	
A	ZNF157	23.6	
A	ZNF208	23.6	

ECM 13, Gene set "nuclear speck", Page 14

Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6

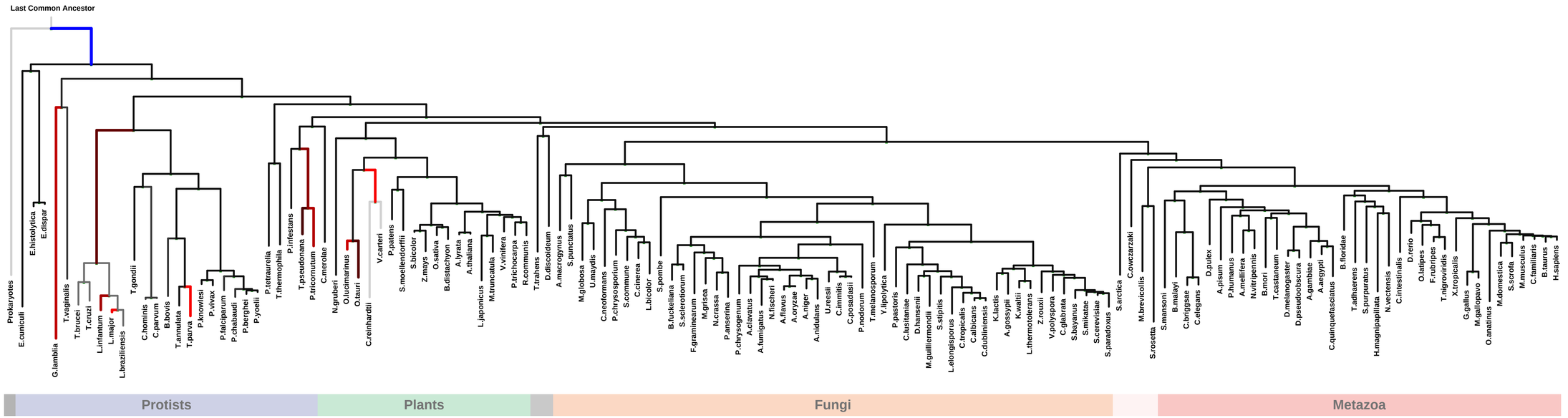


PG	Protein	LLR	Notes
A	ZNF33B	23.6	
A	ZNF37A	23.6	
A	ZNF253	23.6	
A	ZNF273	23.6	
A	ZNF471	23.6	
A	ZNF254	23.6	
A	ZNF431	23.6	
A	ZNF850	23.6	
A	ZNF565	23.6	
A	ZNF669	23.6	
A	ZNF30	23.6	
A	ZNF124	23.6	
A	ZNF776	23.6	
A	ZNF404	23.6	
A	ZNF540	23.6	
A	ZNF780A	23.6	
A	ZNF714	23.6	
A	ZNF90	23.6	
A	ZNF91	23.6	
A	ZNF92	23.6	
A	ZNF93	23.6	
A	ZNF331	23.6	
A	ZNF676	23.6	
A	ZNF785	23.6	
A	ZNF544	23.6	
A	ZNF100	23.6	
A	ZNF790	23.6	
A	ZNF679	23.6	
A	ZNF44	23.6	1
A	ZNF8	23.6	
A	ZNF440	23.6	
A	ZNF573	23.6	
A	ZNF181	23.6	
A	ZNF443	23.6	
A	ZNF554	23.6	

1: microtubule cytoskeleton

ECM 13, Gene set "nuclear speck", Page 15

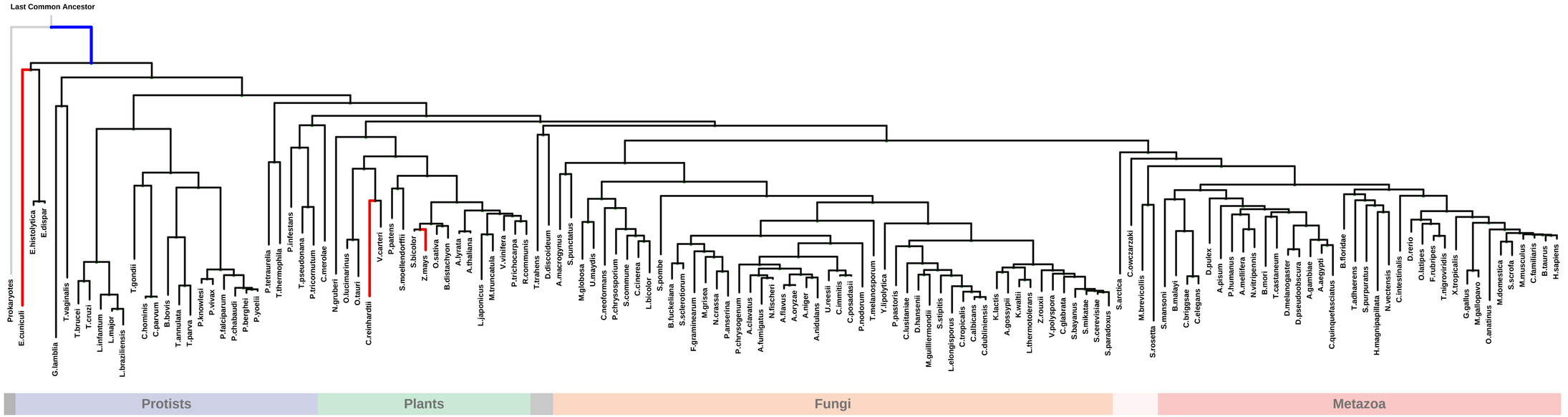
Num of ECM Genes: 5. Num of Predicted Genes: 500. ECM Strength: 6.6

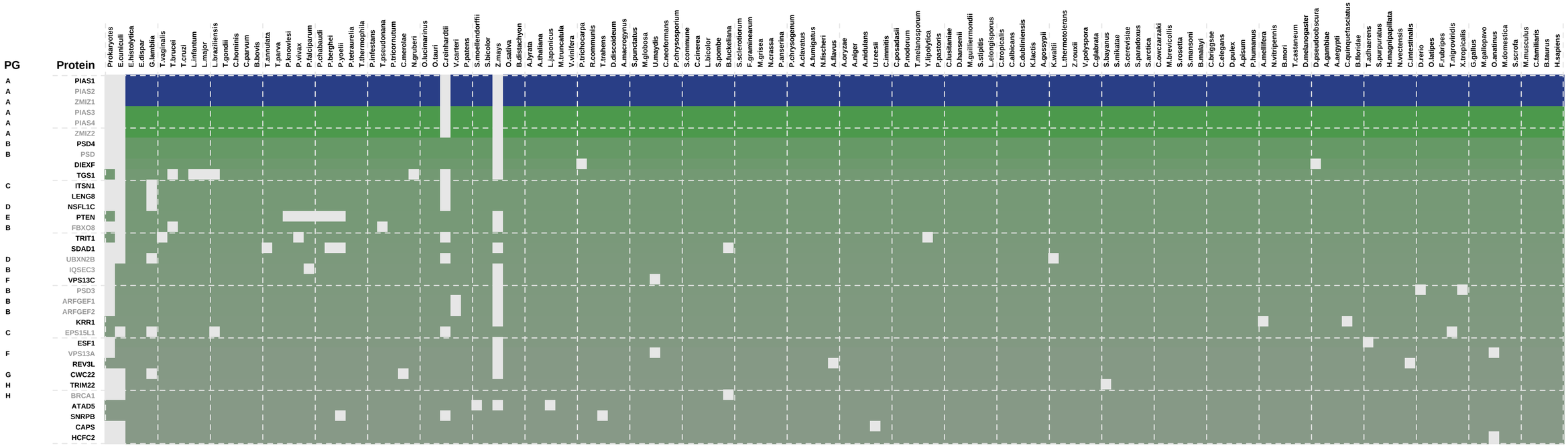


| PG | Protein | Prokaryotes | E.cuniculi | E.histolytica | E.dispar | G.lamblia | T.vaginalis | T.brucei | T.cruzi | L.infantum | L.major | L.braziliensis | T.gondii | C.hominis | C.parvum | B.bovis | T.annulata | T.parva | P.knowlesi | P.vivax | P.falciparum | P.chabaudi | P.berghei | P.yoelii | P.tetraurelia | T.thermophila | P.infestans | T.pseudonana | P.tricornutum | C.merolae | N.gruberi | O.lucimarinus | O.tauri | C.reinhardtii | V.carteri | P.patens | S.moellendorffii | S.bicolor | Z.mays | O.sativa | B.distachyon | A.lyrata | A.thaliana | L.japonicus | M.truncatula | V.vinifera | P.trichocarpa | R.communis | T.trahens | D.discoideum | A.macrogynus | S.punctatus | M.globosa | U.maydis | C.neoformans | P.chrysosporium | S.commune | C.cinerea | L.bicolor | S.pombe | B.fuckeliana | S.sclerotiorum | F.graminearum | M.grisea | N.crassa | P.anserina | P.chrysogenum | A.clavatus | A.fumigatus | A.flavus | N.fischeri | A.oryzae | A.niger | A.nidulans | U.reesii | C.immitis | C.posadasii | P.nodorum | T.melanosporum | Y.lipolytica | P.pastoris | C.lusitaniae | D.hansenii | M.guilliermondii | S.stipitis | L.elongisporus | C.tropicalis | C.albicans | C.dubliniensis | K.lactis | A.gossypii | K.waltii | L.thermotolerans | Z.rouxii | V.polyspora | C.glabrata | S.bayanus | S.mikatae | S.cerevisiae | S.paradoxus | S.arctica | C.owczarzaki | M.brevicollis | S.rosetta | S.mansoni | B.malayi | C.briggsae | C.elegans | D.pulex | A.pisum | P.humanus | A.mellifera | N.vitripennis | B.mori | T.castaneum | D.melanogaster | D.pseudoobscura | A.gambiae | A.aegypti | C.quinquefasciatus | B.floridae | T.adhaerens | S.purpuratus | H.magnipapillata | N.vectensis | C.intestinalis | D.rerio | O.latipes | F.rubripes | T.nigroviridis | X.tropicalis | G.gallus | M.gallopavo | O.anatinus | M.domestica | S.scrofa | M.musculus | C.familiaris | B.taurus | H.sapiens | LLR | Notes |
|---|---|---

ECM 14, Gene set "nuclear speck", Page 1

Num of ECM Genes: 3. Num of Predicted Genes: 267. ECM Strength: 10.0

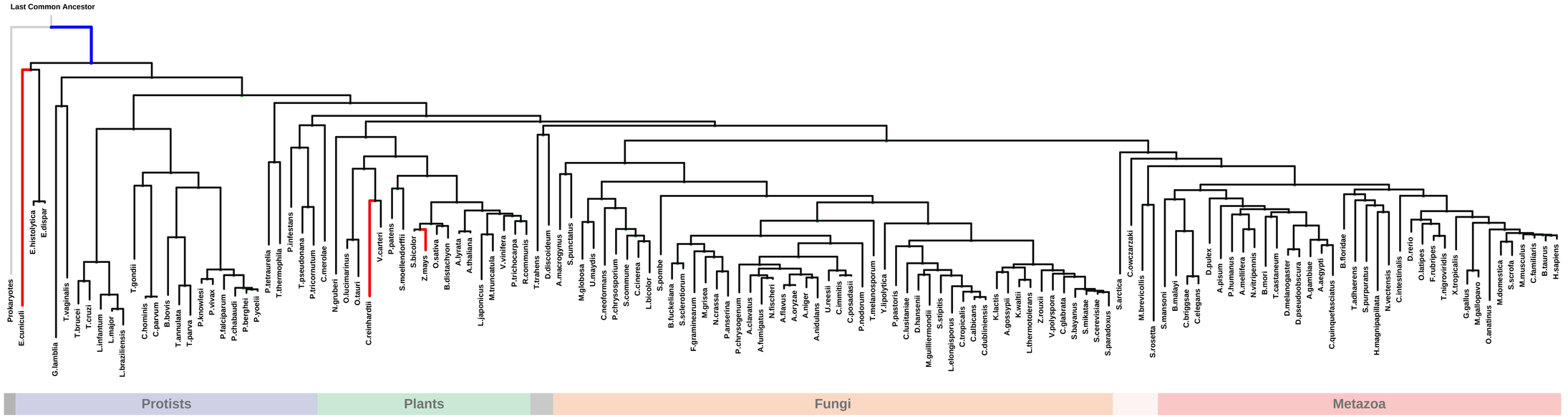


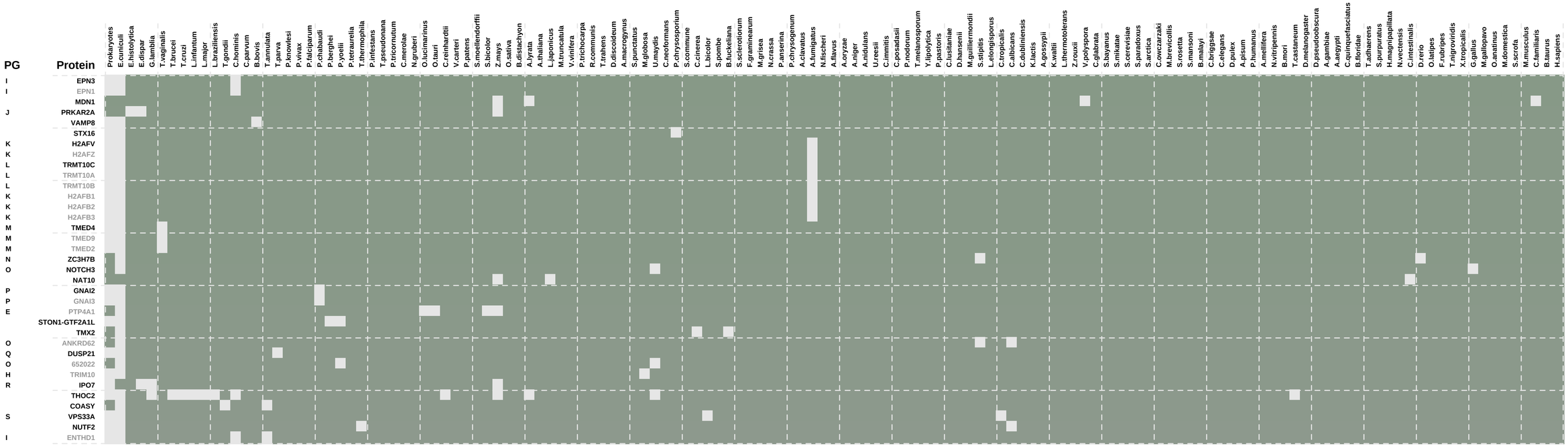


1: nuclear speck || 2: PML body || 3: dendrite || 4: synapse || 5: nuclear matrix || 6: nuclear replication fork || 7: trans-Golgi network || 8: ruffle || 9: Cajal body || 10: small nuclear ribonucleoprotein complex || 11: coated pit ||
12: endocytic vesicle || 13: lamellipodium || 14: neuron projection || 15: chromosome || 16: Golgi stack || 17: cell projection || 18: internal side of plasma membrane || 19: myelin sheath adaxonal region || 20: Schmidt-Lanterman incisure ||
21: ubiquitin ligase complex || 22: inhibitory synapse || 23: postsynaptic membrane || 24: postsynaptic density || 25: asymmetric synapse || 26: axonemal microtubule || 27: cytoplasmic membrane-bounded vesicle || 28: cytoplasmic vesicle ||

ECM 14, Gene set "nuclear speck", Page 2

Num of ECM Genes: 3. Num of Predicted Genes: 267. ECM Strength: 10.0

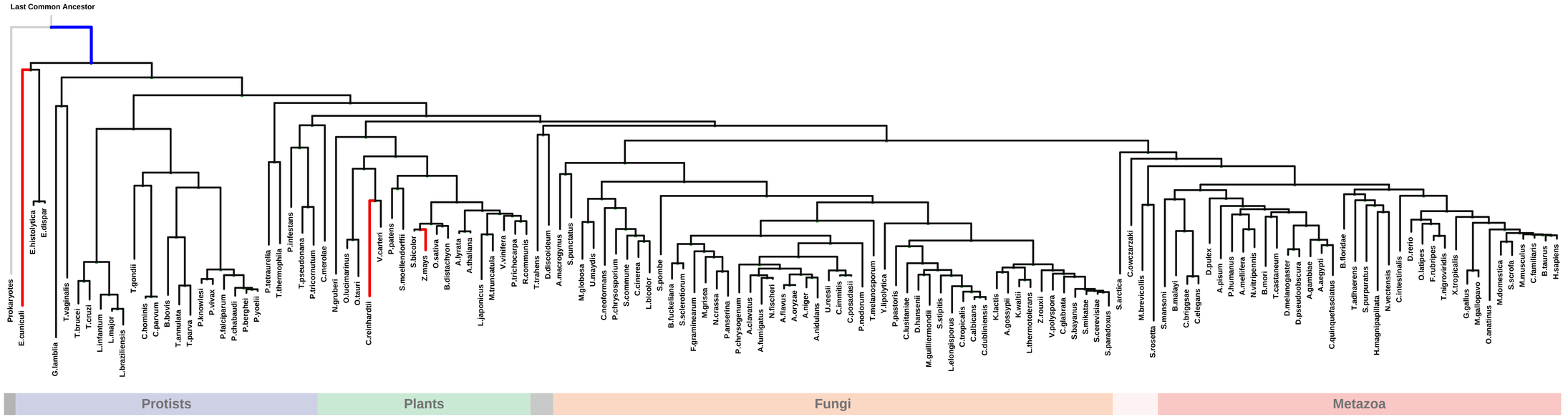




1: clathrin-coated vesicle || 2: coated pit || 3: cAMP-dependent protein kinase complex || 4: T-tubule || 5: early endosome || 6: late endosome membrane || 7: lysosomal membrane || 8: recycling endosome || 9: secretory granule membrane ||
10: SNARE complex || 11: nucleosome || 12: Barr body || 13: nuclear nucleosome || 14: transcriptionally active chromatin || 15: endoplasmic reticulum-Golgi intermediate compartment || 16: endoplasmic reticulum-Golgi intermediate compartment membrane ||
17: trans-Golgi network transport vesicle || 18: COPI-coated vesicle || 19: COPI-coated vesicle membrane || 20: Golgi cisterna membrane || 21: zymogen granule membrane || 22: extrinsic to internal side of plasma membrane || 23: heterotrimeric G-protein complex ||

ECM 14, Gene set "nuclear speck", Page 3

Num of ECM Genes: 3. Num of Predicted Genes: 267. ECM Strength: 10.0

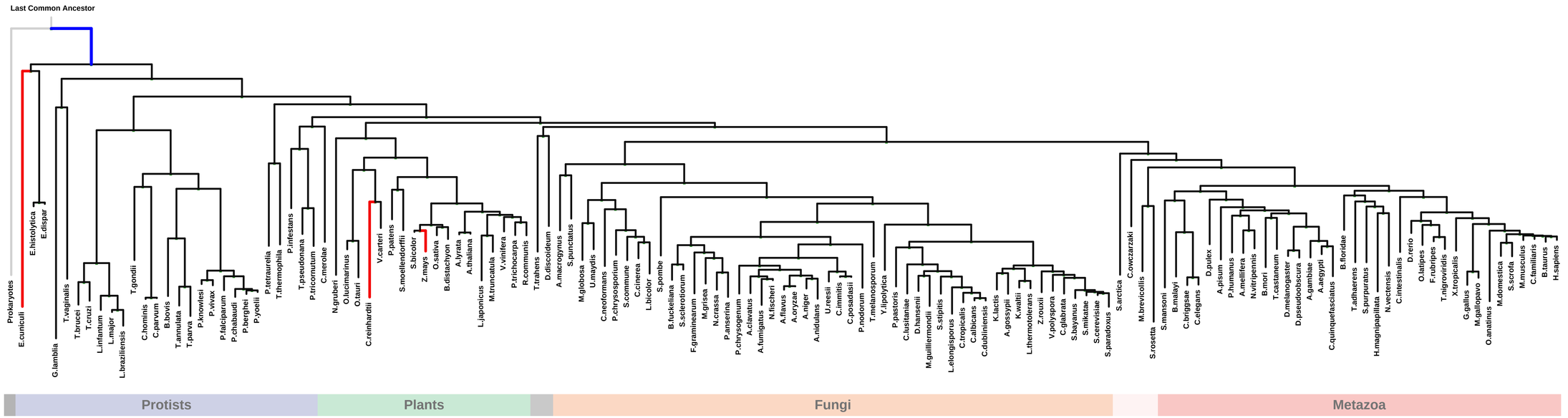


PG	Protein	LLR	Notes
	LDHAL6A	5.3	
	UBE2Q2	5.2	
O	ANKRD13C	5.2	
T	NARF	5.2	1 / 2 / 3
T	NARFL	5.2	4
U	ANKRD45	4.9	
V	TRAPPC3L	4.9	
	TAF9	4.8	5 / 6 / 7 / 8 / 9 / 10 / 11
W	COPZ2	4.8	12 / 13
X	HIST1H2BK	4.7	14
X	HIST1H2BL	4.7	14
X	HIST1H2BM	4.7	14
X	HIST1H2BN	4.7	14
X	HIST1H2BO	4.7	14
X	HIST2H2BE	4.7	14
X	HIST2H2BF	4.7	14
X	HIST3H2BB	4.7	14
X	HIST1H2BA	4.7	14 / 15
X	HIST1H2BB	4.7	14
X	HIST1H2BC	4.7	14
X	HIST1H2BD	4.7	14
X	HIST1H2BE	4.7	
X	HIST1H2BF	4.7	
X	LOC100506545	4.7	
X	HIST1H2BG	4.7	
X	HIST1H2BH	4.7	14
X	HIST1H2BI	4.7	
X	HIST1H2BJ	4.7	14
X	100507927	4.7	
R	CSE1L	4.6	16
H	TRIM73	4.5	
O	LOC400986	4.5	
W	COPZ1	4.5	13
Y	VPS26B	4.4	17
Y	VPS26A	4.4	17 / 18 / 19 / 20

1: lamin filament || 2: nuclear lamina || 3: nuclear lumen || 4: CIA complex || 5: Cajal body || 6: MLL1 complex || 7: PCAF complex || 8: pre-snoRNP complex || 9: STAGA complex || 10: transcription factor TFIID complex || 11: transcription factor TFTC complex || 12: cis-Golgi network || 13: COPI vesicle coat || 14: nucleosome || 15: extrinsic to plasma membrane || 16: nuclear pore || 17: retromer complex || 18: endosome || 19: endosome membrane || 20: vesicle

ECM 14, Gene set "nuclear speck", Page 4

Num of ECM Genes: 3. Num of Predicted Genes: 267. ECM Strength: 10.0

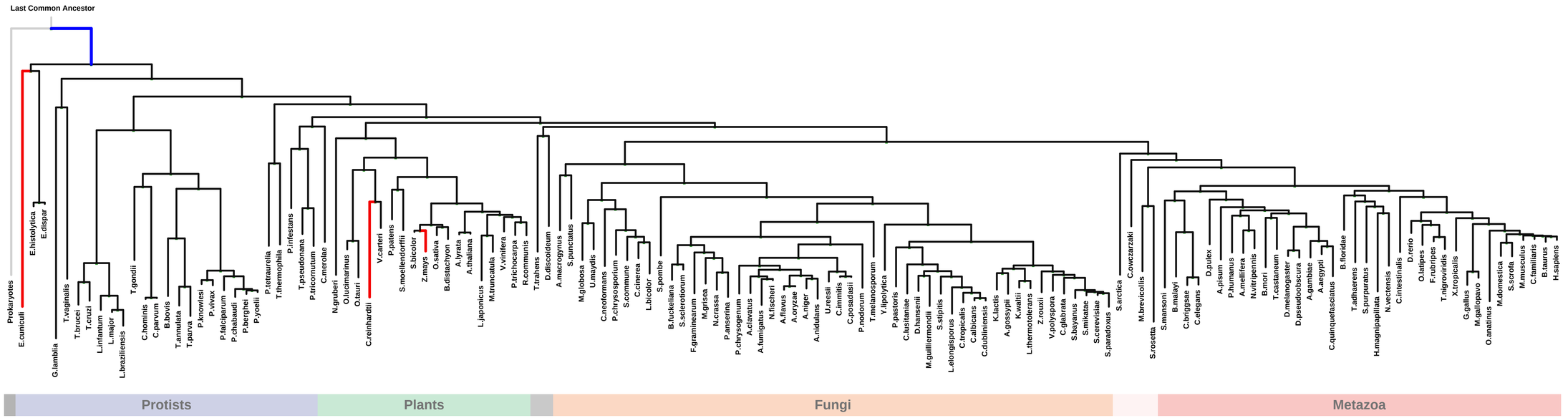


PG	Protein	LLR	Notes
Z	RNF103-CHMP3	4.4	
	VPS35	4.3	1
N	UNC45B	4.3	
H	TRIM74	4.2	
H	TRIM43B	4.2	
H	TRIM43	4.2	
	USP30	4.2	2
O	ANKRD33B	4.0	
	ABTB2	4.0	
	PANK3	4.0	
a	SLC25A34	4.0	
a	SLC25A36	4.0	
a	SLC25A37	4.0	
a	SLC25A38	4.0	
a	SLC25A39	4.0	
a	SLC25A4	4.0	2
a	SLC25A40	4.0	
a	SLC25A41	4.0	
a	SLC25A42	4.0	
a	SLC25A43	4.0	
a	SLC25A44	4.0	
a	SLC25A45	4.0	
a	SLC25A48	4.0	
a	SLC25A5	4.0	3 / 4
a	SLC25A6	4.0	5
	CHKA	4.0	
	RBM15B	4.0	
b	EIF2A	4.0	6
	PRMT8	4.0	
b	EIF3B	4.0	7
C	ITSN2	4.0	
c	DECR2	4.0	8
Z	CHMP2A	4.0	9
	SF3B3	4.0	10 / 11 / 12 / 13
a	SLC25A1	4.0	

1: endosome || 2: mitochondrial outer membrane || 3: mitochondrial nucleoid || 4: MMXD complex || 5: mitochondrial inner membrane presequence translocase complex || 6: eukaryotic translation initiation factor 2 complex || 7: eukaryotic translation initiation factor 3 complex ||
8: peroxisome || 9: late endosome membrane || 10: catalytic step 2 spliceosome || 11: small nuclear ribonucleoprotein complex || 12: spliceosomal complex || 13: U12-type spliceosomal complex

ECM 14, Gene set "nuclear speck", Page 5

Num of ECM Genes: 3. Num of Predicted Genes: 267. ECM Strength: 10.0

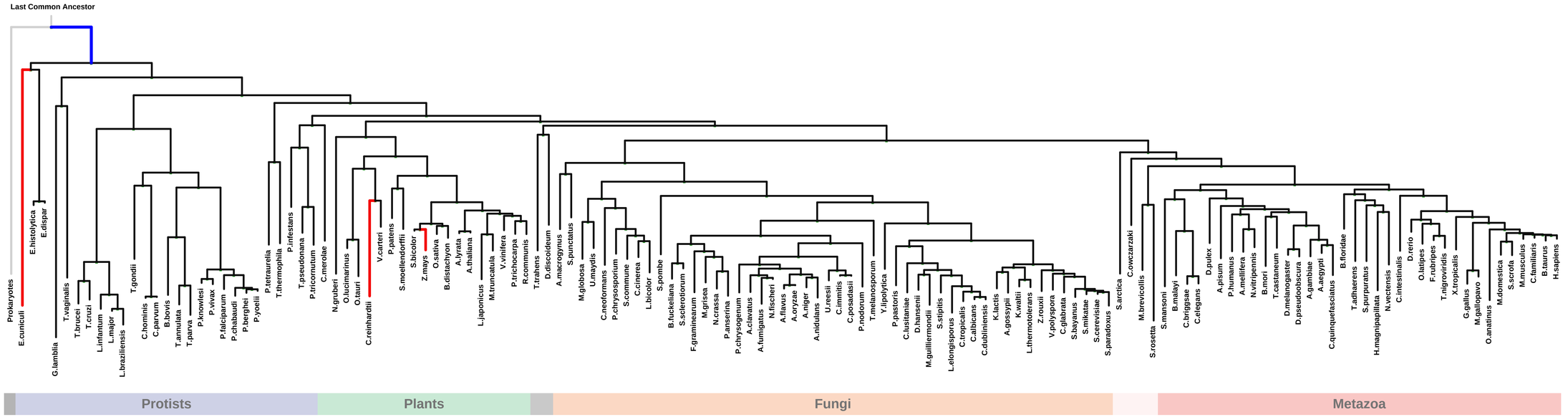


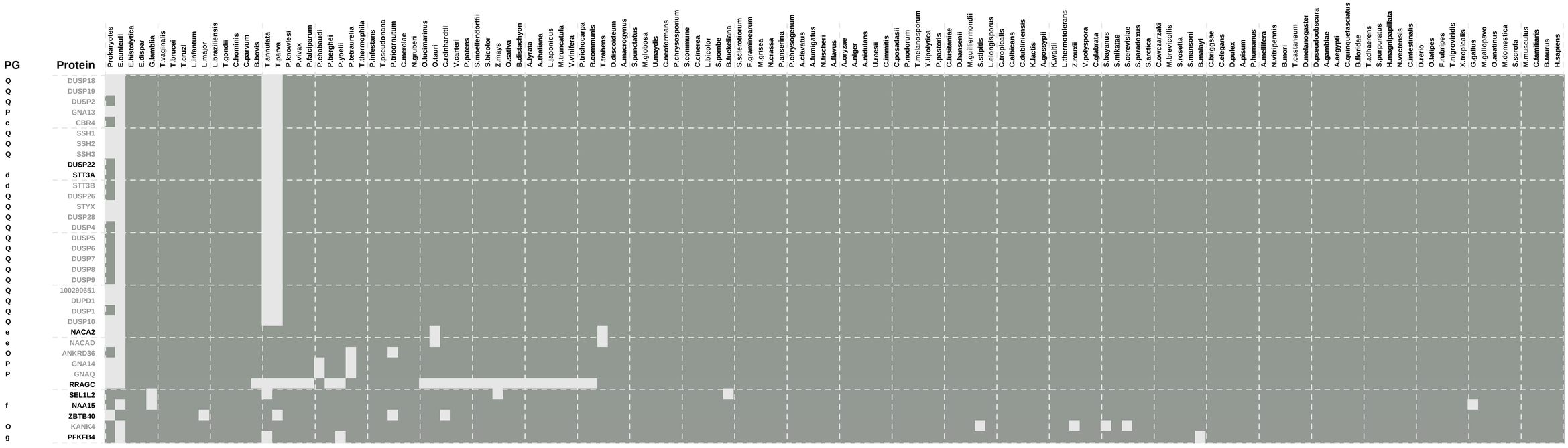
PG	Protein	LLR	Notes
R	TNPO1	4.0	1
R	TNPO2	4.0	1
a	SLC25A10	4.0	
a	SLC25A11	4.0	
a	SLC25A12	4.0	
a	SLC25A13	4.0	
a	SLC25A14	4.0	
a	SLC25A15	4.0	
a	SLC25A16	4.0	
a	SLC25A17	4.0	2 / 3 / 4
a	SLC25A18	4.0	
a	UCP1	4.0	
a	UCP2	4.0	
a	UCP3	4.0	
a	SLC25A19	4.0	
a	SLC25A2	4.0	
a	SLC25A20	4.0	
a	SLC25A21	4.0	
a	SLC25A22	4.0	
a	SLC25A26	4.0	
a	SLC25A28	4.0	
a	SLC25A29	4.0	
a	SLC25A3	4.0	
a	SLC25A30	4.0	
a	SLC25A31	4.0	5 / 6
a	SLC25A32	4.0	
a	SLC25A33	4.0	
a	100508457	4.0	
a	100510457	4.0	
G	NOM1	3.8	
J	PRKAR2B	3.7	7 / 8
	ERCC3	**3.3**	**9 / 10**
Q	DUSP13	3.2	
Q	DUSP14	3.2	
Q	DUSP16	3.2	11

1: nuclear pore || 2: integral to peroxisomal membrane || 3: peroxisomal membrane || 4: peroxisome || 5: cilium || 6: flagellum || 7: cAMP-dependent protein kinase complex || 8: membrane raft || 9: holo TFIIH complex ||
10: SSL2-core TFIIH complex || 11: cytoplasmic membrane-bounded vesicle

ECM 14, Gene set "nuclear speck", Page 6

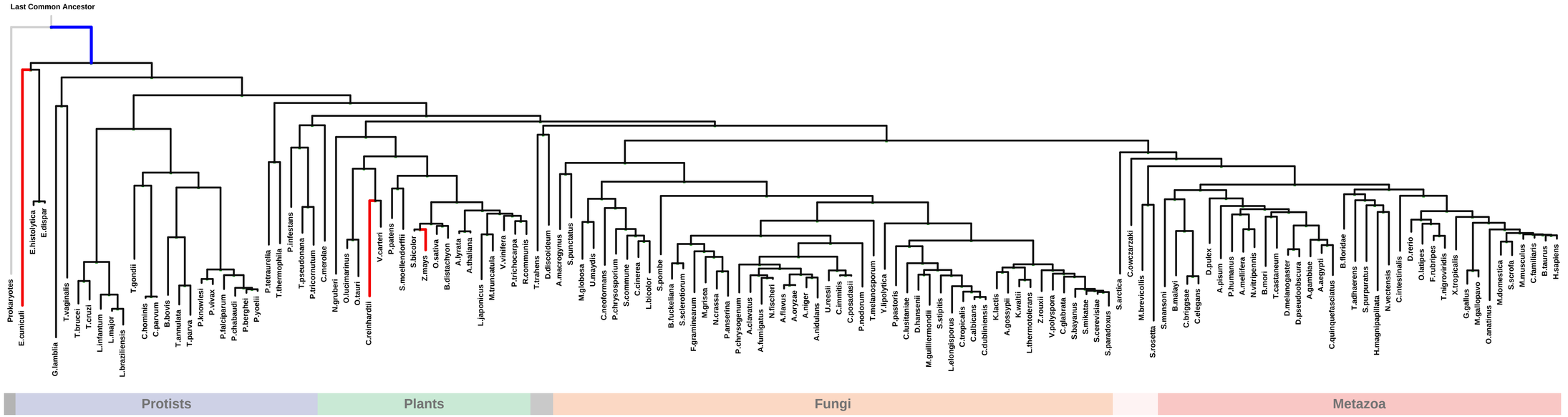
Num of ECM Genes: 3. Num of Predicted Genes: 267. ECM Strength: 10.0

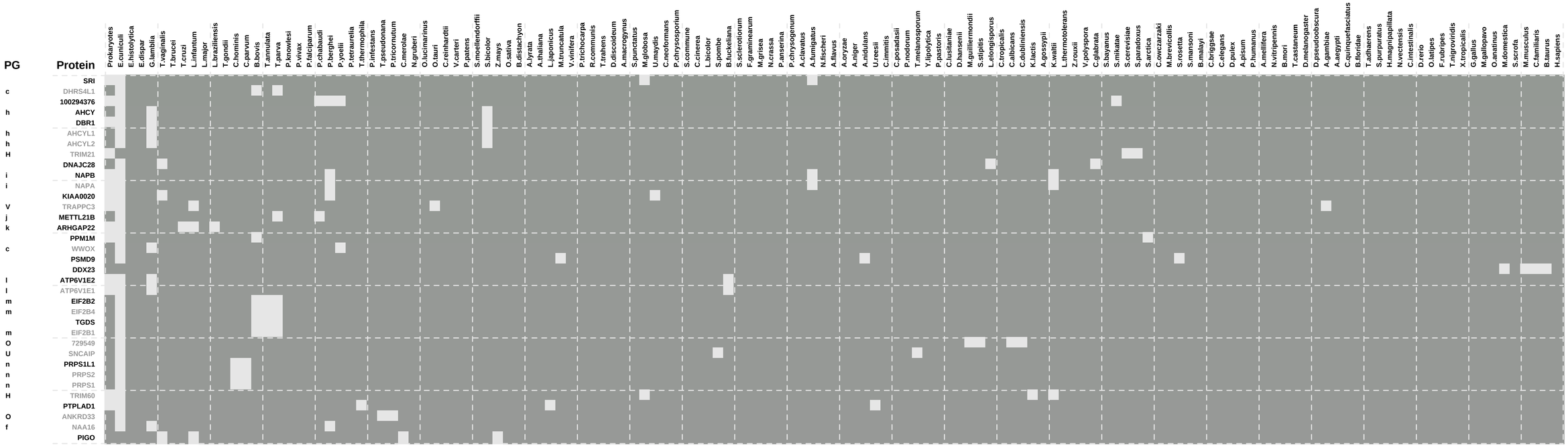




ECM 14, Gene set "nuclear speck", Page 7

Num of ECM Genes: 3. Num of Predicted Genes: 267. ECM Strength: 10.0

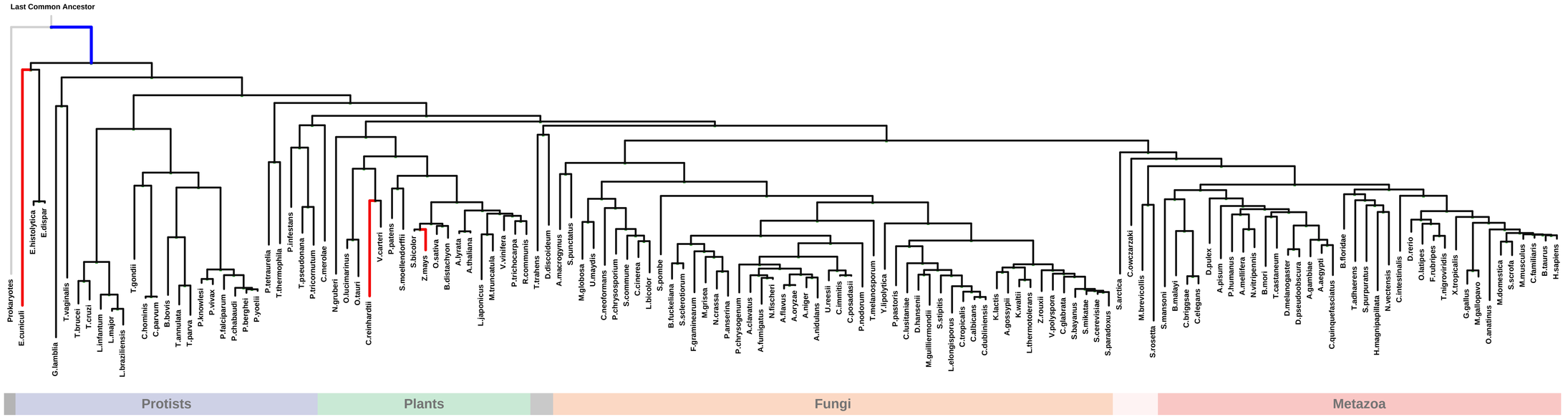


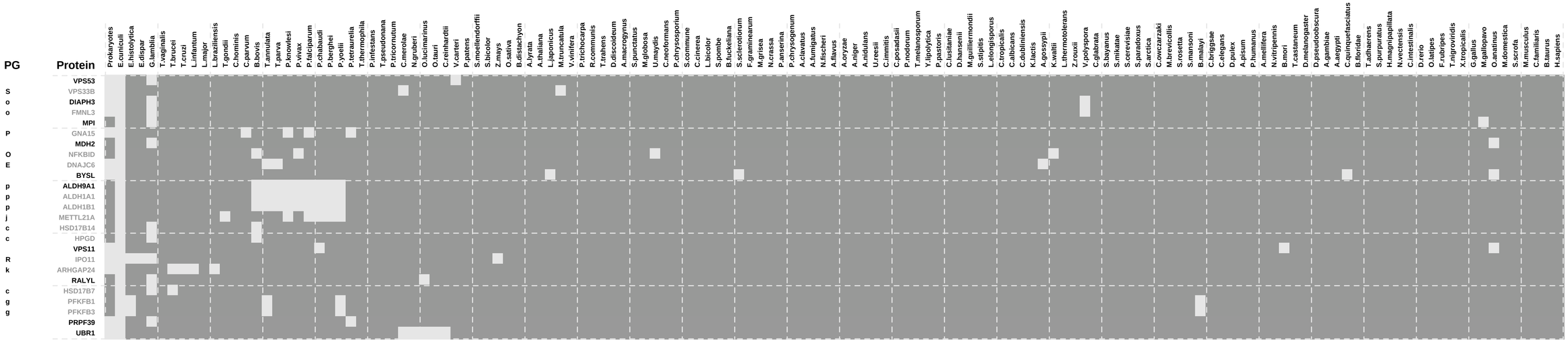


1: sarcoplasmic reticulum membrane || 2: vesicle || 3: Z disc || 4: melanosome || 5: cytoplasmic mRNA processing body || 6: ribonucleoprotein complex || 7: SCF ubiquitin ligase complex || 8: synaptobrevin 2-SNAP-25-syntaxin-1a complex ||
9: TRAPP complex || 10: microvillus || 11: proteasome regulatory particle || 12: proteasome regulatory particle, base subcomplex || 13: catalytic step 2 spliceosome || 14: U5 snRNP || 15: acrosomal vesicle || 16: proton-transporting two-sector ATPase complex, catalytic domain ||
17: endosome || 18: proton-transporting two-sector ATPase complex || 19: eukaryotic translation initiation factor 2B complex || 20: eukaryotic translation initiation factor 2 complex || 21: presynaptic membrane

ECM 14, Gene set "nuclear speck", Page 8

Num of ECM Genes: 3. Num of Predicted Genes: 267. ECM Strength: 10.0

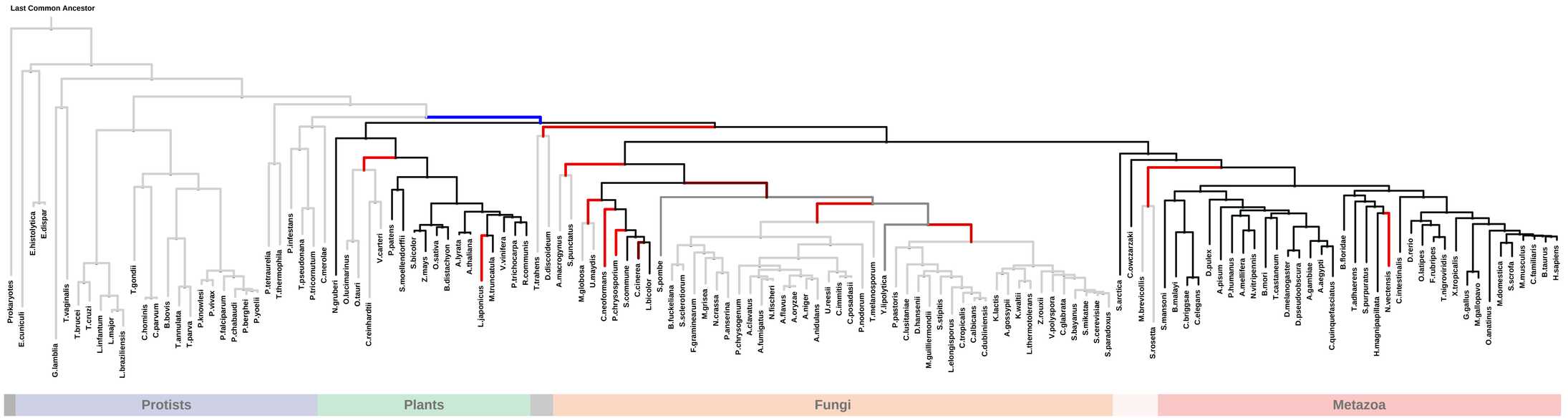




1: endosome membrane || 2: GARP complex || 3: HOPS complex || 4: late endosome || 5: late endosome membrane || 6: lysosomal membrane || 7: lysosome || 8: platelet alpha granule || 9: extrinsic to internal side of plasma membrane ||
10: heterotrimeric G-protein complex || 11: endocytic vesicle || 12: endosome || 13: nuclear pore || 14: cell projection || 15: focal adhesion || 16: proteasome complex || 17: ubiquitin ligase complex

ECM 15, Gene set "nuclear speck", Page 1

Num of ECM Genes: 2. Num of Predicted Genes: 0. ECM Strength: 5.3

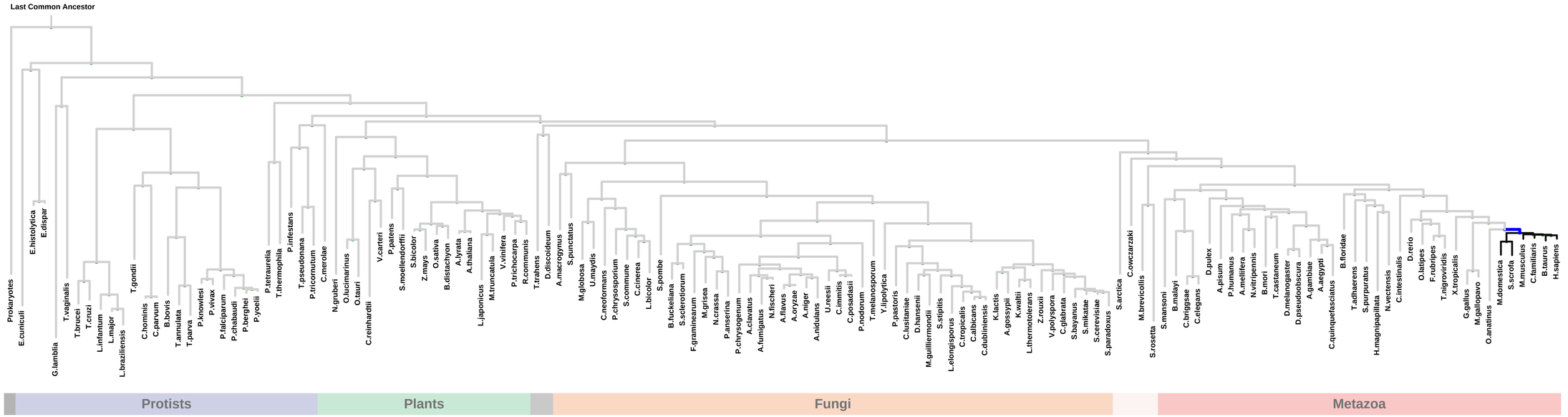


PG	Protein	LLR	Notes
A	EAF1		1 / 2
A	EAF2		2

1: Cajal body || 2: nuclear speck

ECM 16, Gene set "nuclear speck", Page 1

Num of ECM Genes: 2. Num of Predicted Genes: 0. ECM Strength: 0.0

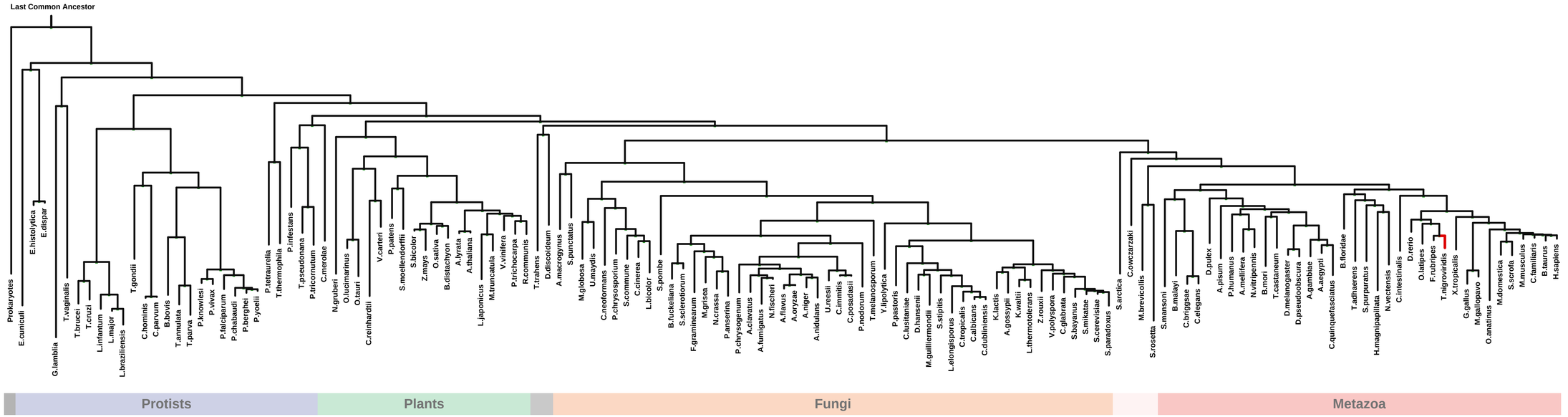


PG	Protein	LLR	Notes
A	IFI16		1
A	PYHIN1		1

1: nuclear speck

ECM 17, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

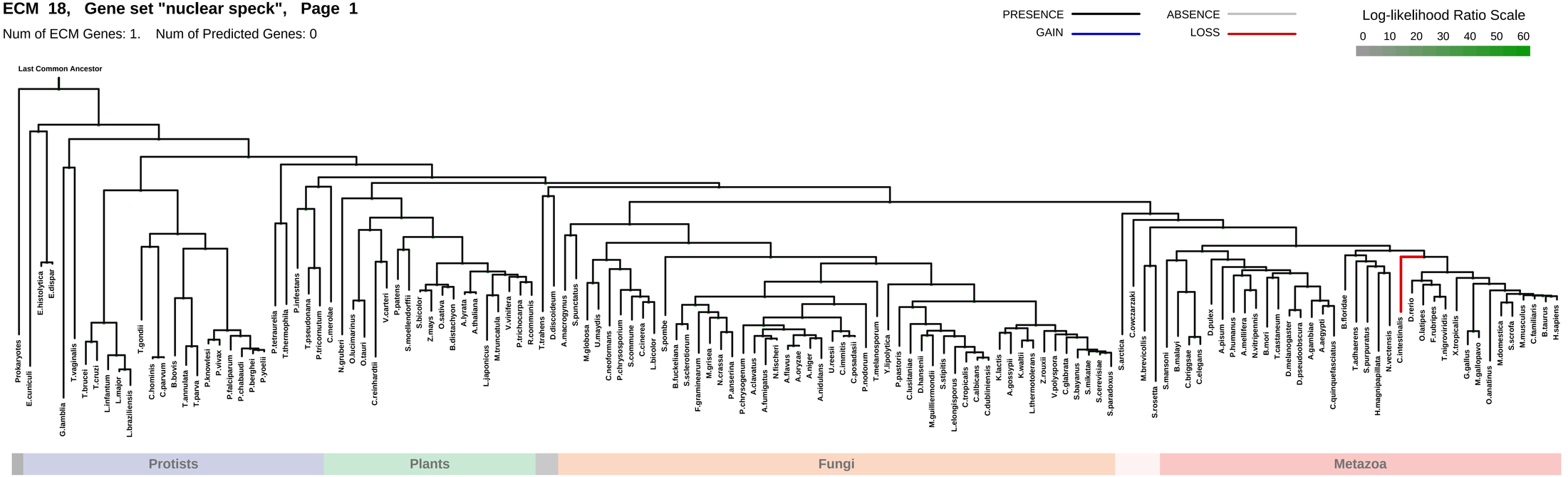


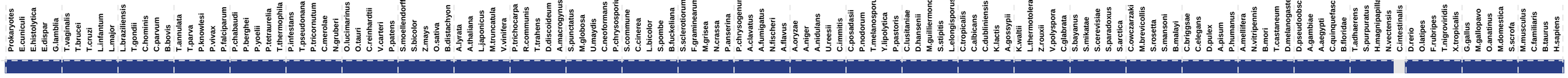
PG	Protein	LLR	Notes
	DDX42		1 / 2

1: Cajal body || 2: nuclear speck

ECM 18, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

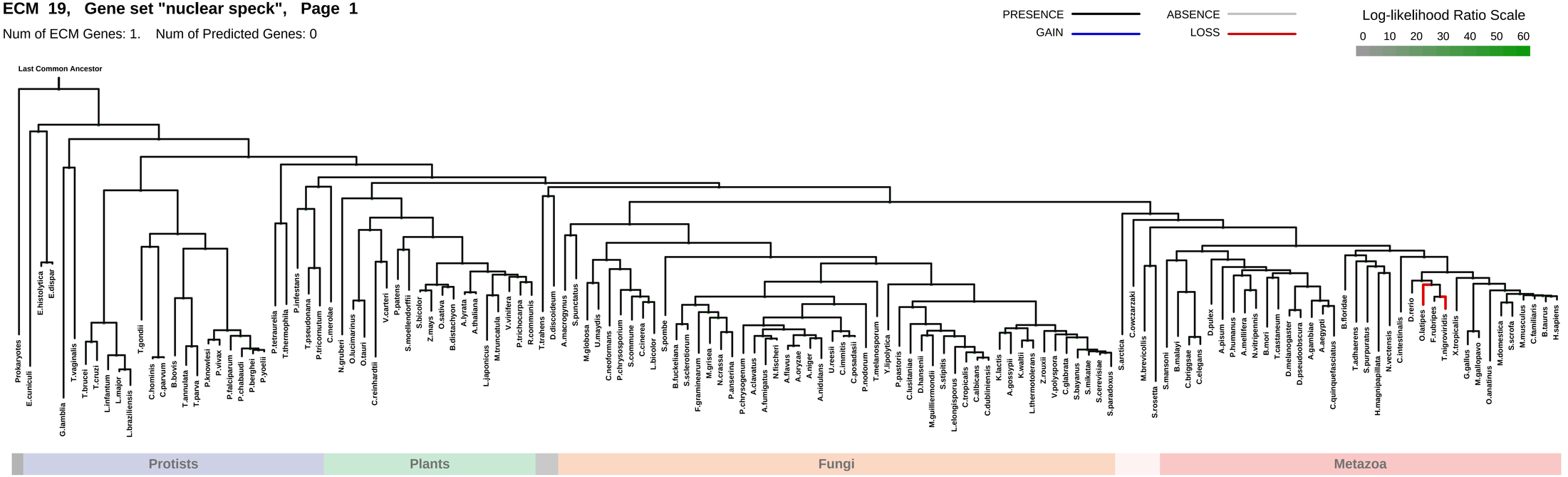




1: cytoplasmic stress granule || 2: cytosolic small ribosomal subunit || 3: eukaryotic translation initiation factor 3 complex || 4: mitochondrial outer membrane || 5: nuclear speck

ECM 19, Gene set "nuclear speck", Page 1

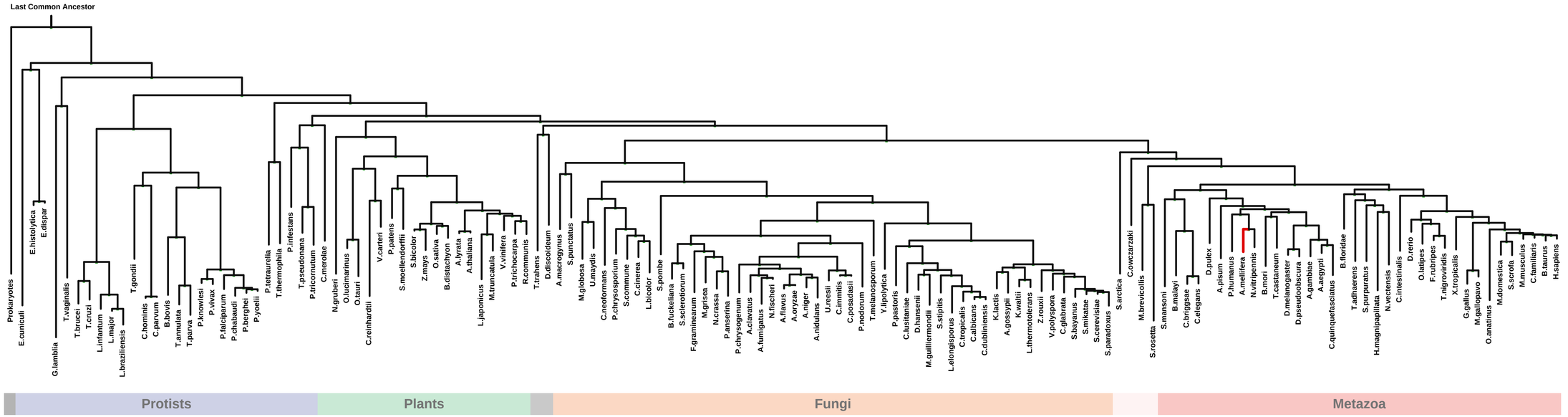
Num of ECM Genes: 1. Num of Predicted Genes: 0



| PG | Protein | Prokaryotes | E.cuniculi | E.histolytica | E.dispar | G.lamblia | T.vaginalis | T.brucei | T.cruzi | L.infantum | L.major | L.braziliensis | T.gondii | C.hominis | C.parvum | B.bovis | T.annulata | T.parva | P.knowlesi | P.vivax | P.falciparum | P.chabaudi | P.berghei | P.yoelii | P.tetraurelia | T.thermophila | P.infestans | T.pseudonana | P.tricornutum | C.merolae | N.gruberi | O.lucimarinus | O.tauri | C.reinhardtii | V.carteri | P.patens | S.moellendorffii | S.bicolor | Z.mays | O.sativa | B.distachyon | A.lyrata | A.thaliana | L.japonicus | M.truncatula | V.vinifera | P.trichocarpa | R.communis | T.trahens | D.discoideum | A.macrogynus | S.punctatus | M.globosa | U.maydis | C.neoformans | P.chrysosporium | S.commune | C.cinerea | L.bicolor | S.pombe | B.fuckeliana | S.sclerotiorum | F.graminearum | M.grisea | N.crassa | P.anserina | P.chrysogenum | A.clavatus | A.fumigatus | N.fischeri | A.flavus | A.oryzae | A.niger | A.nidulans | U.reesii | C.immitis | C.posadasii | P.nodorum | T.melanosporum | Y.lipolytica | P.pastoris | C.lusitaniae | D.hansenii | M.guilliermondii | S.stipitis | L.elongisporus | C.tropicalis | C.albicans | C.dubliniensis | K.lactis | A.gossypii | K.waltii | L.thermotolerans | Z.rouxii | V.polyspora | C.glabrata | S.bayanus | S.mikatae | S.cerevisiae | S.paradoxus | S.arctica | C.owczarzaki | M.brevicollis | S.rosetta | S.mansoni | B.malayi | C.briggsae | C.elegans | D.pulex | A.pisum | P.humanus | A.mellifera | N.vitripennis | B.mori | T.castaneum | D.melanogaster | D.pseudoobscura | A.gambiae | A.aegypti | C.quinquefasciatus | B.floridae | T.adhaerens | S.purpuratus | H.magnipapillata | N.vectensis | C.intestinalis | D.rerio | O.latipes | F.rubripes | T.nigroviridis | X.tropicalis | G.gallus | M.gallopavo | O.anatinus | M.domestica | S.scrofa | M.musculus | C.familiaris | B.taurus | H.sapiens | LLR | Notes |
|---|---|---

ECM 20, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

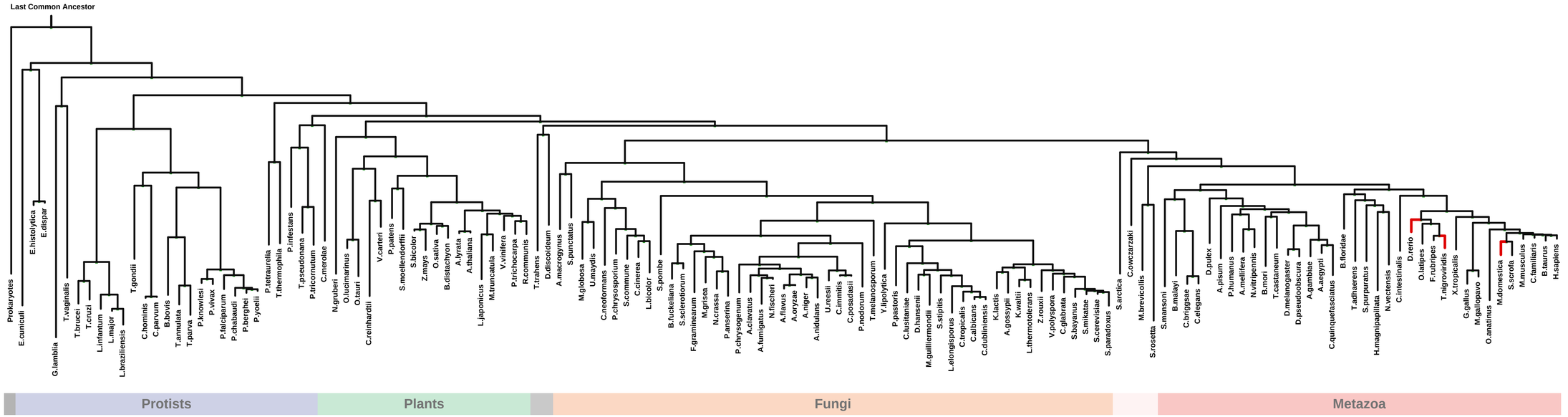


PG	Protein	LLR	Notes
	DYRK1A		1 / 2

1: nuclear speck || 2: ribonucleoprotein complex

ECM 21, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 134

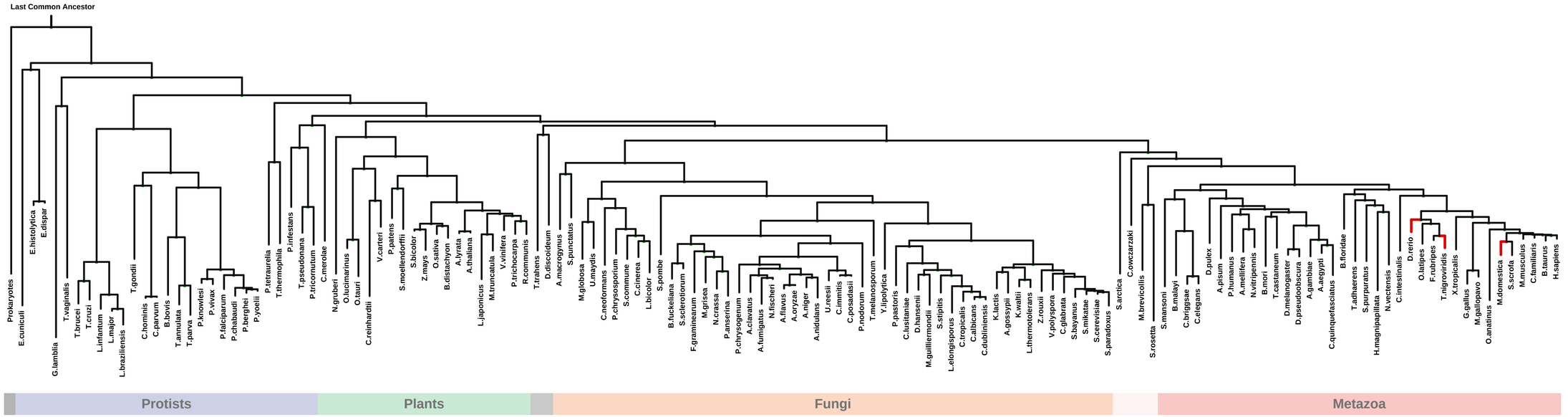


PG	Protein	LLR	Notes
A	CDK13		1 / 2
B	TAF1L	22.7	3
C	DDX23	18.9	4 / 5
	WRNIP1	16.4	
D	PSD3	14.3	6 / 7 / 8
	RPS5	13.9	9 / 10
	DUS3L	13.2	
A	MAP3K12	12.6	
E	TMTC1	10.6	
E	CDC27	10.1	11 / 12 / 13
	ZC3H7B	10.0	
	RPS20	9.8	9
	EXOSC2	9.5	14
	PRIM1	9.4	15
B	ATAD2B	9.1	
F	TRIM21	7.9	10 / 16 / 17
	CNOT6	7.7	
	RBM5	6.5	18
	C12orf10	6.4	
B	EP300	6.2	19 / 20 / 21
	RPS24	6.2	9 / 22
	PPP2R1A	5.2	23 / 24 / 25
F	TRIM25	4.3	
	LRRC4B	4.2	26
	RAD23A	4.0	27
	RSL24D1P11	3.9	
	SLC25A25	3.8	
A	CDKL2	3.8	
	ASCC3	3.7	
G	YEATS4	3.7	28 / 29
F	UHRF2	3.7	30
	ZFAND4	3.7	
H	ISG15	3.7	
	UBL4B	3.7	
	TBC1D9	3.6	

1: nuclear cyclin-dependent protein kinase holoenzyme complex || 2: nuclear speck || 3: transcription factor TFIID complex || 4: catalytic step 2 spliceosome || 5: U5 snRNP || 6: postsynaptic density || 7: postsynaptic membrane ||
8: trans-Golgi network || 9: cytosolic small ribosomal subunit || 10: ribonucleoprotein complex || 11: anaphase-promoting complex || 12: spindle || 13: spindle microtubule || 14: exosome (RNase complex) || 15: alpha DNA polymerase:primase complex ||
16: cytoplasmic mRNA processing body || 17: SCF ubiquitin ligase complex || 18: spliceosomal complex || 19: chromatin || 20: histone acetyltransferase complex || 21: protein-DNA complex || 22: small ribosomal subunit || 23: chromosome, centromeric region ||

ECM 21, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 134

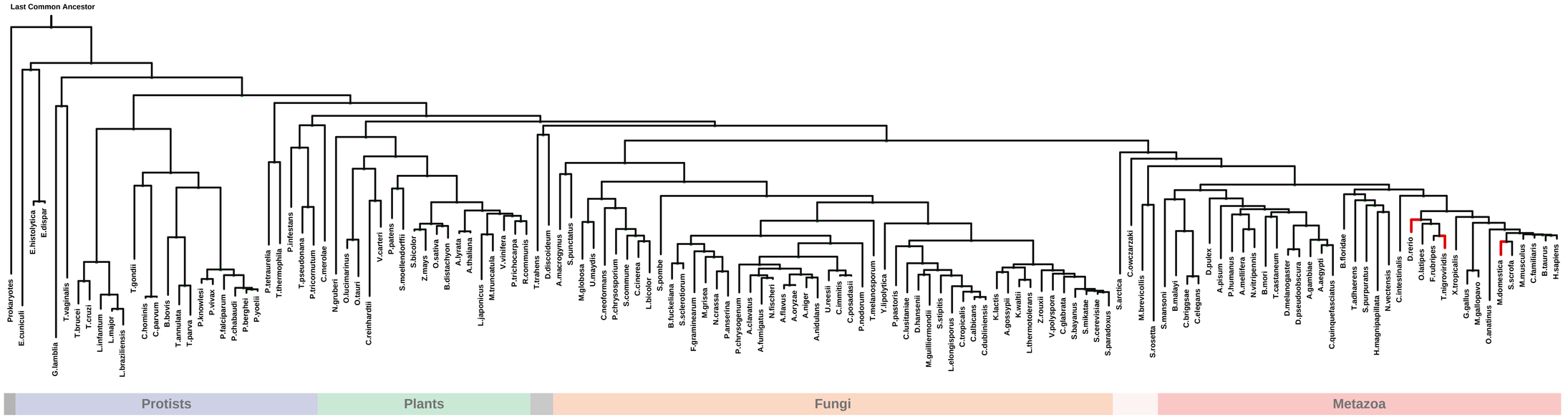


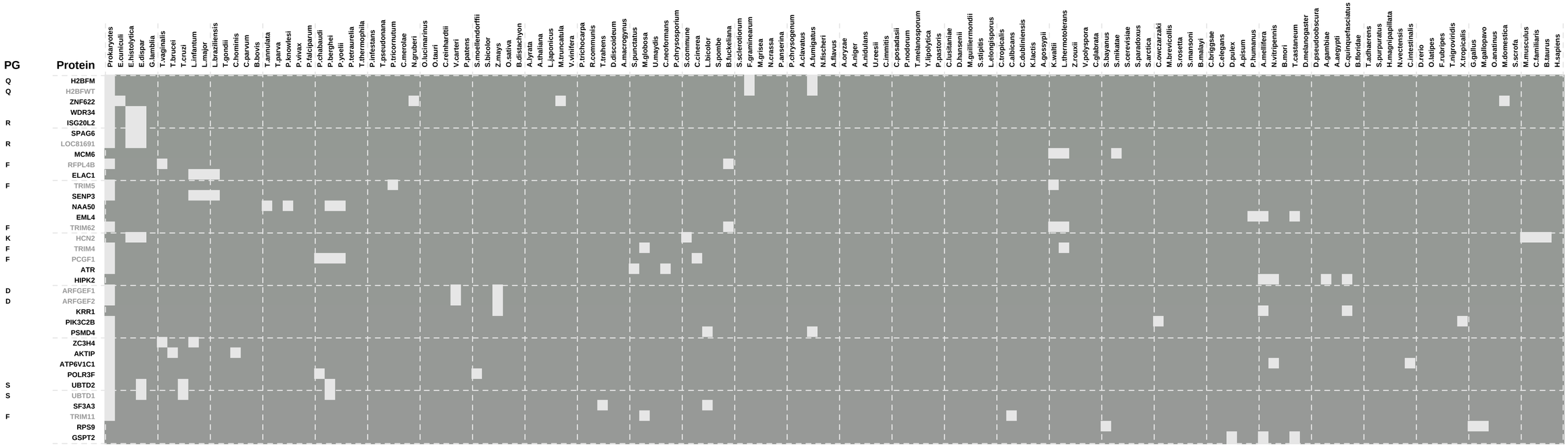
PG	Protein	LLR	Notes
	PRPF8	3.5	1 / 2 / 3
	CHD1	3.5	
F	RNF135	3.4	
I	XRN1	3.4	4
	CLINT1	3.4	5
	CEBPZ	3.3	
	ATP6V1H	3.2	6
	UTP18	3.1	
J	PUS7	3.1	
J	PUS7L	3.1	
	TMEM30A	3.1	
K	HCN4	3.1	7
A	MAP3K5	2.9	
	PFDN5	2.9	8
	NCAPD2	2.8	9 / 10 / 11 / 12
F	LONRF2	2.7	
	LRRC6	2.5	13
L	VPS13D	2.5	
M	KDELR3	2.5	
M	KDELR1	2.5	14 / 15
M	652215	2.5	
N	INPP5K	2.4	16 / 17 / 18 / 19
N	INPP5E	2.4	20 / 21
O	CNOT7	2.4	22 / 23
O	CNOT8	2.4	
H	UBD	2.4	24
D	IQSEC3	2.3	19 / 25 / 26
	STX2	2.3	27 / 28 / 29 / 30 / 31
	HINT1	2.3	
L	VPS13C	2.3	
	LSM2	2.2	1
	RNF113A	2.2	
I	XRN2	2.2	24
P	ASF1B	2.1	32
P	ASF1A	2.1	33

1: catalytic step 2 spliceosome || 2: nuclear speck || 3: U5 snRNP || 4: intermediate filament cytoskeleton || 5: clathrin-coated vesicle || 6: vacuolar proton-transporting V-type ATPase, V1 domain || 7: terminal button || 8: prefoldin complex ||
9: condensed chromosome || 10: condensin complex || 11: nuclear chromosome || 12: pronucleus || 13: cilium || 14: cis-Golgi network || 15: endoplasmic reticulum-Golgi intermediate compartment || 16: neuron projection ||
17: ruffle || 18: ruffle membrane || 19: trans-Golgi network || 20: cilium axoneme || 21: Golgi cisterna membrane || 22: CCR4-NOT complex || 23: cytoplasmic mRNA processing body || 24: aggresome || 25: inhibitory synapse ||

ECM 21, Gene set "nuclear speck", Page 3

Num of ECM Genes: 1. Num of Predicted Genes: 134

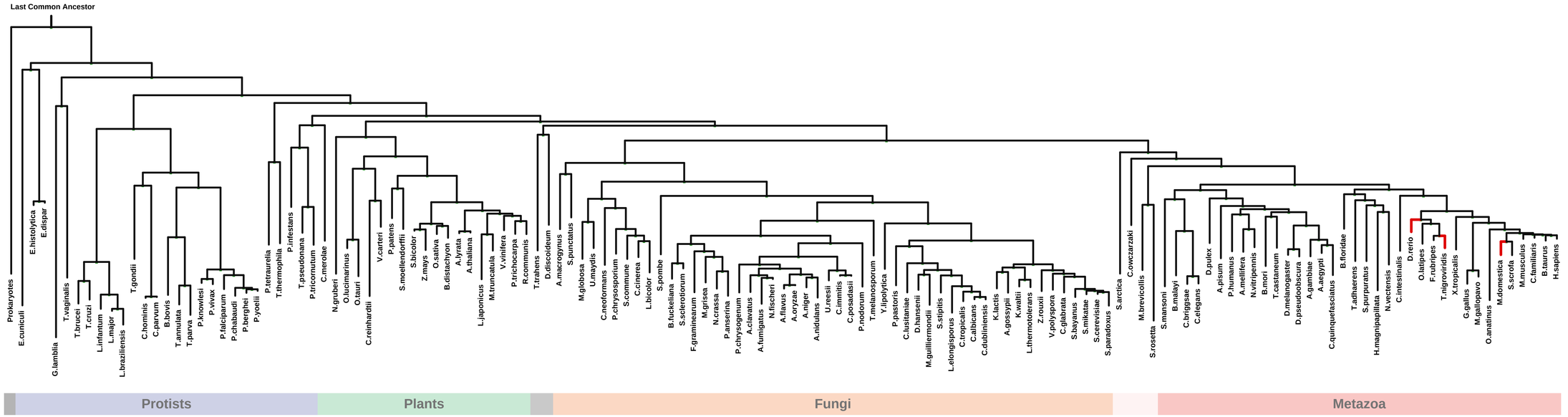


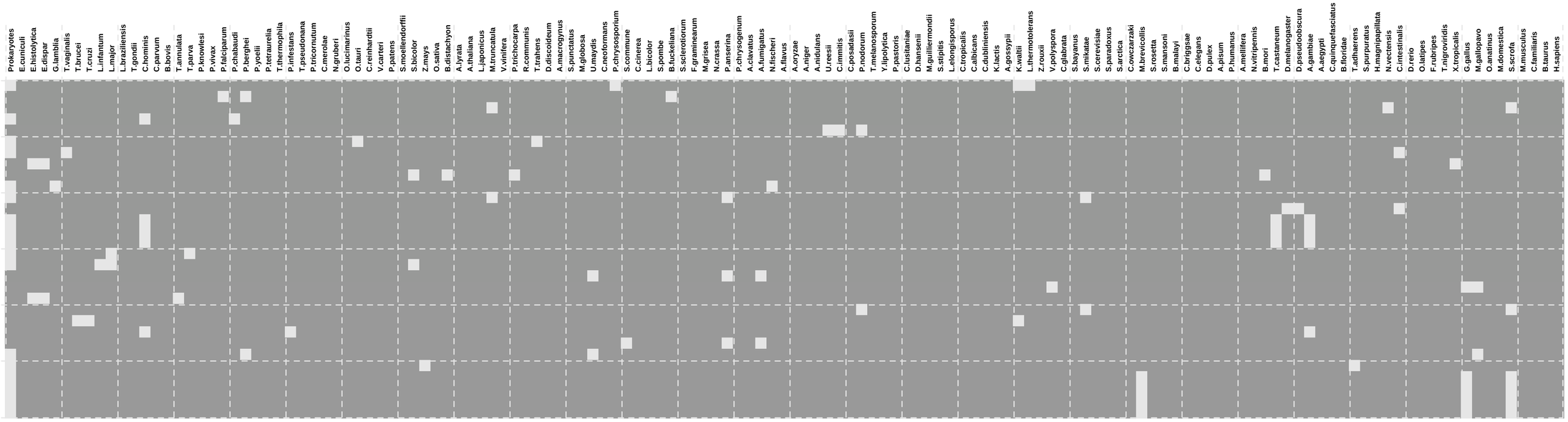


1: nucleosome || 2: nuclear membrane || 3: axoneme || 4: cilium || 5: flagellum || 6: microtubule cytoskeleton || 7: MCM complex || 8: cytoplasmic mRNA processing body || 9: MLL1 complex || 10: axon || 11: dendritic shaft ||
12: synapse || 13: voltage-gated potassium channel complex || 14: PcG protein complex || 15: chromosome || 16: PML body || 17: XY body || 18: nuclear matrix || 19: small nuclear ribonucleoprotein complex || 20: trans-Golgi network ||
21: asymmetric synapse || 22: axonemal microtubule || 23: cytoplasmic membrane-bounded vesicle || 24: cytoplasmic vesicle || 25: dendritic spine || 26: microtubule organizing center || 27: recycling endosome || 28: symmetric synapse ||

ECM 21, Gene set "nuclear speck", Page 4

Num of ECM Genes: 1. Num of Predicted Genes: 134

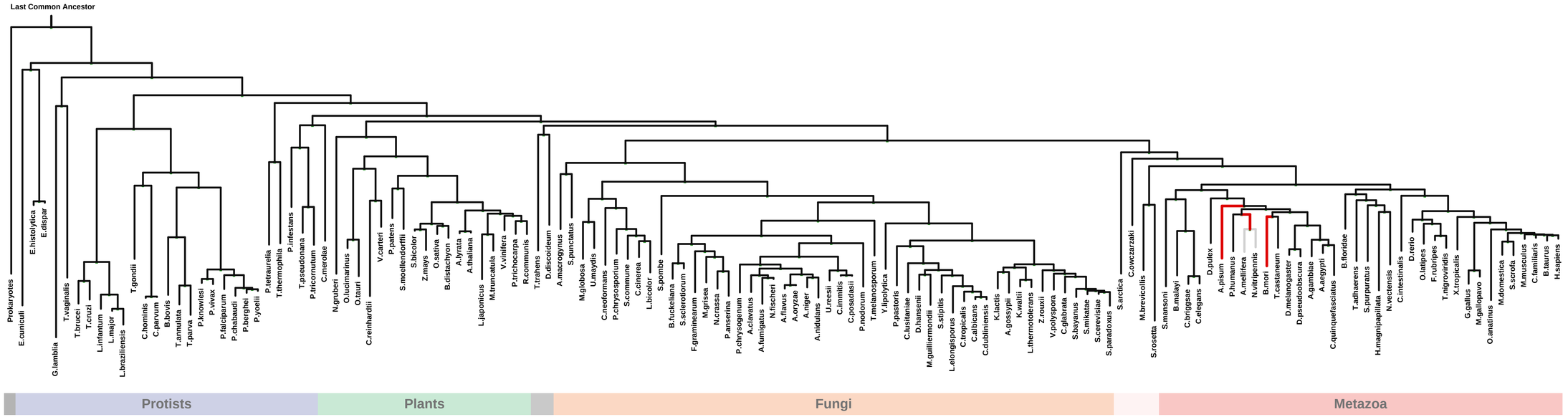


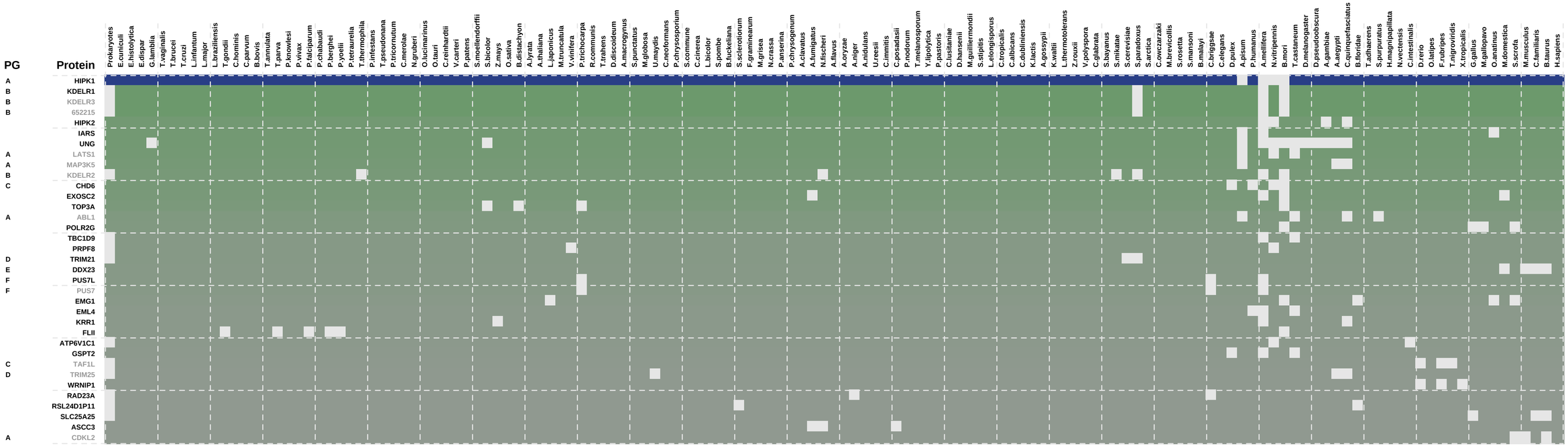


1: chromosome, telomeric region || 2: condensed nuclear chromosome || 3: Mre11 complex || 4: nuclear chromatin || 5: DNA replication factor C complex || 6: microtubule cytoskeleton || 7: nuclear replication fork || 8: PCNA-p21 complex || 9: COPI vesicle coat || 10: actomyosin || 11: endoplasmic reticulum-Golgi intermediate compartment || 12: myosin complex || 13: histone methyltransferase complex || 14: MLL1 complex || 15: chromosome || 16: PML body || 17: catalytic step 2 spliceosome || 18: small nuclear ribonucleoprotein complex || 19: spliceosomal complex || 20: apical part of cell || 21: caveola || 22: endocytic vesicle membrane || 23: cytosolic large ribosomal subunit || 24: ribosome || 25: mitochondrial ribosome || 26: small ribosomal subunit || 27: aminoacyl-tRNA synthetase multienzyme complex || 28: transport vesicle || 29: condensed chromosome || 30: PeBoW complex || 31: preribosome, large subunit precursor || 32: holo TFIIH complex

ECM 22, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 137

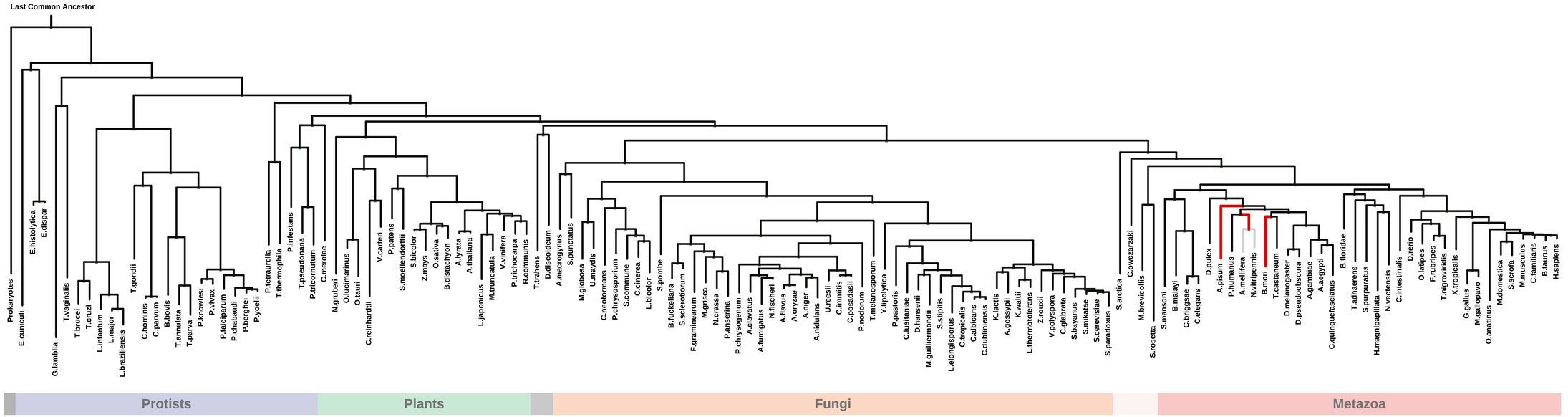


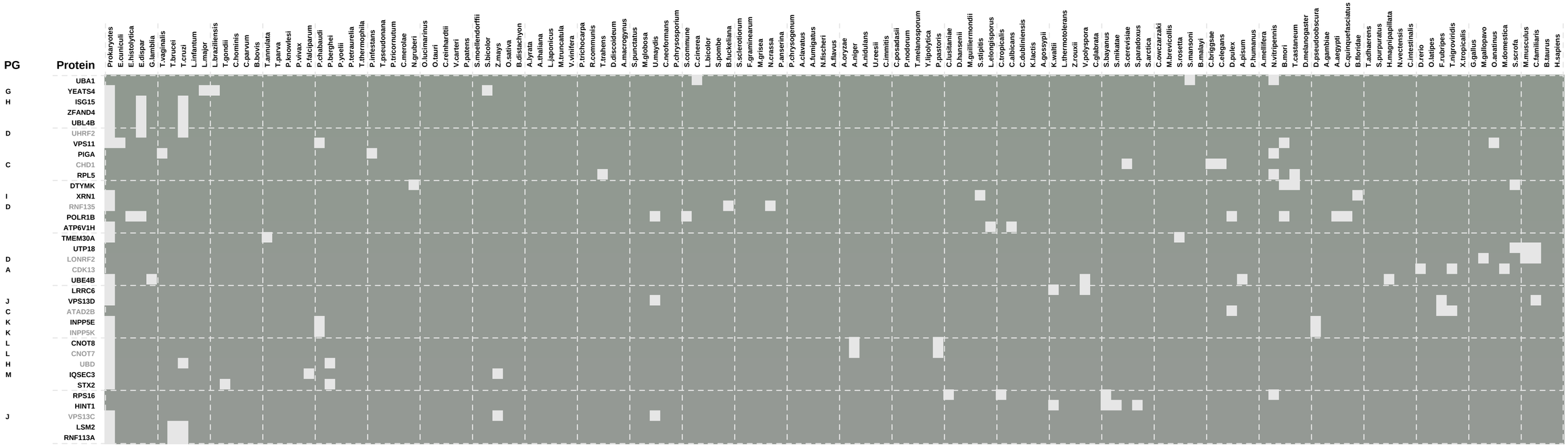


1: nuclear speck || 2: PML body || 3: cis-Golgi network || 4: endoplasmic reticulum-Golgi intermediate compartment || 5: microtubule organizing center || 6: spindle pole || 7: exosome (RNase complex) || 8: chromosome ||
9: actin cytoskeleton || 10: nuclear membrane || 11: DNA-directed RNA polymerase II, core complex || 12: catalytic step 2 spliceosome || 13: U5 snRNP || 14: cytoplasmic mRNA processing body || 15: ribonucleoprotein complex ||
16: SCF ubiquitin ligase complex || 17: apical part of cell || 18: cytoplasmic vesicle || 19: proton-transporting two-sector ATPase complex || 20: proton-transporting V-type ATPase, V1 domain || 21: transcription factor TFIID complex ||

ECM 22, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 137

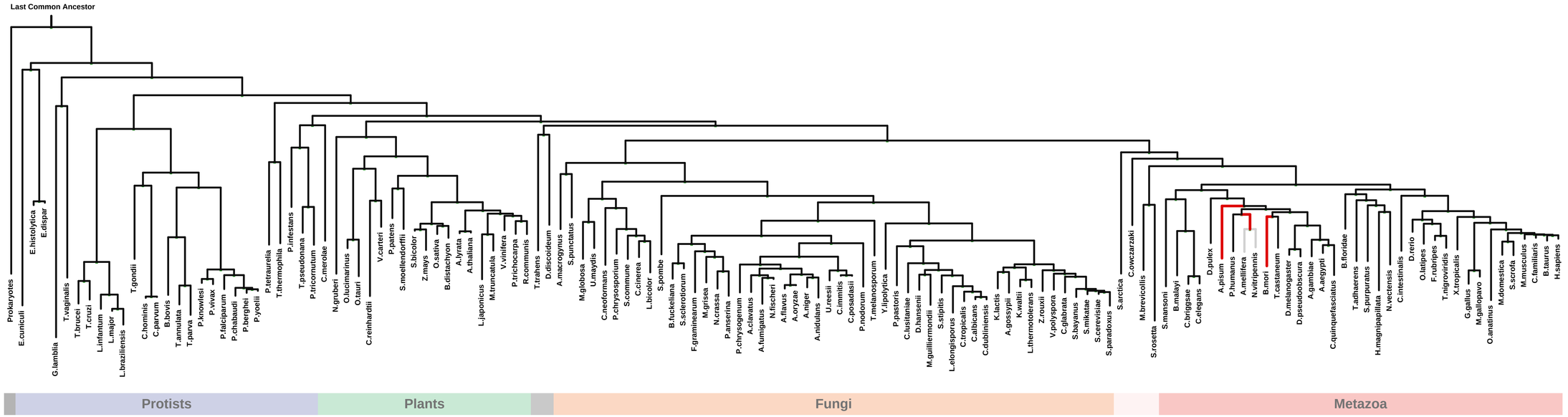


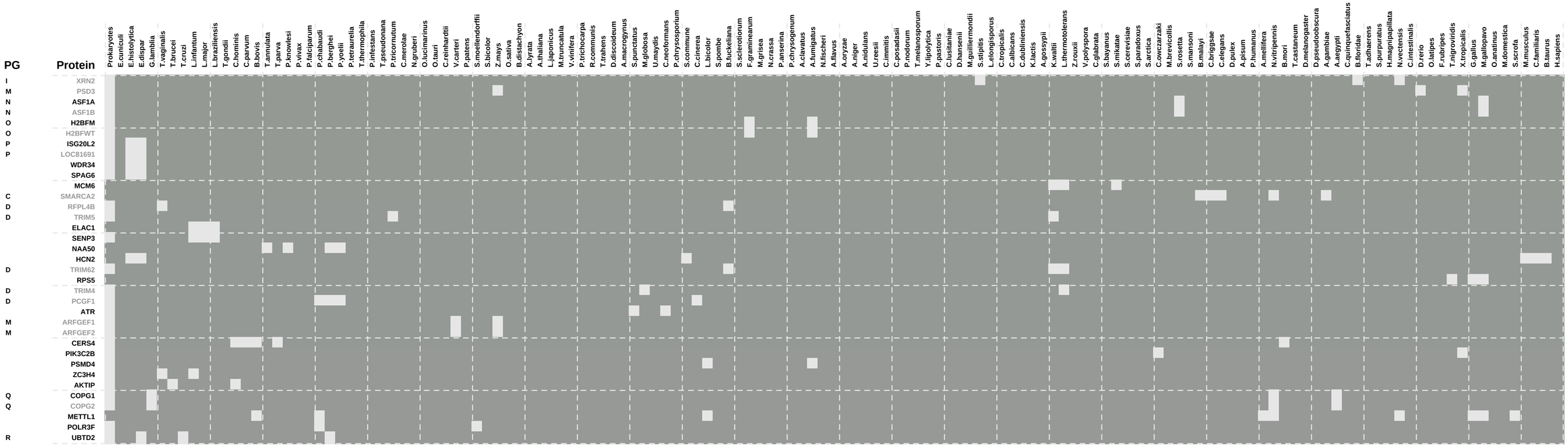


1: NuA4 histone acetyltransferase complex || 2: nuclear matrix || 3: nuclear heterochromatin || 4: endocytic vesicle || 5: endosome || 6: HOPS complex || 7: late endosome membrane || 8: lysosomal membrane || 9: glycosylphosphatidylinositol-N-acetylglucosaminyltransferase (GPI-GnT) comple
10: cytosolic large ribosomal subunit || 11: ribonucleoprotein complex || 12: intermediate filament cytoskeleton || 13: DNA-directed RNA polymerase I complex || 14: vacuolar proton-transporting V-type ATPase, V1 domain || 15: nuclear cyclin-dependent protein kinase holoenzyme complex ||
16: nuclear speck || 17: ubiquitin ligase complex || 18: cilium || 19: cilium axoneme || 20: Golgi cisterna membrane || 21: neuron projection || 22: ruffle || 23: ruffle membrane || 24: trans-Golgi network || 25: CCR4-NOT complex ||

ECM 22, Gene set "nuclear speck", Page 3

Num of ECM Genes: 1. Num of Predicted Genes: 137

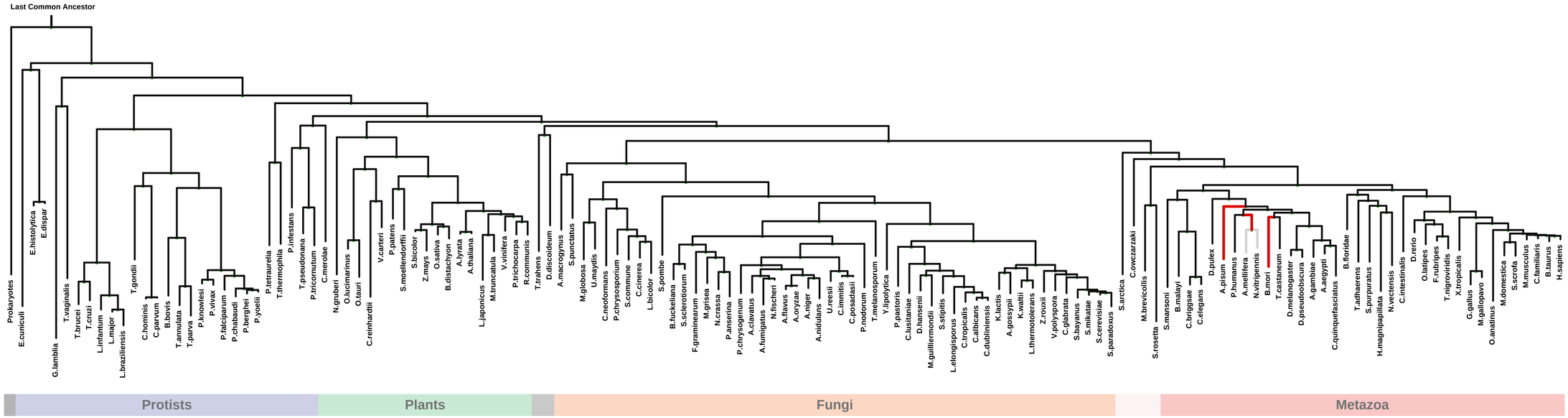


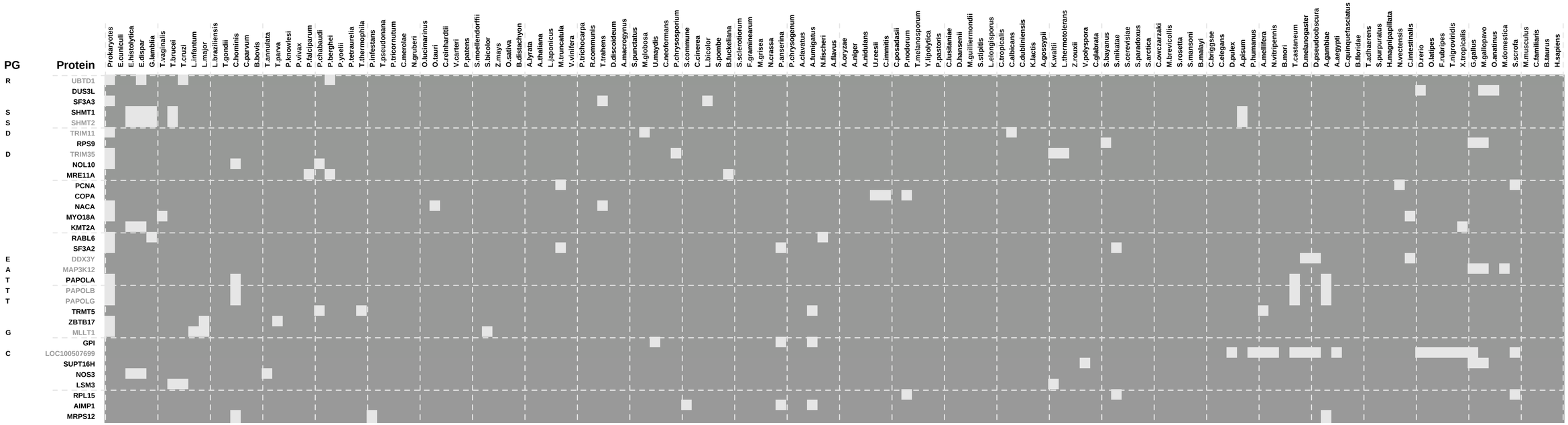


1: aggresome || 2: postsynaptic density || 3: postsynaptic membrane || 4: trans-Golgi network || 5: chromatin remodeling complex || 6: chromatin || 7: nucleosome || 8: nuclear membrane || 9: axoneme || 10: cilium ||
11: flagellum || 12: microtubule cytoskeleton || 13: MCM complex || 14: intermediate filament cytoskeleton || 15: nBAF complex || 16: npBAF complex || 17: nuclear chromatin || 18: SWI/SNF complex || 19: WINAC complex ||
20: cytoplasmic mRNA processing body || 21: MLL1 complex || 22: axon || 23: dendritic shaft || 24: synapse || 25: voltage-gated potassium channel complex || 26: cytosolic small ribosomal subunit || 27: ribonucleoprotein complex ||

ECM 22, Gene set "nuclear speck", Page 4

Num of ECM Genes: 1. Num of Predicted Genes: 137

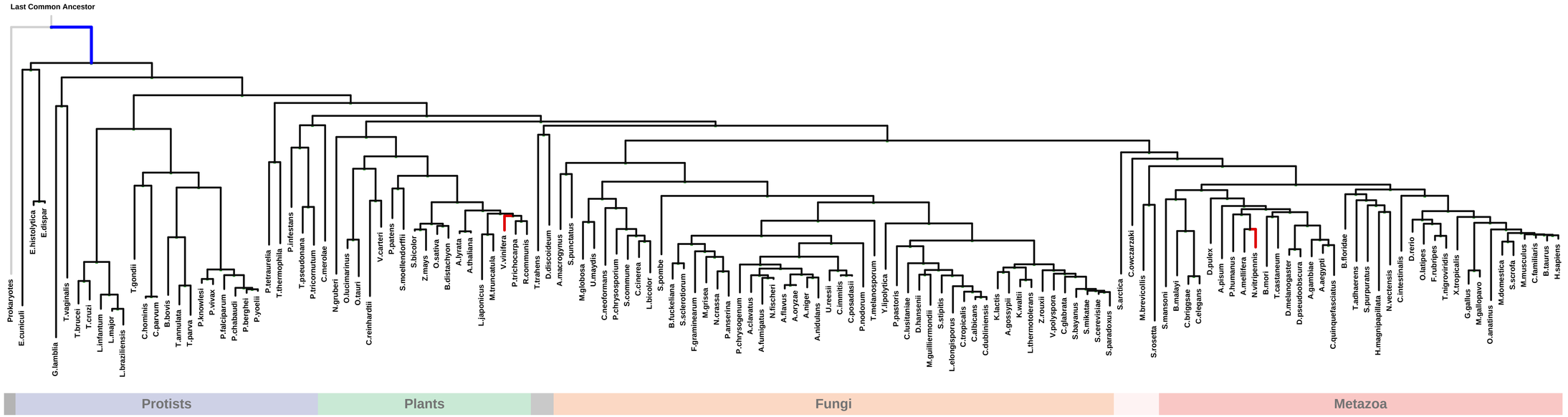


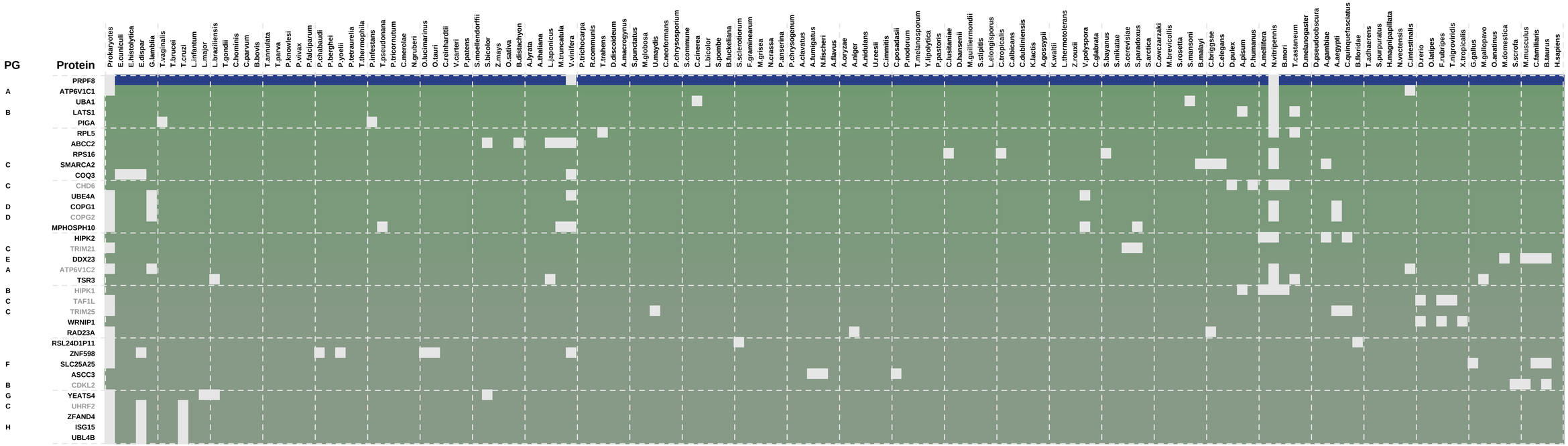


1: catalytic step 2 spliceosome || 2: nuclear speck || 3: spliceosomal complex || 4: microtubule cytoskeleton || 5: mitochondrial intermembrane space || 6: mitochondrial nucleoid || 7: cytosolic small ribosomal subunit || 8: ribonucleoprotein complex || 9: ribosome || 10: chromosome, telomeric region || 11: condensed nuclear chromosome || 12: Mre11 complex || 13: nuclear chromatin || 14: DNA replication factor C complex || 15: nuclear replication fork || 16: PCNA-p21 complex || 17: COPI vesicle coat || 18: actomyosin || 19: endoplasmic reticulum-Golgi intermediate compartment || 20: myosin complex || 21: histone methyltransferase complex || 22: MLL1 complex || 23: small nuclear ribonucleoprotein complex || 24: chromosome || 25: apical part of cell || 26: caveola || 27: endocytic vesicle membrane || 28: cytosolic large ribosomal subunit || 29: aminoacyl-tRNA synthetase multienzyme complex || 30: transport vesicle || 31: mitochondrial ribosome || 32: small ribosomal subunit

ECM 23, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 370

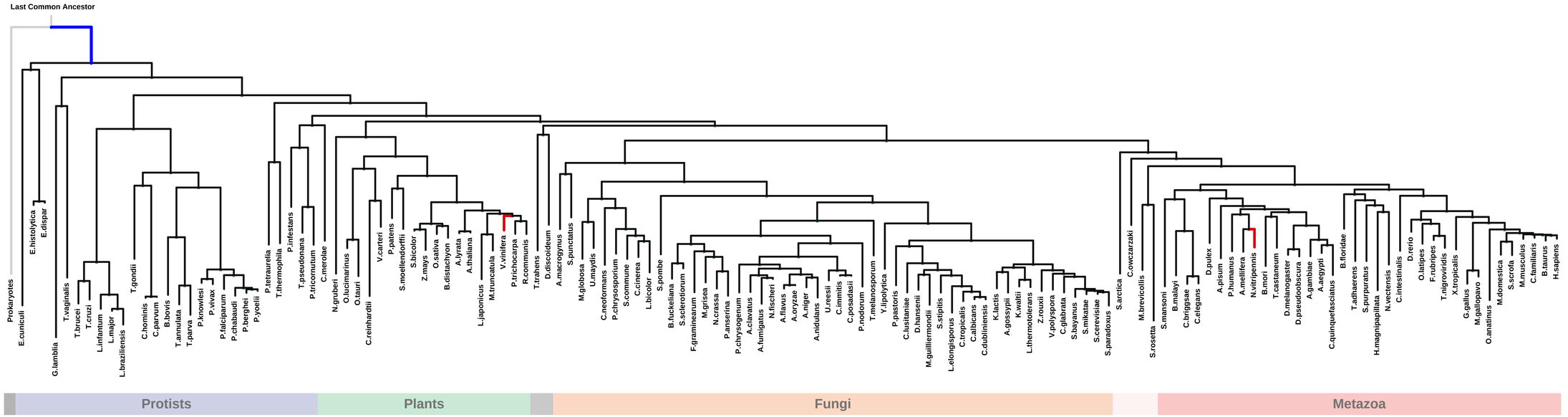


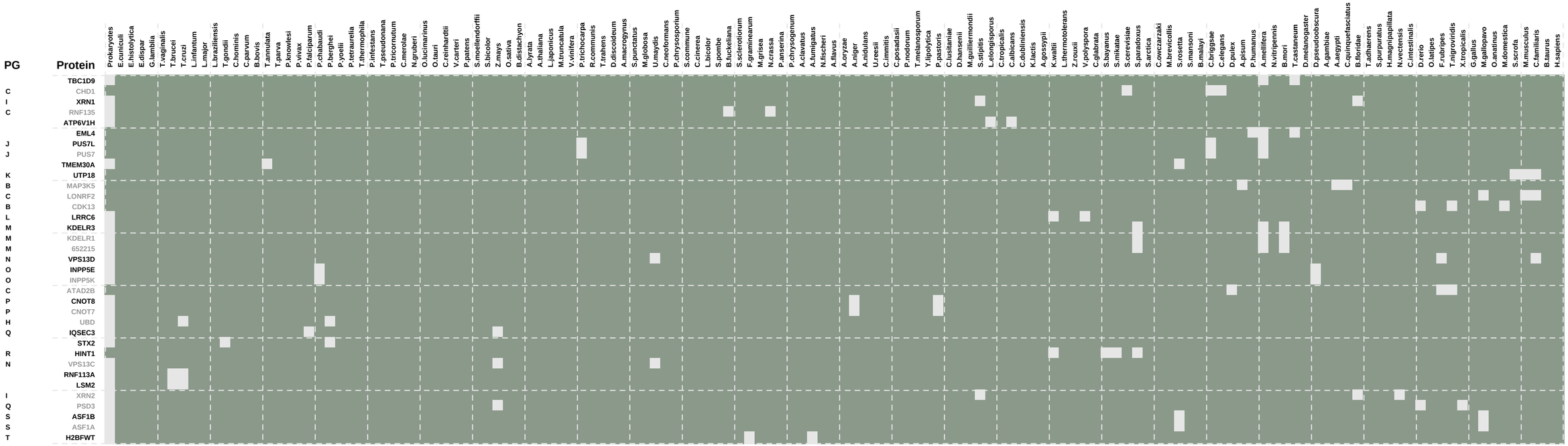


1: catalytic step 2 spliceosome || 2: nuclear speck || 3: U5 snRNP || 4: apical part of cell || 5: cytoplasmic vesicle || 6: proton-transporting two-sector ATPase complex || 7: proton-transporting V-type ATPase, V1 domain || 8: microtubule organizing center || 9: spindle pole || 10: glycosylphosphatidylinositol-N-acetylglucosaminyltransferase (GPI-GnT) complex || 11: cytosolic large ribosomal subunit || 12: ribonucleoprotein complex || 13: intercellular canaliculus || 14: cytosolic small ribosomal subunit || 15: small ribosomal subunit || 16: intermediate filament cytoskeleton || 17: nBAF complex || 18: npBAF complex || 19: nuclear chromatin || 20: SWI/SNF complex || 21: WINAC complex || 22: ubiquitin ligase complex || 23: COPI vesicle coat ||

ECM 23, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 370

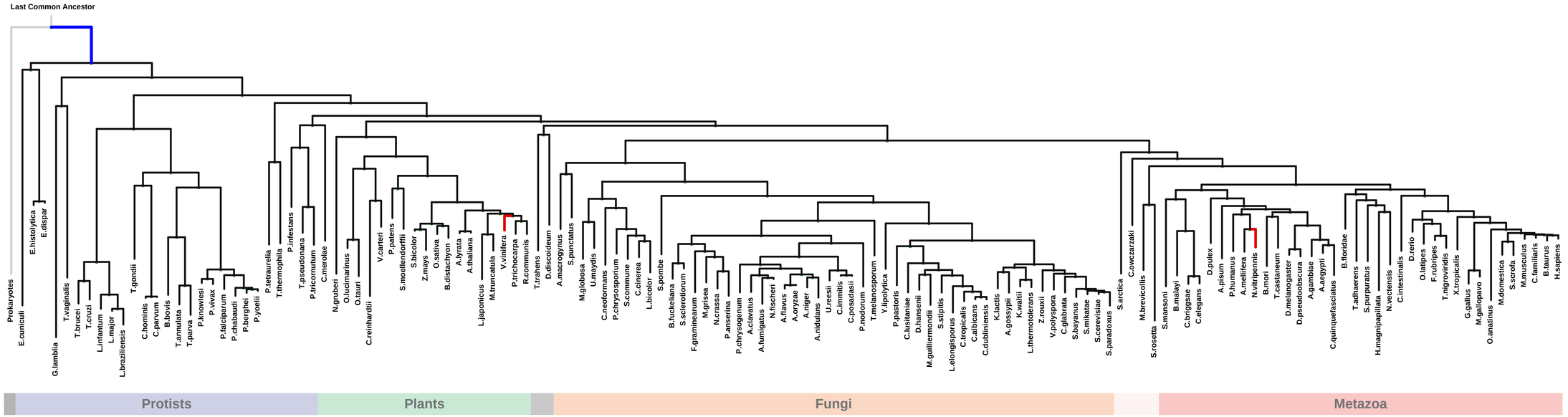


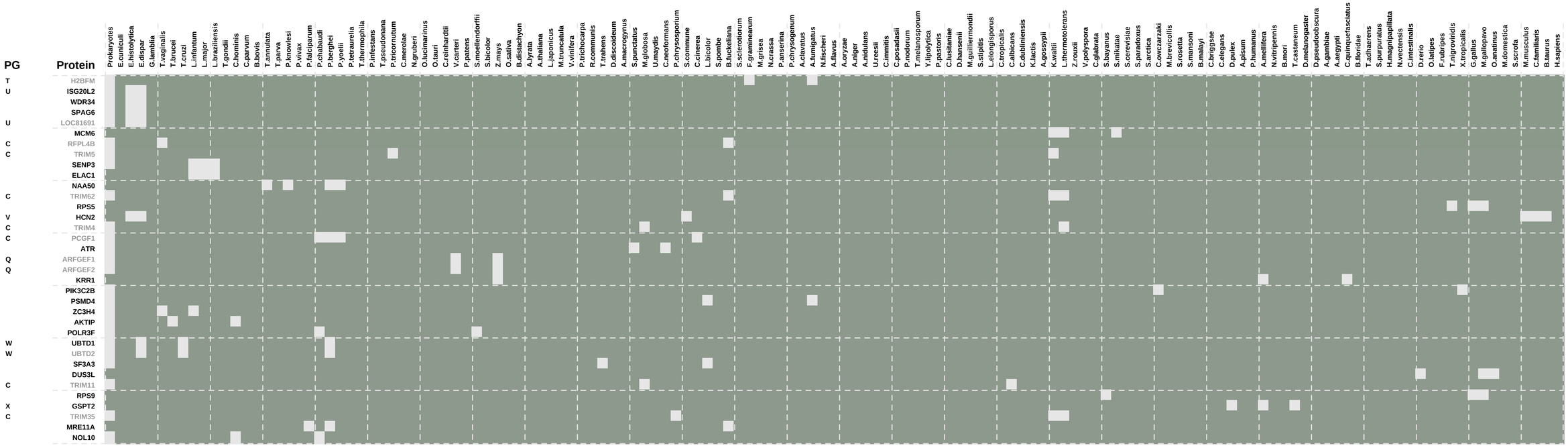


1: intermediate filament cytoskeleton || 2: vacuolar proton-transporting V-type ATPase, V1 domain || 3: nuclear cyclin-dependent protein kinase holoenzyme complex || 4: nuclear speck || 5: cilium || 6: cis-Golgi network || 7: endoplasmic reticulum-Golgi intermediate compartment || 8: cilium axoneme || 9: Golgi cisterna membrane || 10: neuron projection || 11: ruffle || 12: ruffle membrane || 13: trans-Golgi network || 14: CCR4-NOT complex || 15: cytoplasmic mRNA processing body || 16: aggresome || 17: inhibitory synapse || 18: postsynaptic membrane || 19: basolateral plasma membrane || 20: cell-cell junction || 21: membrane raft || 22: midbody || 23: transport vesicle || 24: catalytic step 2 spliceosome || 25: postsynaptic density ||

ECM 23, Gene set "nuclear speck", Page 3

Num of ECM Genes: 1. Num of Predicted Genes: 370

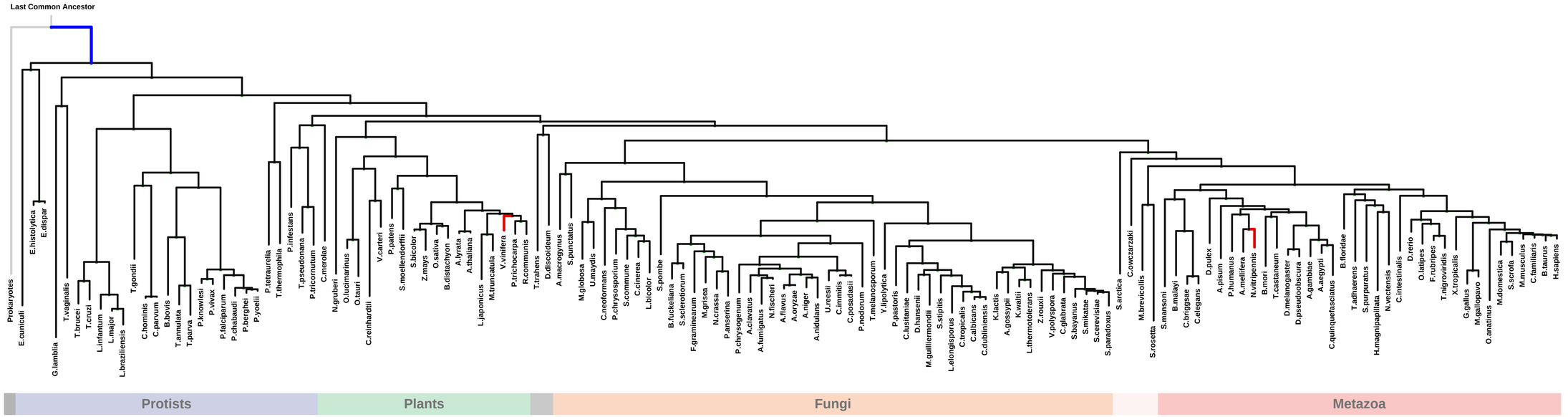




1: nucleosome || 2: axoneme || 3: cilium || 4: flagellum || 5: microtubule cytoskeleton || 6: MCM complex || 7: cytoplasmic mRNA processing body || 8: MLL1 complex || 9: cytosolic small ribosomal subunit || 10: ribonucleoprotein complex ||
11: axon || 12: dendritic shaft || 13: synapse || 14: voltage-gated potassium channel complex || 15: PcG protein complex || 16: chromosome || 17: PML body || 18: XY body || 19: nuclear matrix || 20: small nuclear ribonucleoprotein complex ||
21: trans-Golgi network || 22: asymmetric synapse || 23: axonemal microtubule || 24: cytoplasmic membrane-bounded vesicle || 25: cytoplasmic vesicle || 26: dendritic spine || 27: microtubule organizing center || 28: recycling endosome ||

ECM 23, Gene set "nuclear speck", Page 4

Num of ECM Genes: 1. Num of Predicted Genes: 370

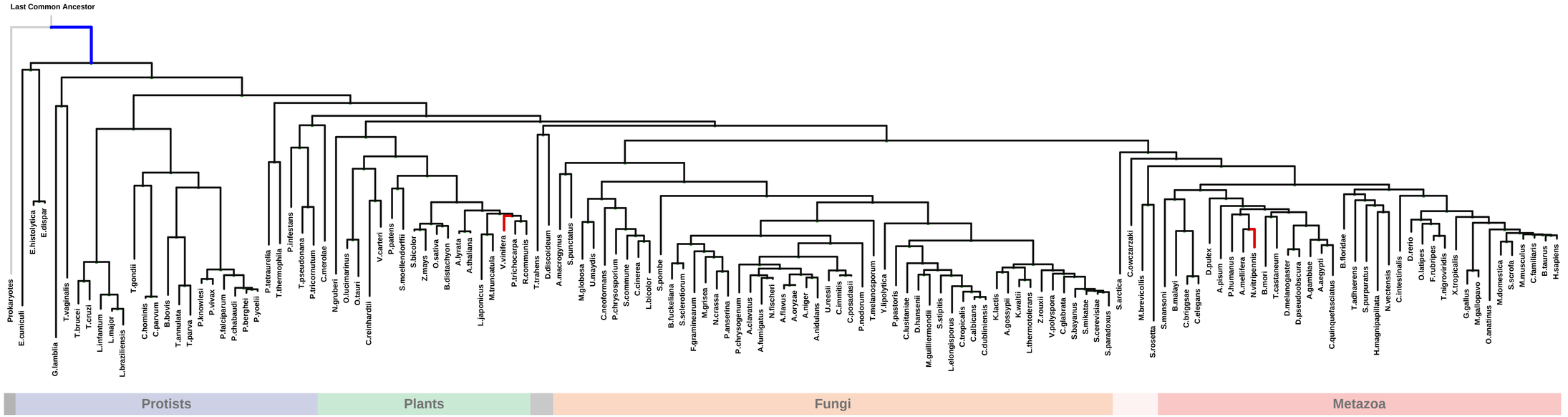


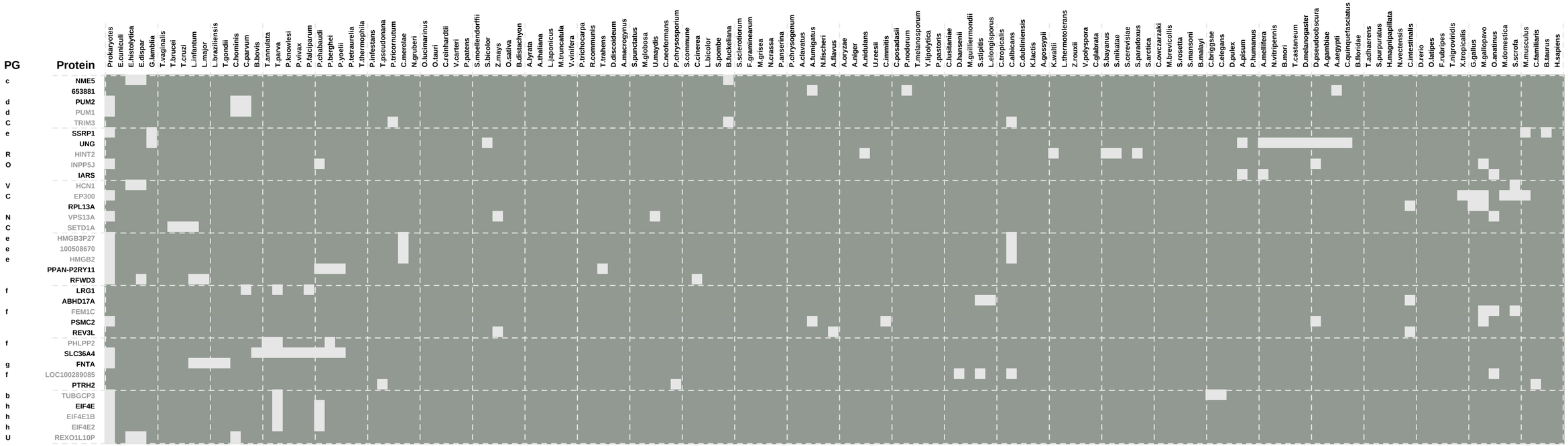
PG	Protein	LLR	Notes
	PCNA	4.6	1 / 2 / 3 / 4
	NACA	4.5	
	MYO18A	4.5	5 / 6 / 7
	COPA	4.5	8
C	KMT2A	4.5	9 / 10
	TOP3A	4.5	11 / 12
	RABL6	4.5	
	SF3A2	4.4	13 / 14 / 15
E	DDX3Y	4.4	
B	MAP3K12	4.3	
Y	PAPOLA	4.3	
Y	PAPOLB	4.3	
Y	PAPOLG	4.3	
Z	ZBTB17	4.3	
G	MLLT1	4.2	
	GPI	4.2	
C	NOS3	4.1	16 / 17 / 18
	SUPT16H	4.1	11
	LSM3	4.0	13
	RPL15	4.0	19 / 20
	MRPS12	4.0	21 / 22
	AIMP1	4.0	23 / 24
	ESF1	3.9	
	PES1	3.9	25 / 26 / 27
a	GTF2H2C	3.9	
a	GTF2H2D	3.9	
a	GTF2H2	3.9	28
a	100510744	3.9	
	HSDL1	3.9	
	RPTOR	3.9	29 / 30 / 31
	ITPA	3.8	
C	KMT2D	3.8	9
	RPS18	3.8	20 / 22 / 32
b	TUBGCP2	3.7	33 / 34 / 35
	FBL	3.7	36 / 37 / 38

1: DNA replication factor C complex || 2: microtubule cytoskeleton || 3: nuclear replication fork || 4: PCNA-p21 complex || 5: actomyosin || 6: endoplasmic reticulum-Golgi intermediate compartment || 7: myosin complex || 8: COPI vesicle coat ||
9: histone methyltransferase complex || 10: MLL1 complex || 11: chromosome || 12: PML body || 13: catalytic step 2 spliceosome || 14: small nuclear ribonucleoprotein complex || 15: spliceosomal complex || 16: apical part of cell ||
17: caveola || 18: endocytic vesicle membrane || 19: cytosolic large ribosomal subunit || 20: ribosome || 21: mitochondrial ribosome || 22: small ribosomal subunit || 23: aminoacyl-tRNA synthetase multienzyme complex || 24: transport vesicle ||

ECM 23, Gene set "nuclear speck", Page 5

Num of ECM Genes: 1. Num of Predicted Genes: 370

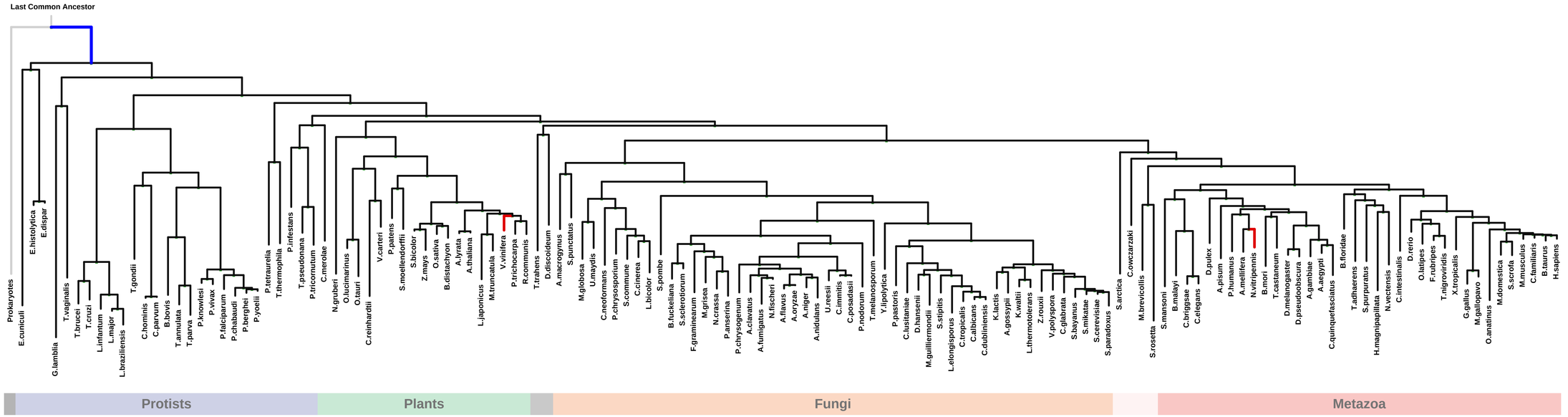




1: cytoplasmic stress granule || 2: early endosome || 3: chromosome || 4: dendritic shaft || 5: growth cone || 6: ruffle || 7: axon || 8: dendrite || 9: chromatin || 10: histone acetyltransferase complex || 11: protein-DNA complex ||
12: cytosolic large ribosomal subunit || 13: large ribosomal subunit || 14: ribonucleoprotein complex || 15: histone methyltransferase complex || 16: nuclear speck || 17: Set1C/COMPASS complex || 18: condensed chromosome ||
19: PML body || 20: proteasome accessory complex || 21: proteasome complex || 22: zeta DNA polymerase complex || 23: microtubule associated complex || 24: centriole || 25: polar microtubule || 26: spindle || 27: cytoplasmic mRNA processing body ||

ECM 23, Gene set "nuclear speck", Page 6

Num of ECM Genes: 1. Num of Predicted Genes: 370

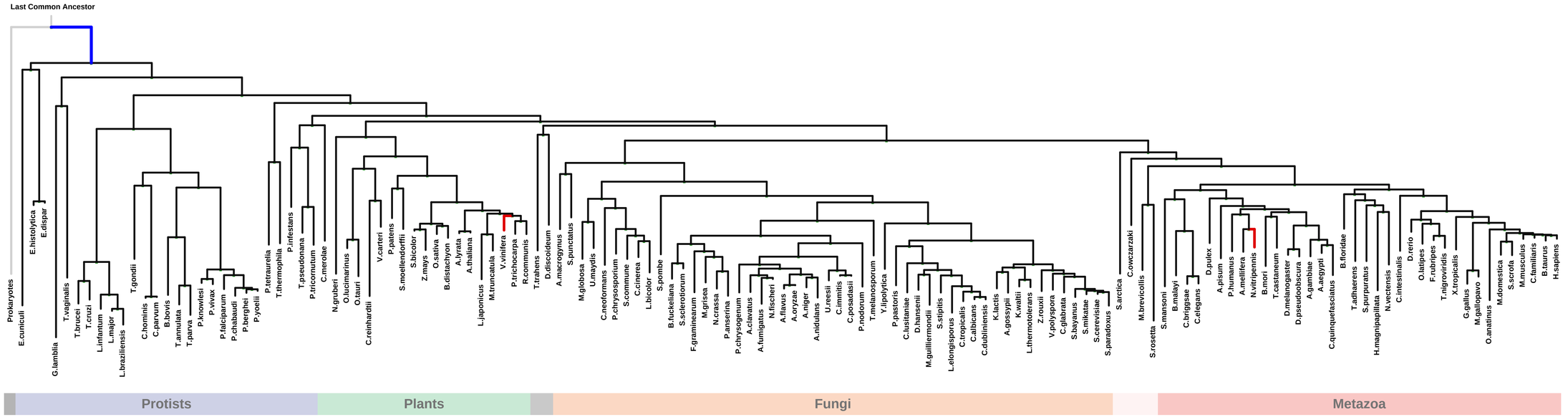


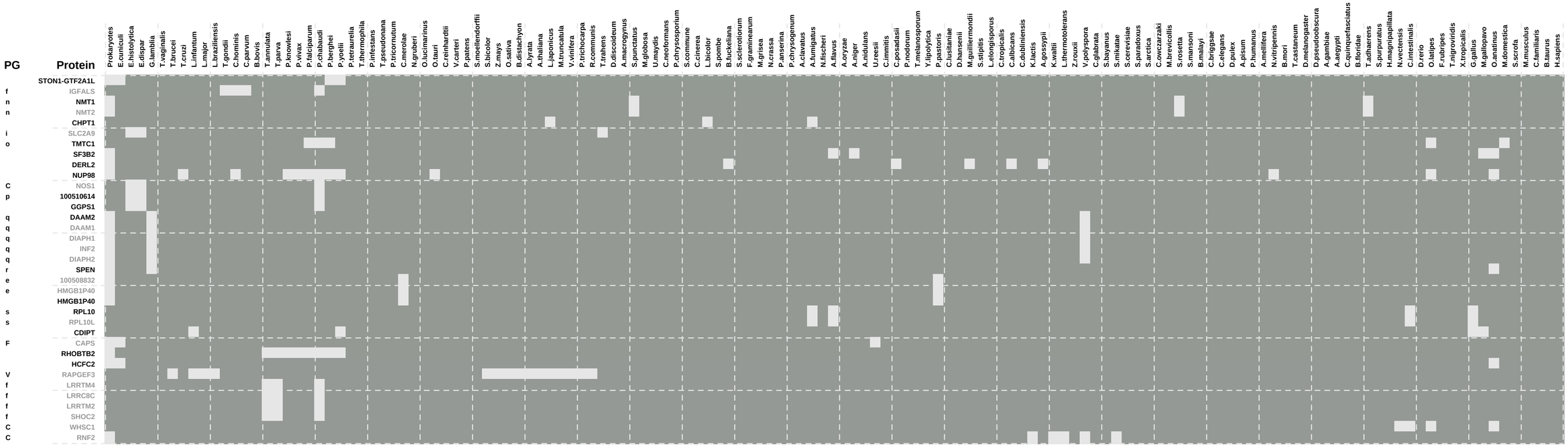
PG	Protein	LLR	Notes
U	LOC100288562	3.0	
i	SLC2A6	3.0	
i	SLC2A8	3.0	1 / 2
U	REXO1L11P	3.0	
U	REXO1L1	3.0	
C	ZMYND8	2.9	
	CHRAC1	2.9	3 / 4
U	PAN2	2.9	
Z	ZBTB41	2.8	
V	PRKAR2A	2.8	5 / 6
X	GSPT1	2.8	
	TBCE	2.7	
	SNAPC4	2.7	
j	RPL26	2.7	7
j	RPL26L1	2.7	8
	ATAD5	2.7	
k	ZNRF1	2.7	9 / 10 / 11
k	ZNRF2	2.7	12 / 13 / 14
I	EIF2B3	2.6	15
I	GMPPB	2.6	
	MAK16	2.6	
	TRMT2A	2.6	
f	ANKRD13B	2.6	
	BUB1	2.6	16 / 17 / 18
	SNRPB	2.5	19 / 20 / 21 / 22 / 23 / 24
	MDN1	2.5	
C	TRIM22	2.5	25 / 26
C	BRCA1	2.5	27 / 28 / 29 / 30 / 31 / 32 /
	METAP1D	2.5	
	IBTK	2.5	
m	PMM2	2.4	
m	PMM1	2.4	
f	SLIT2	2.4	
B	ABL1	2.4	36 / 37
	TRMT1	2.4	

1: cytoplasmic vesicle membrane || 2: synaptic vesicle || 3: chromatin accessibility complex || 4: epsilon DNA polymerase complex || 5: cAMP-dependent protein kinase complex || 6: T-tubule || 7: cytosolic large ribosomal subunit ||
8: large ribosomal subunit || 9: endosome || 10: lysosome || 11: synaptic vesicle membrane || 12: endosome membrane || 13: lysosomal membrane || 14: presynaptic membrane || 15: eukaryotic translation initiation factor 2B complex ||
16: condensed chromosome kinetochore || 17: condensed nuclear chromosome, centromeric region || 18: kinetochore || 19: catalytic step 2 spliceosome || 20: histone pre-mRNA 3'end processing complex || 21: small nuclear ribonucleoprotein complex ||

ECM 23, Gene set "nuclear speck", Page 7

Num of ECM Genes: 1. Num of Predicted Genes: 370

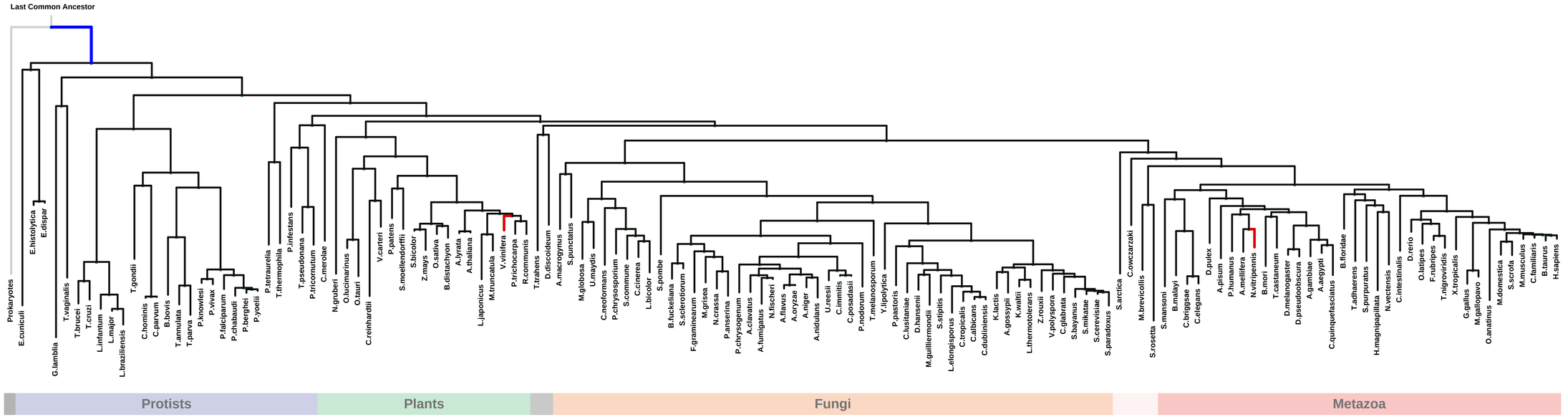




1: actin cytoskeleton || 2: nuclear envelope || 3: catalytic step 2 spliceosome || 4: spliceosomal complex || 5: U12-type spliceosomal complex || 6: early endosome || 7: integral to endoplasmic reticulum membrane || 8: late endosome ||
9: kinetochore || 10: nuclear membrane || 11: nuclear pore || 12: nuclear pore outer ring || 13: dendritic spine || 14: photoreceptor inner segment || 15: sarcolemma || 16: sarcoplasmic reticulum || 17: stress fiber || 18: mitotic spindle ||
19: ruffle membrane || 20: transcriptional repressor complex || 21: cytosolic large ribosomal subunit || 22: cAMP-dependent protein kinase complex || 23: endomembrane system || 24: postsynaptic membrane || 25: protein phosphatase type 1 complex ||

ECM 23, Gene set "nuclear speck", Page 8

Num of ECM Genes: 1. Num of Predicted Genes: 370

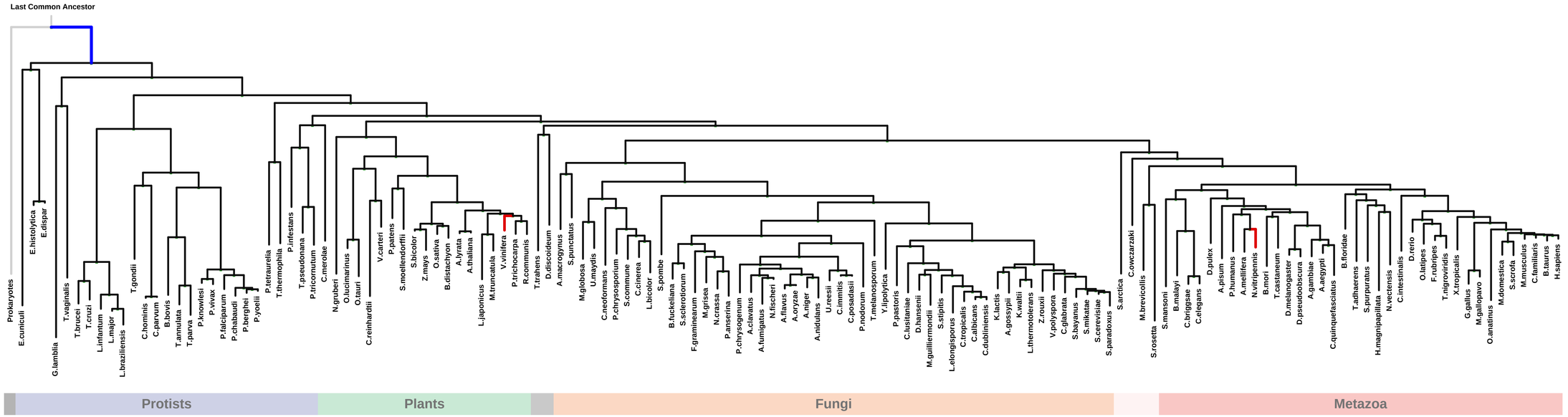


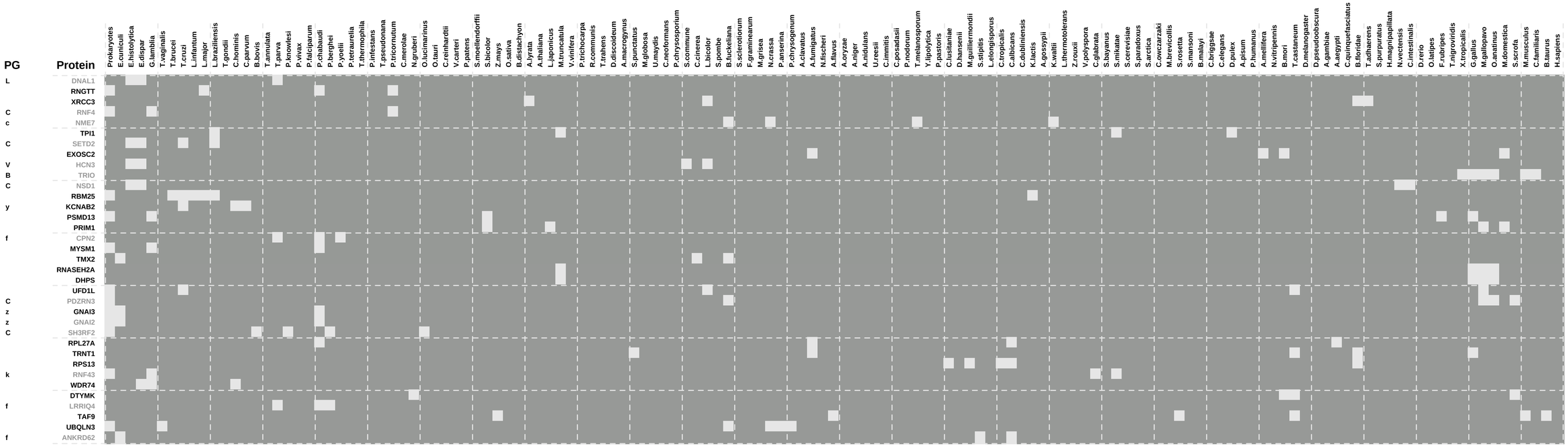
PG	Protein	LLR	Notes
	POLR2G	1.8	1
	TOP2A	1.8	2 / 3 / 4 / 5
	ZC3H7B	1.8	
t	EPN3	1.8	6
t	EPN1	1.8	7
o	CDC27	1.8	8 / 9 / 10
	EFTUD1	1.7	
u	NOX5	1.7	
p	TYW1B	1.7	
	EIF4G1	1.7	11
C	TRIML1	1.7	
f	NOTCH3	1.6	
k	ZSWIM2	1.6	
	NAT10	1.6	
Q	PSD	1.6	12 / 13
Q	PSD4	1.6	13
r	RBM15	1.6	
	VAMP8	1.5	14 / 15 / 16 / 17 / 18 / 19
	CPSF1	1.5	20
	STX16	1.5	19
v	TRMT10B	1.5	
w	H2AFB1	1.5	21 / 22
w	H2AFB2	1.5	21 / 22
w	H2AFB3	1.5	
w	H2AFV	1.5	23
w	H2AFZ	1.5	23 / 24
v	TRMT10C	1.5	
v	TRMT10A	1.5	
	RPS20	1.5	25
	GLRX5	1.5	
f	LRRC8E	1.5	
x	TMED9	1.4	26 / 27 / 28
x	TMED2	1.4	26 / 27 / 29 / 30 / 31 / 32
x	TMED4	1.4	
M	KDELR2	1.4	33

1: DNA-directed RNA polymerase II, core complex || 2: centriole || 3: nuclear chromosome || 4: nucleoid || 5: synaptonemal complex || 6: clathrin-coated vesicle || 7: coated pit || 8: anaphase-promoting complex || 9: spindle ||
10: spindle microtubule || 11: eukaryotic translation initiation factor 4F complex || 12: ruffle || 13: trans-Golgi network || 14: early endosome || 15: late endosome membrane || 16: lysosomal membrane || 17: recycling endosome ||
18: secretory granule membrane || 19: SNARE complex || 20: mRNA cleavage and polyadenylation specificity factor complex || 21: nuclear nucleosome || 22: transcriptionally active chromatin || 23: nucleosome || 24: Barr body ||

ECM 23, Gene set "nuclear speck", Page 9

Num of ECM Genes: 1. Num of Predicted Genes: 370

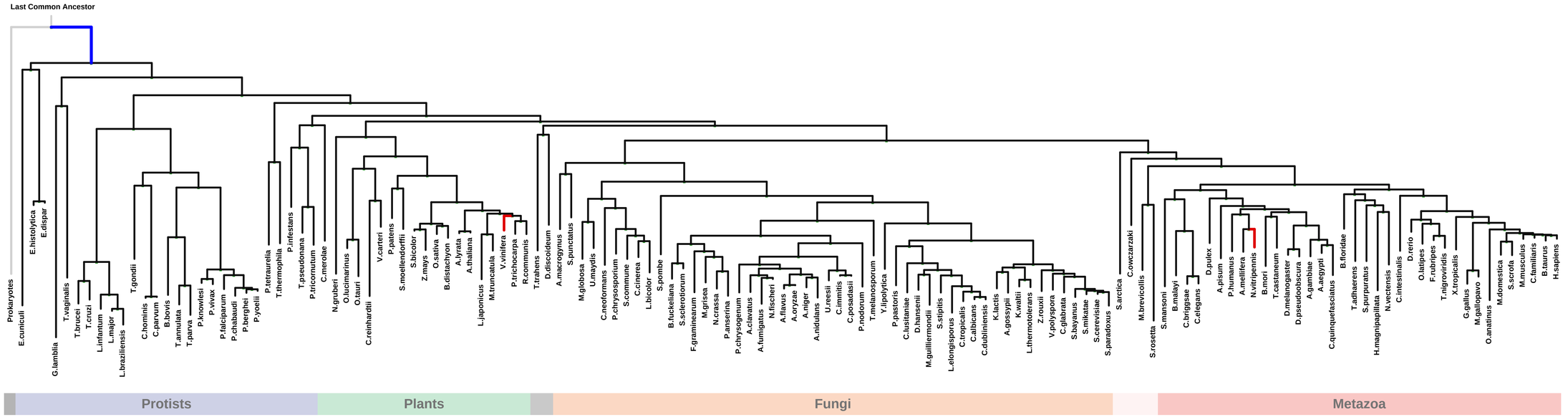


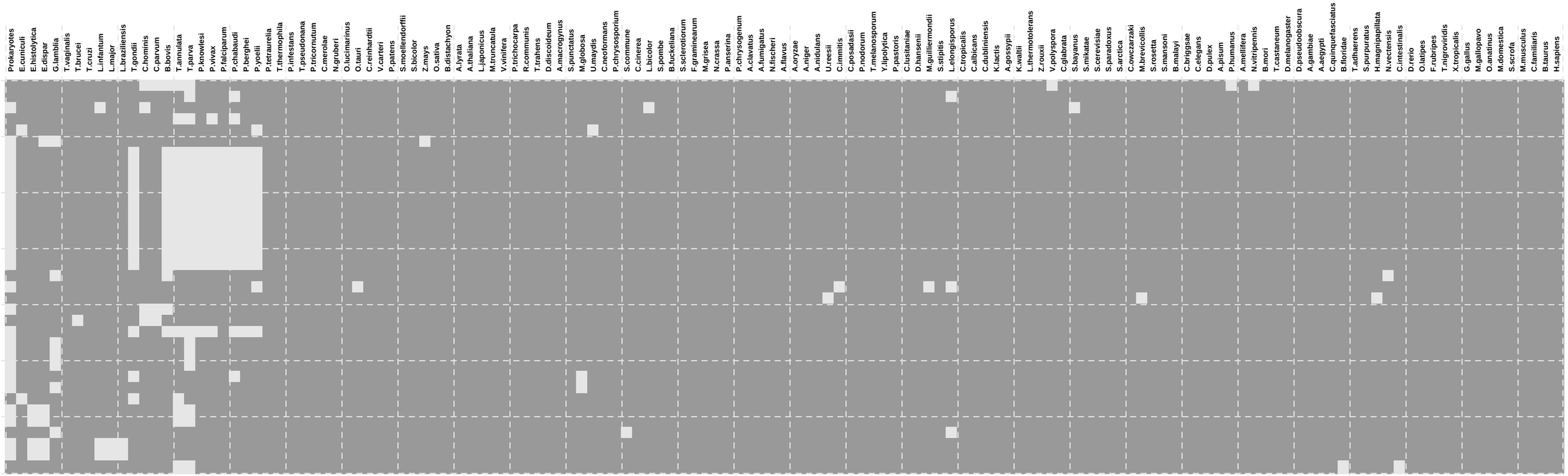


1: microtubule cytoskeleton || 2: PML body || 3: chromosome || 4: exosome (RNase complex) || 5: nuclear speck || 6: juxtaparanode region of axon || 7: proteasome accessory complex || 8: proteasome complex || 9: proteasome regulatory particle ||
10: alpha DNA polymerase:primase complex || 11: chromatin remodeling complex || 12: ribonuclease H2 complex || 13: neuromuscular junction || 14: extrinsic to internal side of plasma membrane || 15: heterotrimeric G-protein complex ||
16: membrane raft || 17: midbody || 18: zymogen granule || 19: cytosolic large ribosomal subunit || 20: cytosolic small ribosomal subunit || 21: ribosome || 22: nuclear envelope || 23: Cajal body || 24: MLL1 complex ||

ECM 23, Gene set "nuclear speck", Page 10

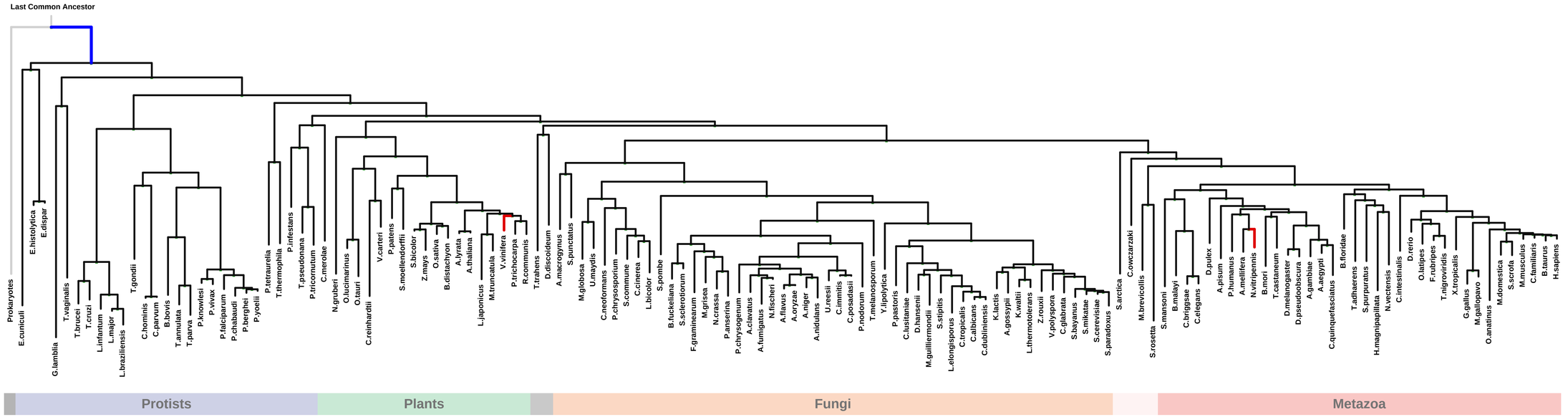
Num of ECM Genes: 1. Num of Predicted Genes: 370





ECM 23, Gene set "nuclear speck", Page 11

Num of ECM Genes: 1. Num of Predicted Genes: 370

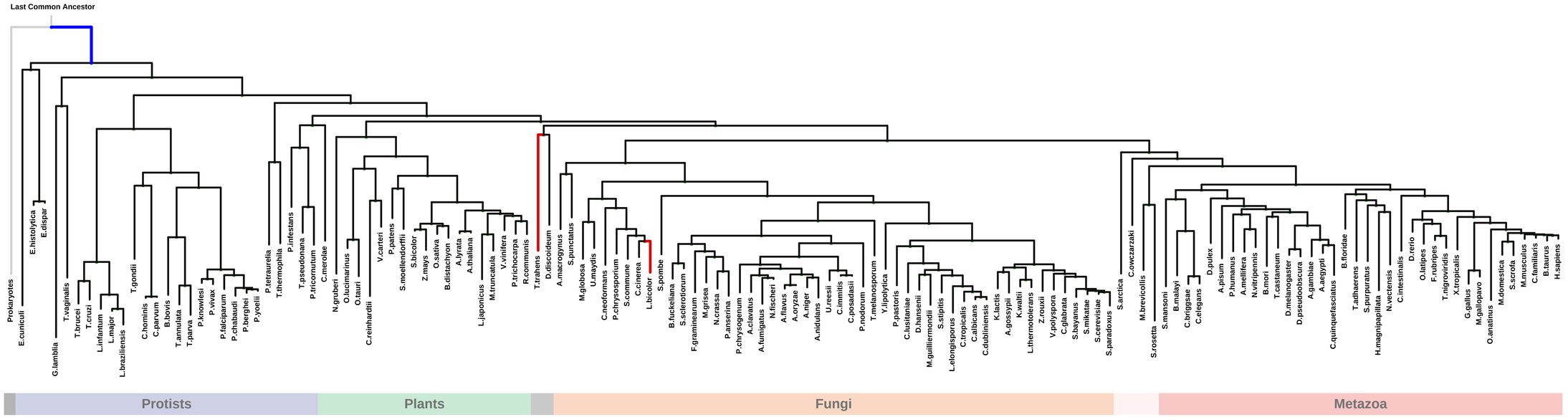


PG	Protein	LLR	Notes
	VPS26B	0.2	1
	VPS26A	0.2	1 / 2 / 3 / 4
	NARFL	0.2	5
	NARF	0.2	6 / 7 / 8
	RPL23A	0.2	9 / 10
	DUSP21	0.2	
y	AKR7A3	0.2	
	TRAPPC5	0.2	11
c	PDZRN4	0.2	
	DNAJC13	0.2	
	BIRC2	0.1	12 / 13
	BIRC3	0.1	
	VPS33A	0.1	14 / 15 / 16 / 17 / 18
C	TRIM10	0.1	
C	JADE1	0.1	19
	TATDN2	0.1	
f	LRCH3	0.1	
L	PPP1R42	0.1	20 / 21 / 22
f	LOC642574	0.0	
f	100508128	0.0	
	LOC642574	0.0	

1: retromer complex || 2: endosome || 3: endosome membrane || 4: vesicle || 5: CIA complex || 6: lamin filament || 7: nuclear lamina || 8: nuclear lumen || 9: cytosolic large ribosomal subunit || 10: TORC2 complex ||
11: TRAPP complex || 12: CD40 receptor complex || 13: internal side of plasma membrane || 14: early endosome || 15: HOPS complex || 16: late endosome || 17: late endosome membrane || 18: lysosomal membrane || 19: histone acetyltransferase complex ||
20: manchette || 21: microtubule cytoskeleton || 22: microtubule organizing center

ECM 24, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 398

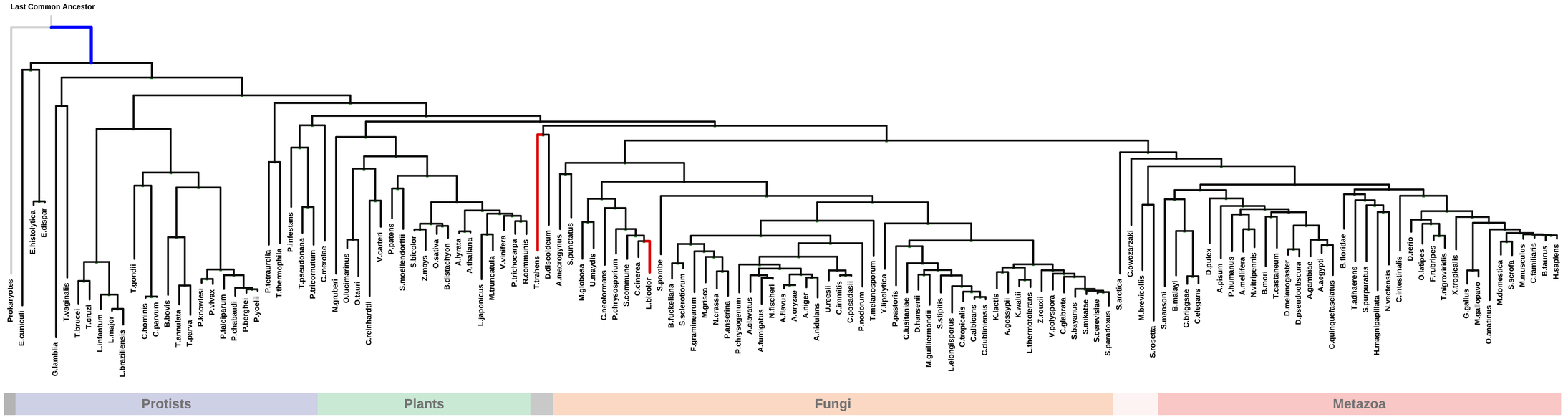


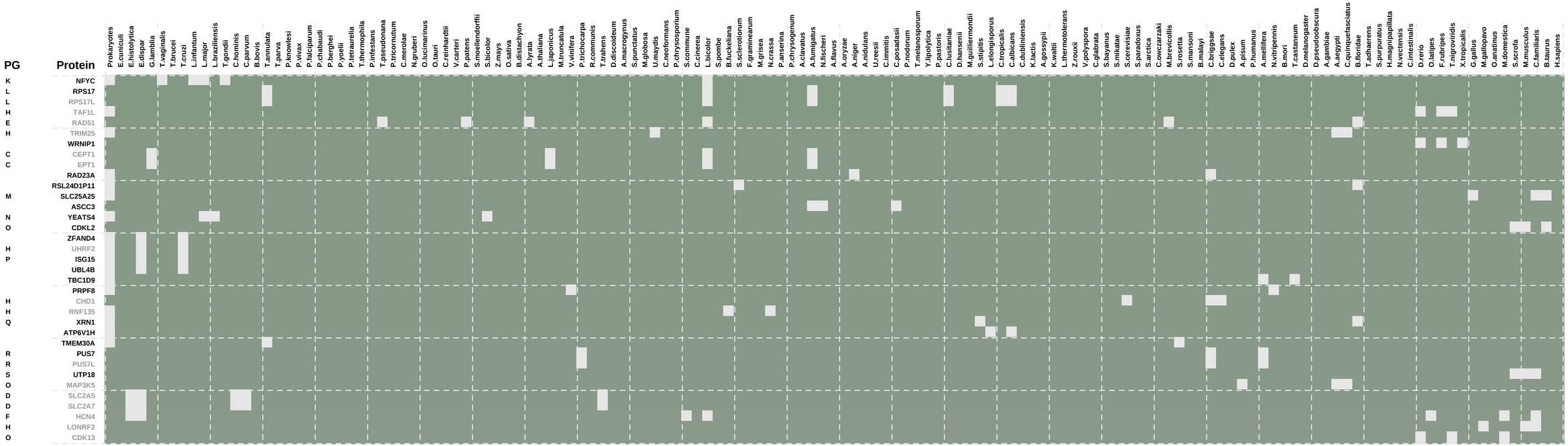
PG	Protein	LLR	Notes
	SF3A3		1 / 2 / 3
	PSMD4	17.6	4 / 5
A	NACA	16.7	
B	PPAN-P2RY11	15.5	
	RPL5	15.1	6 / 7
	MAK16	14.9	
	SNRPB	14.7	1 / 3 / 8 / 9 / 10 / 11
C	CHPT1	14.5	
D	SLC2A9	14.5	12
	TOP2A	14.0	13 / 14 / 15 / 16
	RPS20	13.7	17
E	XRCC3	13.6	
	UFD1L	13.2	
F	HCN3	13.0	
	CMTR2	12.8	
	VPS33A	12.3	18 / 19 / 20 / 21 / 22
	LOC642574	12.3	
G	LOC642574	12.3	
G	100508128	12.3	
E	DMC1	11.9	23 / 24 / 25
H	TRIM21	11.9	7 / 26 / 27
	ARCN1	11.8	28 / 29
I	DDX23	11.6	1 / 30
D	SLC2A14	11.5	
D	SLC2A3	11.5	
J	651921	11.4	
	RPS26	11.2	17 / 31
	FAM96B	11.2	32 / 33 / 34
B	PPAN	11.0	
J	TRRAP	10.9	35 / 36 / 37 / 38
	RAVER2	10.7	
	NSA2	10.7	7
	CSNK2B	10.2	39
A	NACA2	10.0	
A	NACAD	10.0	

1: catalytic step 2 spliceosome || 2: nuclear speck || 3: spliceosomal complex || 4: proteasome accessory complex || 5: proteasome complex || 6: cytosolic large ribosomal subunit || 7: ribonucleoprotein complex || 8: histone pre-mRNA 3'end processing complex || 9: small nuclear ribonucleoprotein complex || 10: U12-type spliceosomal complex || 11: U7 snRNP || 12: nuclear envelope || 13: centriole || 14: nuclear chromosome || 15: nucleoid || 16: synaptonemal complex || 17: cytosolic small ribosomal subunit || 18: early endosome || 19: HOPS complex || 20: late endosome || 21: late endosome membrane || 22: lysosomal membrane || 23: chromosome || 24: chromosome, telomeric region || 25: condensed nuclear chromosome ||

ECM 24, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 398

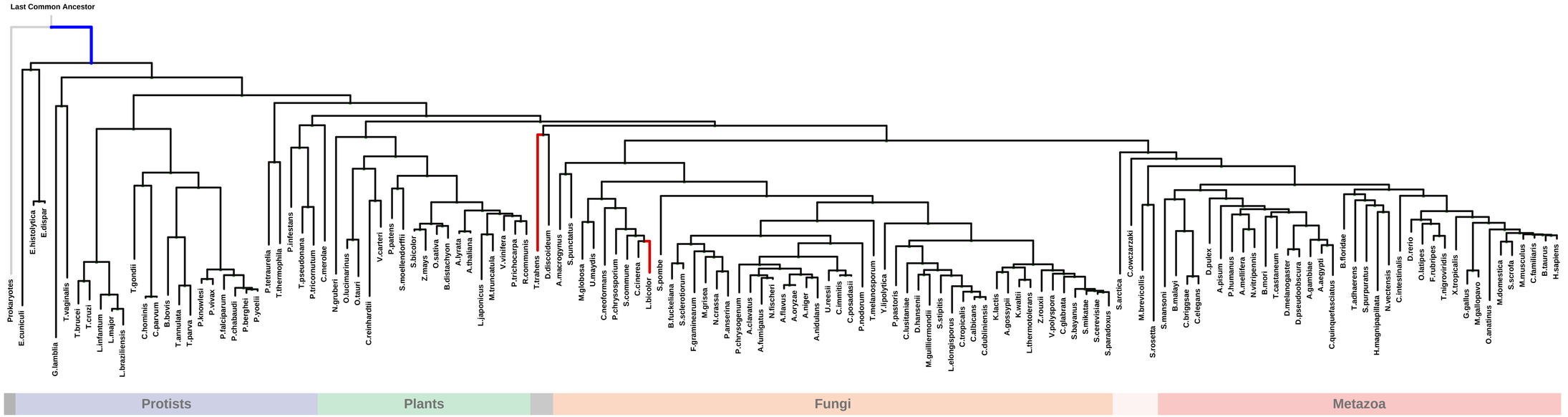




1: CCAAT-binding factor complex || 2: cytosolic small ribosomal subunit || 3: ribosome || 4: transcription factor TFIID complex || 5: condensed chromosome || 6: condensed nuclear chromosome || 7: lateral element || 8: PML body || 9: nuclear membrane || 10: proteasome complex || 11: NuA4 histone acetyltransferase complex || 12: nuclear matrix || 13: nuclear heterochromatin || 14: catalytic step 2 spliceosome || 15: nuclear speck || 16: U5 snRNP || 17: intermediate filament cytoskeleton || 18: vacuolar proton-transporting V-type ATPase, V1 domain || 19: terminal button || 20: nuclear cyclin-dependent protein kinase holoenzyme complex

ECM 24, Gene set "nuclear speck", Page 3

Num of ECM Genes: 1. Num of Predicted Genes: 398

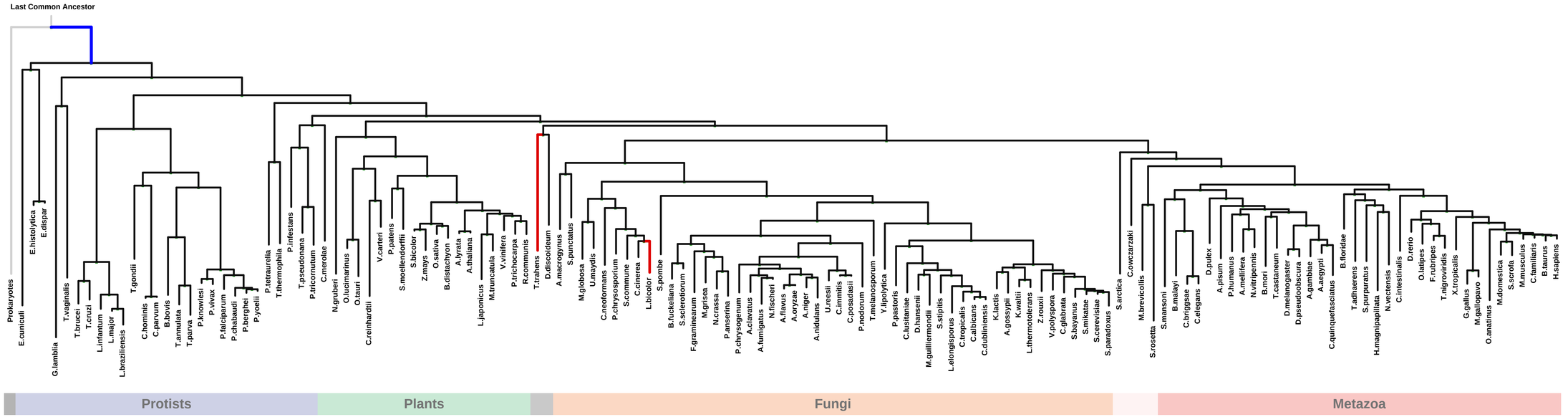


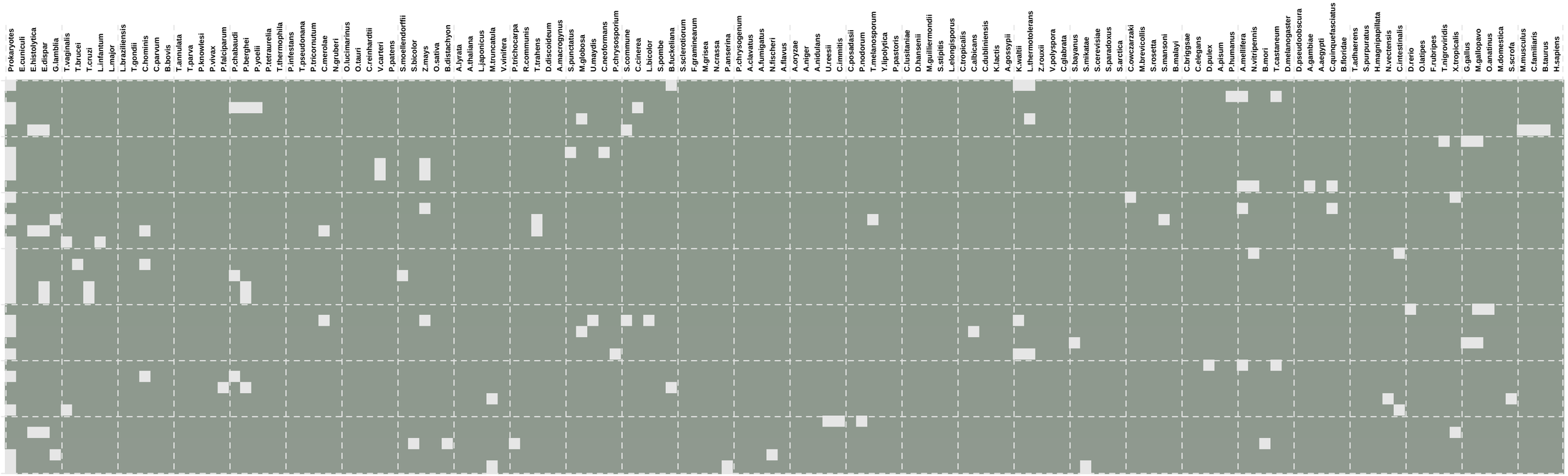
PG	Protein	LLR	Notes
K	POLE4	6.6	1 / 2
	LRRC6	6.5	3
T	KDELR3	6.4	
T	652215	6.4	
T	KDELR1	6.4	4 / 5
U	VPS13D	6.4	
V	INPP5E	6.4	6 / 7
V	INPP5K	6.4	8 / 9 / 10 / 11
H	ATAD2B	6.4	
P	UBD	6.3	12
W	CNOT8	6.3	
W	CNOT7	6.3	13 / 14
	TRMT61A	6.3	15
X	IQSEC3	6.3	11 / 16 / 17
	STX2	6.3	18 / 19 / 20 / 21 / 22
Y	HINT1	6.2	
U	VPS13C	6.2	
	LSM2	6.2	23
	RNF113A	6.2	
Q	XRN2	6.1	12
X	PSD3	6.1	11 / 17 / 24
Z	ASF1B	6.0	25
Z	ASF1A	6.0	26
a	H2BFM	6.0	27
a	H2BFWT	6.0	27 / 28
	SPAG6	6.0	3 / 29 / 30 / 31
b	ISG20L2	6.0	
b	LOC81691	6.0	
	WDR34	6.0	
	MCM6	5.9	32
H	RFPL4B	5.9	
H	TRIM5	5.7	14
	SENP3	5.7	33
	ELAC1	5.7	
	NAA50	5.7	

1: Ada2/Gcn5/Ada3 transcription activator complex || 2: epsilon DNA polymerase complex || 3: cilium || 4: cis-Golgi network || 5: endoplasmic reticulum-Golgi intermediate compartment || 6: cilium axoneme || 7: Golgi cisterna membrane ||
8: neuron projection || 9: ruffle || 10: ruffle membrane || 11: trans-Golgi network || 12: aggresome || 13: CCR4-NOT complex || 14: cytoplasmic mRNA processing body || 15: tRNA (m1A) methyltransferase complex || 16: inhibitory synapse ||
17: postsynaptic membrane || 18: basolateral plasma membrane || 19: cell-cell junction || 20: membrane raft || 21: midbody || 22: transport vesicle || 23: catalytic step 2 spliceosome || 24: postsynaptic density || 25: chromatin ||

ECM 24, Gene set "nuclear speck", Page 4

Num of ECM Genes: 1. Num of Predicted Genes: 398

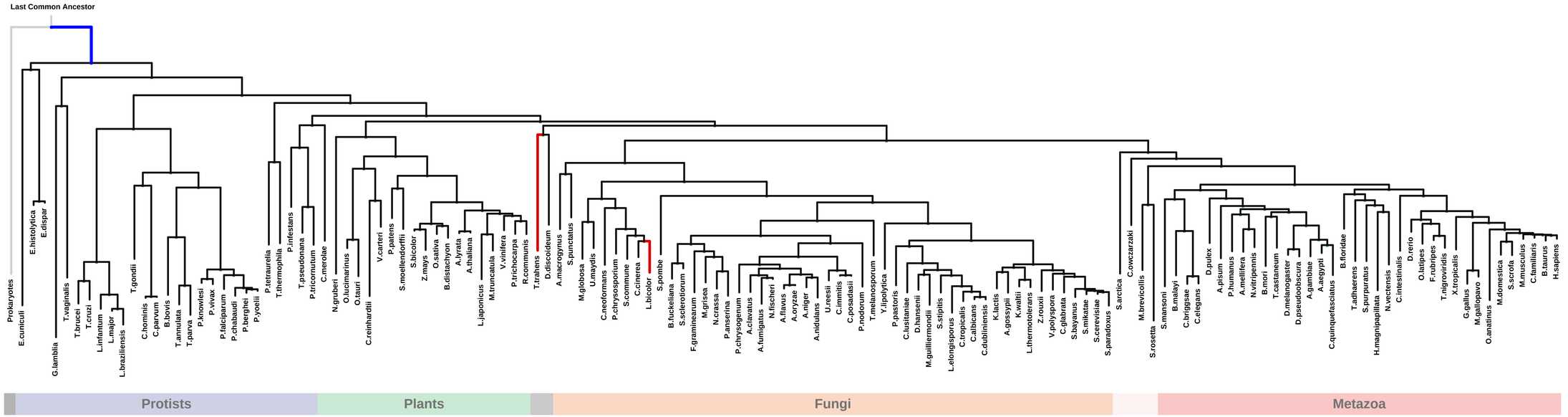


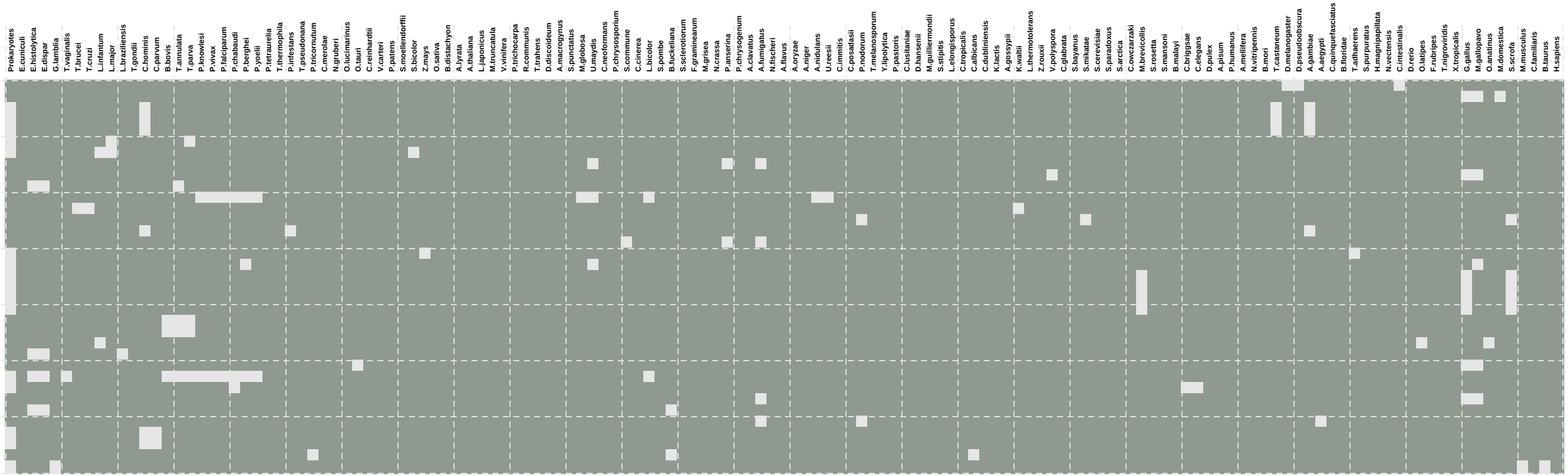


1: PcG protein complex || 2: axon || 3: dendritic shaft || 4: synapse || 5: voltage-gated potassium channel complex || 6: cytosolic small ribosomal subunit || 7: ribonucleoprotein complex || 8: chromosome || 9: PML body ||
10: XY body || 11: asymmetric synapse || 12: axonemal microtubule || 13: cytoplasmic membrane-bounded vesicle || 14: cytoplasmic vesicle || 15: dendritic spine || 16: microtubule organizing center || 17: recycling endosome ||
18: symmetric synapse || 19: trans-Golgi network || 20: nuclear matrix || 21: small nuclear ribonucleoprotein complex || 22: endocytic vesicle || 23: apical part of cell || 24: proton-transporting two-sector ATPase complex || 25: proton-transporting V-type ATPase, V1 domain ||

ECM 24, Gene set "nuclear speck", Page 5

Num of ECM Genes: 1. Num of Predicted Genes: 398

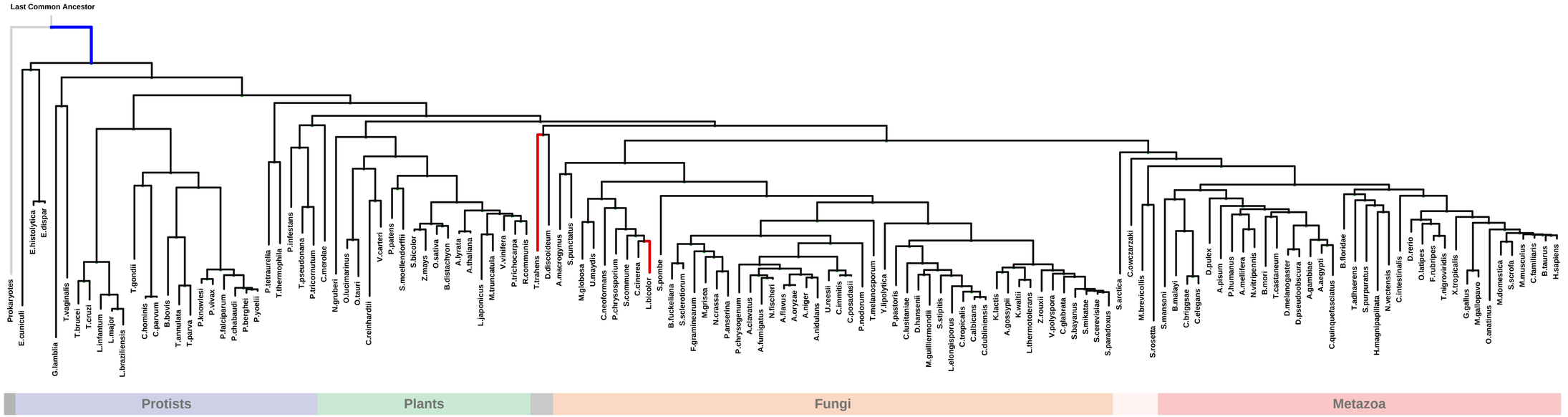




1: chromosome || 2: apical part of cell || 3: caveola || 4: endocytic vesicle membrane || 5: catalytic step 2 spliceosome || 6: cytosolic large ribosomal subunit || 7: ribosome || 8: mitochondrial ribosome || 9: small ribosomal subunit ||
10: aminoacyl-tRNA synthetase multienzyme complex || 11: transport vesicle || 12: condensed chromosome || 13: PeBoW complex || 14: preribosome, large subunit precursor || 15: holo TFIIH complex || 16: dendrite || 17: lysosome ||
18: TORC1 complex || 19: histone methyltransferase complex || 20: cytosolic small ribosomal subunit || 21: cytoplasmic microtubule || 22: microtubule organizing center || 23: spindle pole || 24: box C/D snoRNP complex || 25: Cajal body ||

ECM 24, Gene set "nuclear speck", Page 6

Num of ECM Genes: 1. Num of Predicted Genes: 398

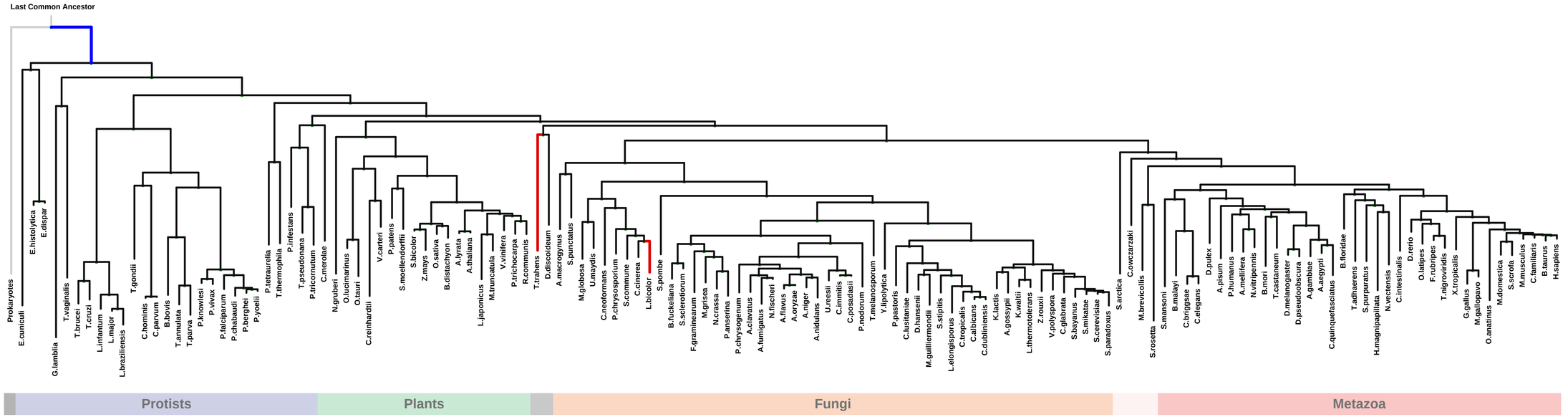


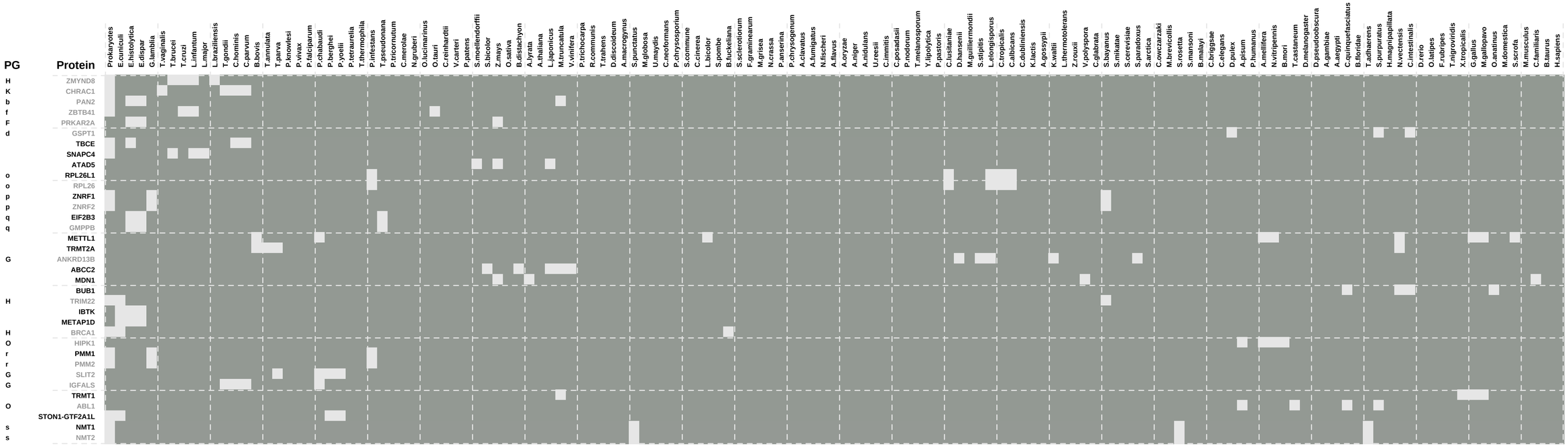
PG	Protein	LLR	Notes
Y	HINT2	3.6	
V	INPP5J	3.5	1 / 2 / 3
	IARS	3.5	
H	EP300	3.5	4 / 5 / 6
F	HCN1	3.5	7 / 8
	RPL13A	3.4	9 / 10 / 11
U	VPS13A	3.3	
H	SETD1A	3.3	12 / 13 / 14 / 15
	RFWD3	3.3	16
I	HMGB3P27	3.3	12
I	100508670	3.3	
I	HMGB2	3.3	17
	ABHD17A	3.3	
G	LRG1	3.3	
	UBA1	3.2	
G	FEM1C	3.2	
	PSMC2	3.2	18 / 19
	REV3L	3.2	12 / 20
G	PHLPP2	3.2	
O	LATS1	3.1	21 / 22
h	SLC36A4	3.1	
m	FNTA	3.1	23
G	LOC100289085	3.1	
	PTRH2	3.0	
n	EIF4E2	3.0	24
n	EIF4E	3.0	24 / 25 / 26 / 27 / 28
n	EIF4E1B	3.0	24
i	TUBGCP3	3.0	29 / 30 / 31
b	LOC100288562	3.0	
D	SLC2A8	3.0	32 / 33
b	REXO1L11P	3.0	
b	REXO1L10P	3.0	
b	REXO1L1	3.0	
D	SLC2A6	3.0	
	PIGA	3.0	34

1: dendritic shaft || 2: growth cone || 3: ruffle || 4: chromatin || 5: histone acetyltransferase complex || 6: protein-DNA complex || 7: axon || 8: dendrite || 9: cytosolic large ribosomal subunit || 10: large ribosomal subunit ||
11: ribonucleoprotein complex || 12: chromosome || 13: histone methyltransferase complex || 14: nuclear speck || 15: Set1C/COMPASS complex || 16: PML body || 17: condensed chromosome || 18: proteasome accessory complex ||
19: proteasome complex || 20: zeta DNA polymerase complex || 21: microtubule organizing center || 22: spindle pole || 23: microtubule associated complex || 24: mRNA cap binding complex || 25: cytoplasmic mRNA processing body ||

ECM 24, Gene set "nuclear speck", Page 7

Num of ECM Genes: 1. Num of Predicted Genes: 398

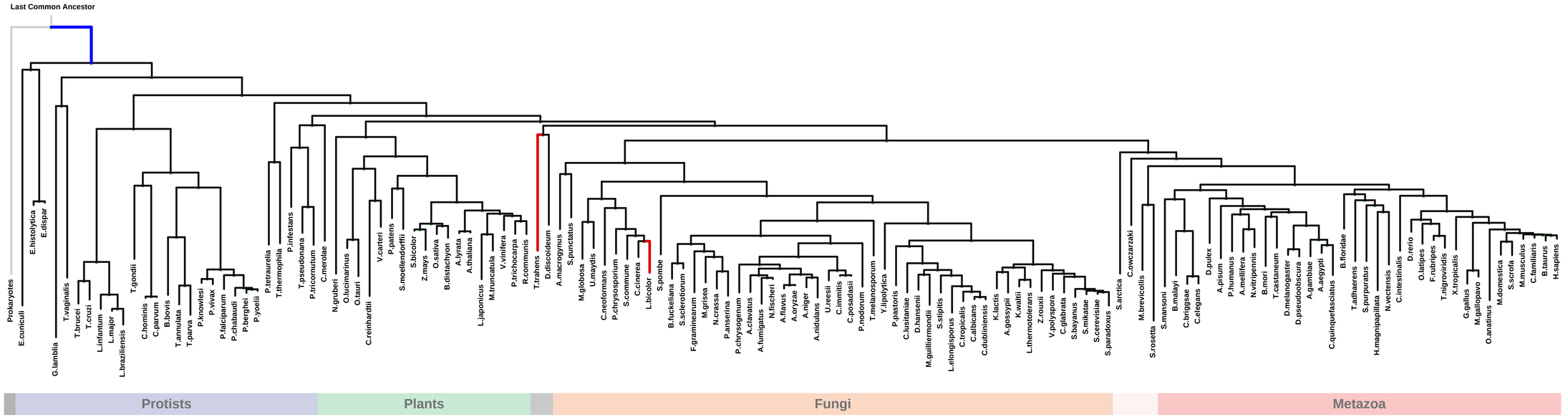


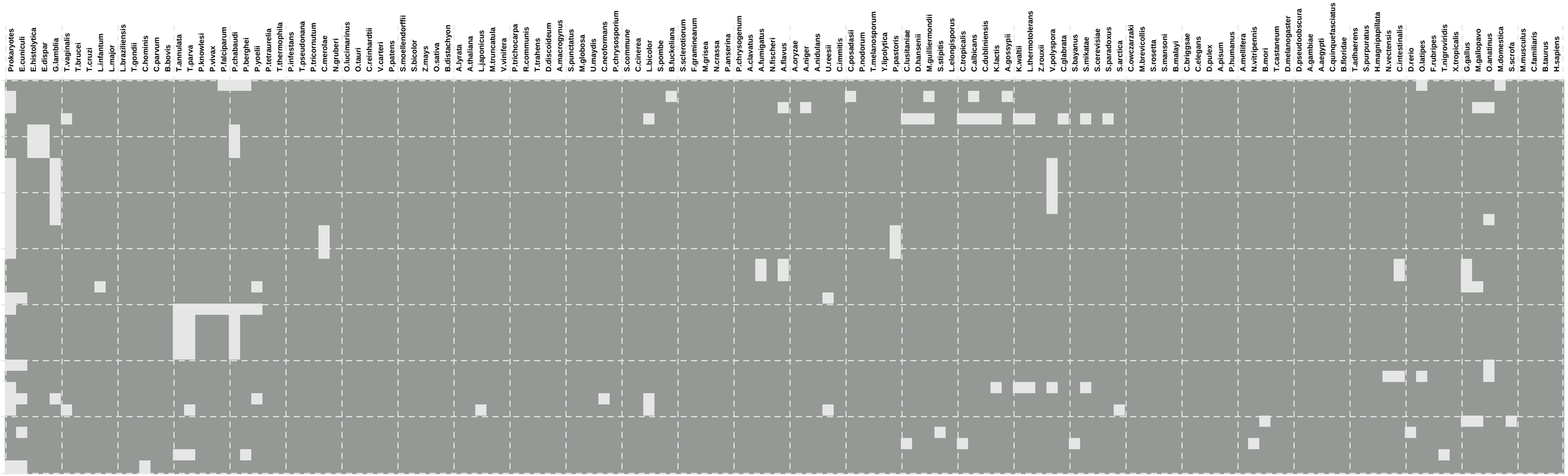


1: chromatin accessibility complex || 2: epsilon DNA polymerase complex || 3: cAMP-dependent protein kinase complex || 4: T-tubule || 5: large ribosomal subunit || 6: cytosolic large ribosomal subunit || 7: endosome || 8: lysosome ||
9: synaptic vesicle membrane || 10: endosome membrane || 11: lysosomal membrane || 12: presynaptic membrane || 13: eukaryotic translation initiation factor 2B complex || 14: intercellular canaliculus || 15: condensed chromosome kinetochore ||
16: condensed nuclear chromosome, centromeric region || 17: kinetochore || 18: Cajal body || 19: nuclear speck || 20: BRCA1-A complex || 21: BRCA1-BARD1 complex || 22: chromosome || 23: filamentous actin || 24: focal adhesion ||

ECM 24, Gene set "nuclear speck", Page 8

Num of ECM Genes: 1. Num of Predicted Genes: 398

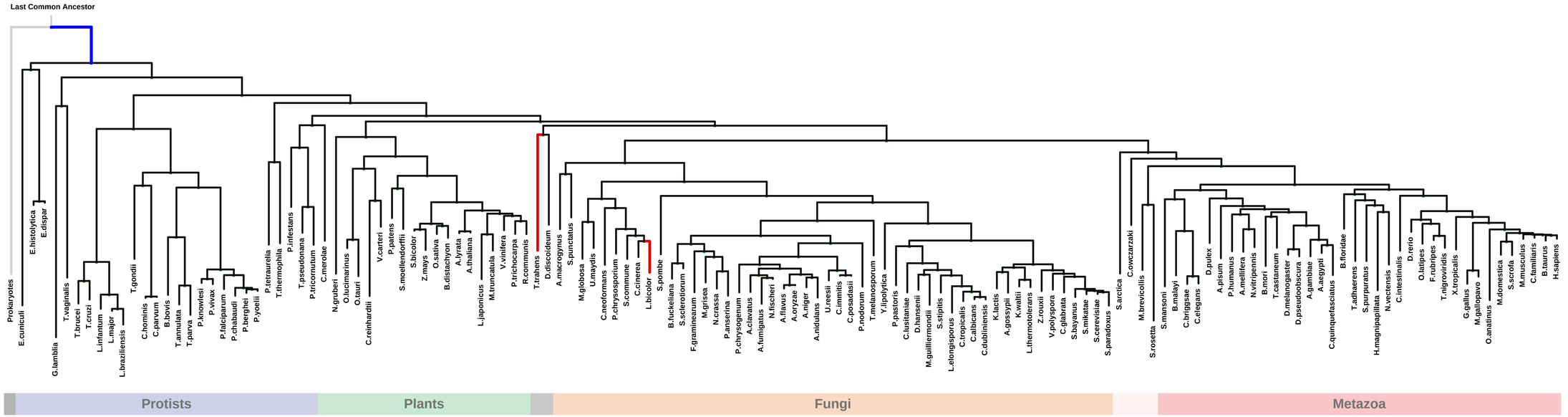




1: early endosome || 2: integral to endoplasmic reticulum membrane || 3: late endosome || 4: catalytic step 2 spliceosome || 5: spliceosomal complex || 6: U12-type spliceosomal complex || 7: dendritic spine || 8: photoreceptor inner segment ||
9: sarcolemma || 10: sarcoplasmic reticulum || 11: mitotic spindle || 12: ruffle membrane || 13: stress fiber || 14: transcriptional repressor complex || 15: cytosolic large ribosomal subunit || 16: postsynaptic membrane || 17: protein phosphatase type 1 complex ||
18: chromosome || 19: nuclear membrane || 20: MLL1 complex || 21: nuclear body || 22: PcG protein complex || 23: PRC1 complex || 24: sex chromatin || 25: ubiquitin ligase complex || 26: DNA-directed RNA polymerase II, core complex ||

ECM 24, Gene set "nuclear speck", Page 9

Num of ECM Genes: 1. Num of Predicted Genes: 398

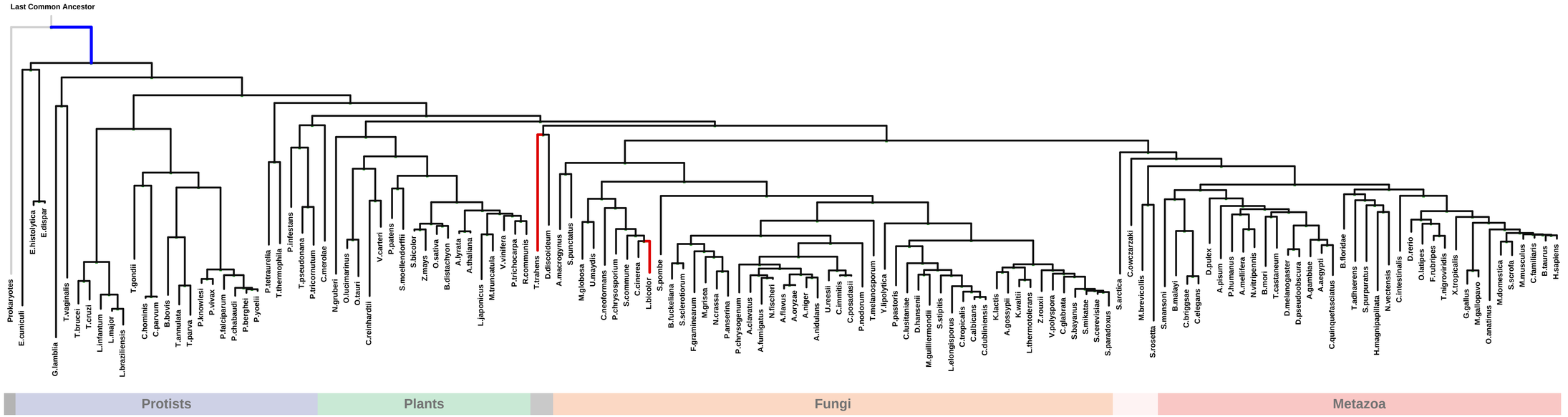


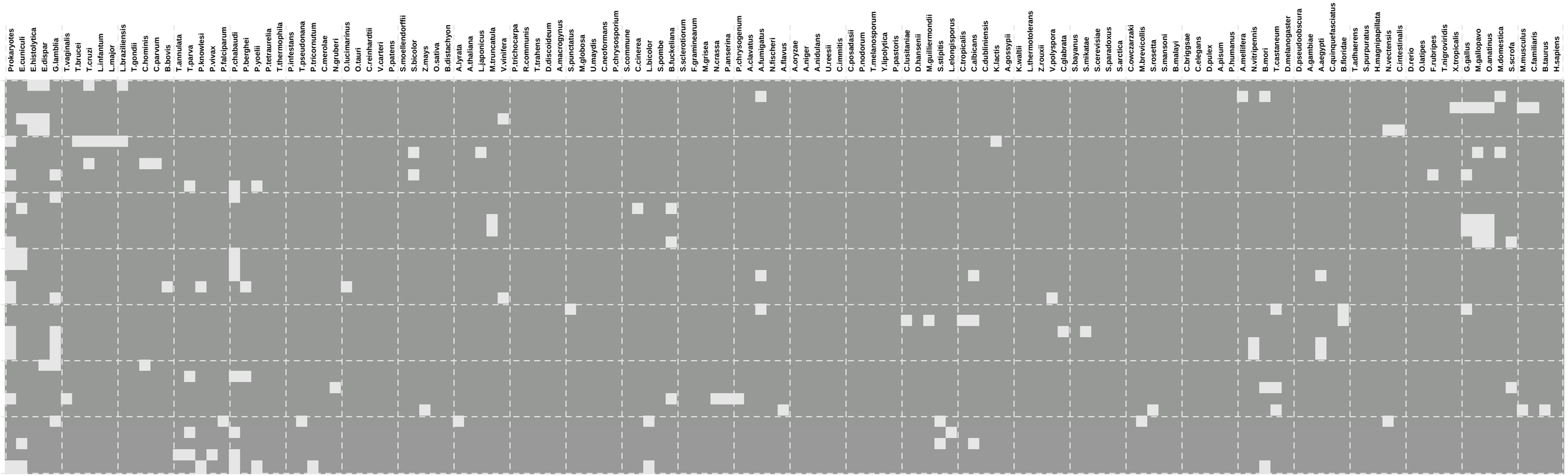
PG	Protein	LLR	Notes
y	EPN3	1.8	1
	EFTUD1	**1.8**	
H	TRIML1	1.7	
z	**NOX5**	**1.7**	
	EIF4G1	**1.7**	2
	NAT10	**1.6**	
G	NOTCH3	1.6	
p	ZSWIM2	1.6	
v	RBM15	1.6	
X	PSD	1.6	3 / 4
X	PSD4	1.6	4
	CPSF1	**1.5**	5
	VAMP8	**1.5**	6 / 7 / 8 / 9 / 10 / 11
G	LRRC8E	1.5	
	STX16	**1.5**	11
{	**H2AFZ**	**1.5**	12 / 13
|	**TRMT10C**	**1.5**	
|	TRMT10A	1.5	
|	TRMT10B	1.5	
{	H2AFB1	1.5	14 / 15
{	H2AFB2	1.5	14 / 15
{	H2AFB3	1.5	
{	H2AFV	1.5	13
	GLRX5	**1.5**	
H	SMARCA2	1.4	16 / 17 / 18 / 19 / 20 / 21
}	**TMED4**	**1.4**	
}	TMED9	1.4	22 / 23 / 24
}	TMED2	1.4	22 / 23 / 25 / 26 / 27 / 28
	DNAL1	**1.4**	
H	CHD6	1.4	
	RNGTT	**1.4**	
T	KDELR2	1.4	29
j	NME7	1.4	
H	RNF4	1.3	30 / 31
	TPI1	**1.3**	

1: clathrin-coated vesicle || 2: eukaryotic translation initiation factor 4F complex || 3: ruffle || 4: trans-Golgi network || 5: mRNA cleavage and polyadenylation specificity factor complex || 6: early endosome || 7: late endosome membrane ||
8: lysosomal membrane || 9: recycling endosome || 10: secretory granule membrane || 11: SNARE complex || 12: Barr body || 13: nucleosome || 14: nuclear nucleosome || 15: transcriptionally active chromatin || 16: intermediate filament cytoskeleton ||
17: nBAF complex || 18: npBAF complex || 19: nuclear chromatin || 20: SWI/SNF complex || 21: WINAC complex || 22: endoplasmic reticulum-Golgi intermediate compartment || 23: endoplasmic reticulum-Golgi intermediate compartment membrane ||

ECM 24, Gene set "nuclear speck", Page 10

Num of ECM Genes: 1. Num of Predicted Genes: 398

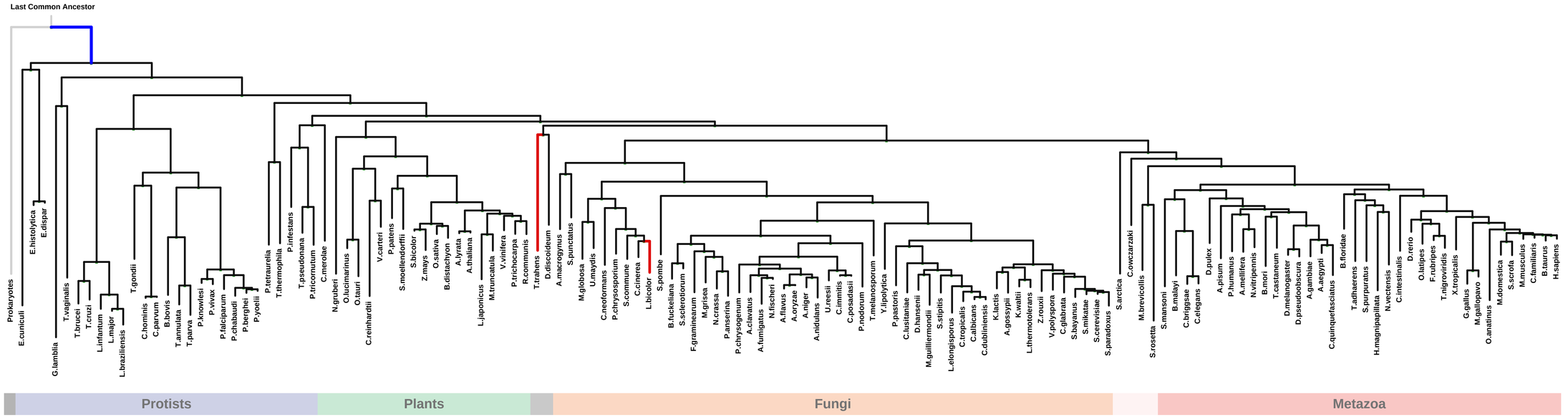




1: chromosome || 2: exosome (RNase complex) || 3: nuclear speck || 4: alpha DNA polymerase:primase complex || 5: juxtaparanode region of axon || 6: proteasome accessory complex || 7: proteasome complex || 8: proteasome regulatory particle || 9: chromatin remodeling complex || 10: ribonuclease H2 complex || 11: neuromuscular junction || 12: extrinsic to internal side of plasma membrane || 13: heterotrimeric G-protein complex || 14: membrane raft || 15: midbody || 16: zymogen granule || 17: cytosolic large ribosomal subunit || 18: ubiquitin ligase complex || 19: cytosolic small ribosomal subunit || 20: ribosome || 21: nuclear envelope || 22: COPI vesicle coat || 23: Cajal body || 24: MLL1 complex || 25: PCAF complex ||

ECM 24, Gene set "nuclear speck", Page 11

Num of ECM Genes: 1. Num of Predicted Genes: 398

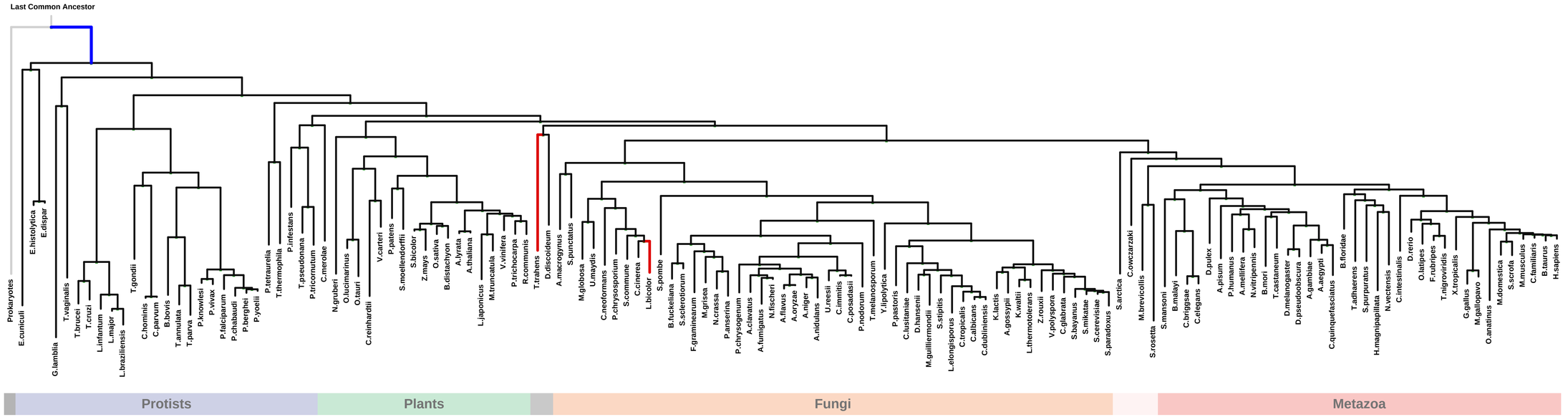


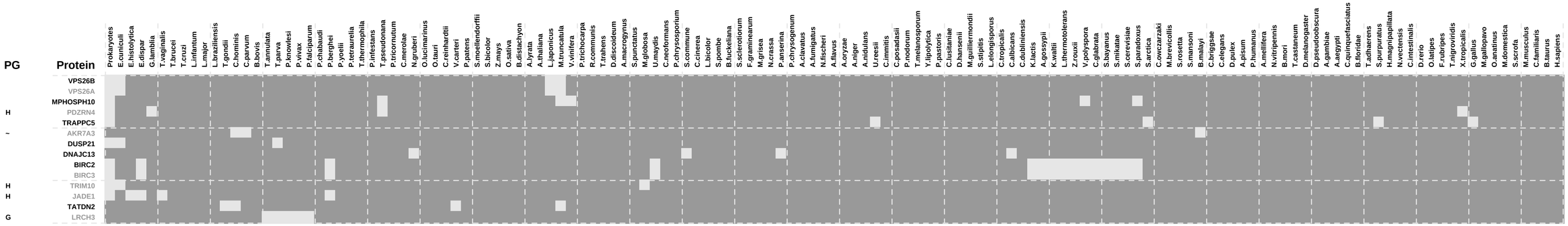
PG	Protein	LLR	Notes
G	652022	0.5	
	IPO7	0.5	1
	SUMO3	0.5	2
	CNTD2	0.5	
	CCNA2	0.5	3 / 4
	CCNB1	0.5	5 / 6
	CCNB2	0.5	7
	CCND1	0.5	8
	CCND2	0.5	8 / 9 / 10
	CCNE1	0.5	8
	CCNE2	0.5	
	CCNI	0.5	
	CCNO	0.5	
	CCNA1	0.5	7
D	SLC2A11	0.5	
	POLR2F	0.5	11
	PFKL	0.5	12
	CERS5	0.5	10
~	KCNAB3	0.4	
	CCNB3	0.4	
	CUL2	0.4	13
z	DGKA	0.4	
	CUL4A	0.4	14 / 15
m	RABGGTA	0.4	
H	LNX2	0.3	
	CYB5A	0.3	16
	CYB5B	0.3	16
	SREK1	0.3	17
	MAPRE3	0.2	18 / 19
	MAPRE2	0.2	7
S	COASY	0.2	16
	TBC1D31	0.2	
	NARF	0.2	20 / 21 / 22
	NARFL	0.2	23
	RPL23A	0.2	24 / 25

1: nuclear pore || 2: kinetochore || 3: female pronucleus || 4: male pronucleus || 5: condensed nuclear chromosome outer kinetochore || 6: spindle pole || 7: microtubule cytoskeleton || 8: cyclin-dependent protein kinase holoenzyme complex ||
9: chromatin || 10: nuclear membrane || 11: DNA-directed RNA polymerase II, core complex || 12: 6-phosphofructokinase complex || 13: Cul2-RING ubiquitin ligase complex || 14: Cul4A-RING ubiquitin ligase complex || 15: Cul4-RING ubiquitin ligase complex ||
16: mitochondrial outer membrane || 17: spliceosomal complex || 18: cytoplasmic microtubule || 19: midbody || 20: lamin filament || 21: nuclear lamina || 22: nuclear lumen || 23: CIA complex || 24: cytosolic large ribosomal subunit ||

ECM 24, Gene set "nuclear speck", Page 12

Num of ECM Genes: 1. Num of Predicted Genes: 398

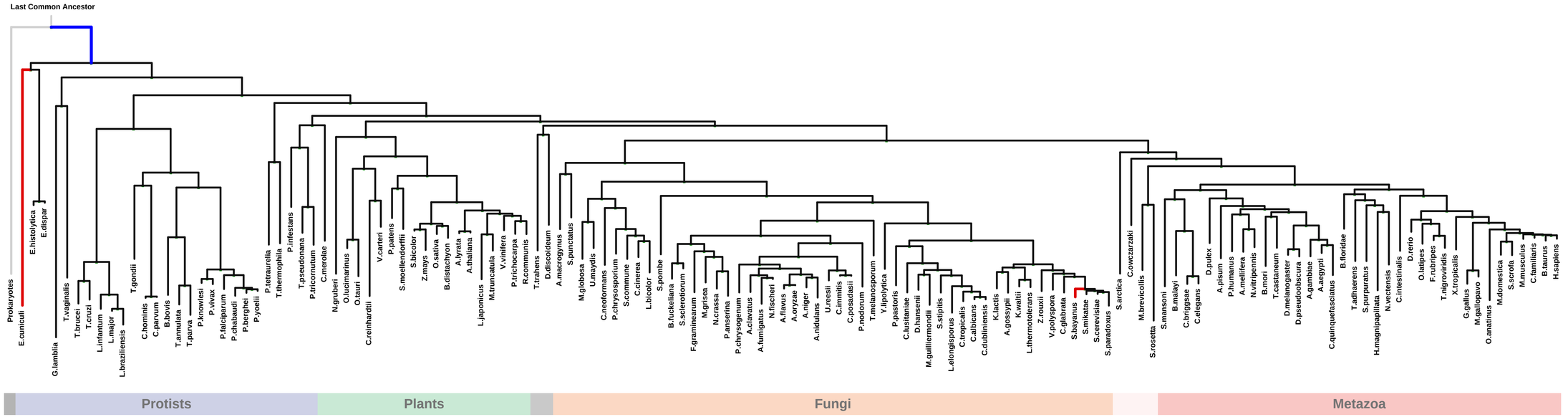


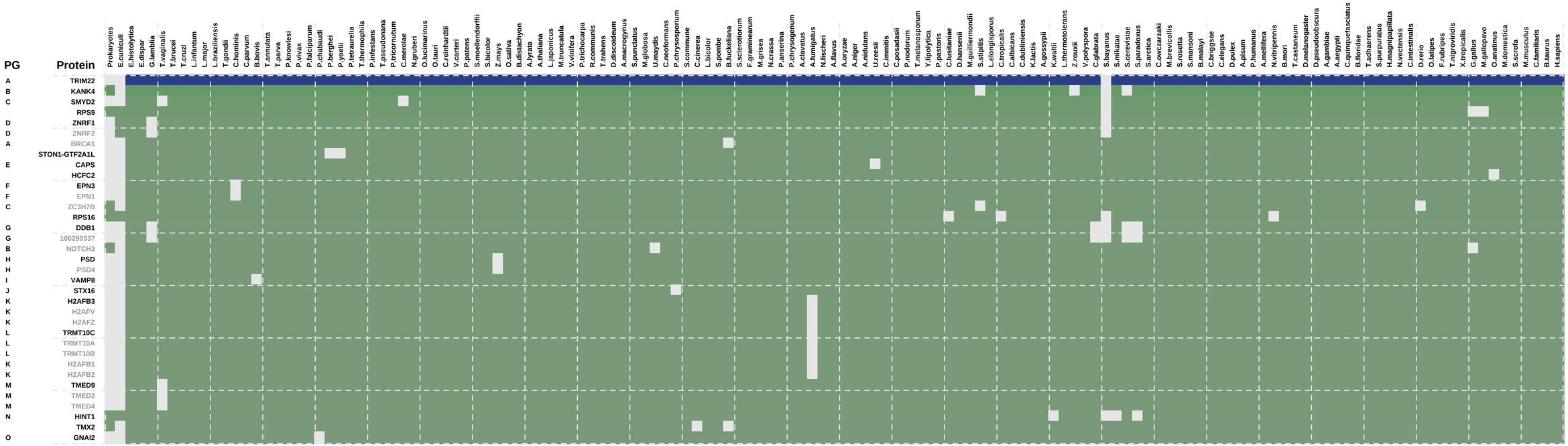


1: retromer complex || 2: endosome || 3: endosome membrane || 4: vesicle || 5: chromosome || 6: small nucleolar ribonucleoprotein complex || 7: TRAPP complex || 8: CD40 receptor complex || 9: internal side of plasma membrane ||
10: histone acetyltransferase complex

ECM 25, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 500

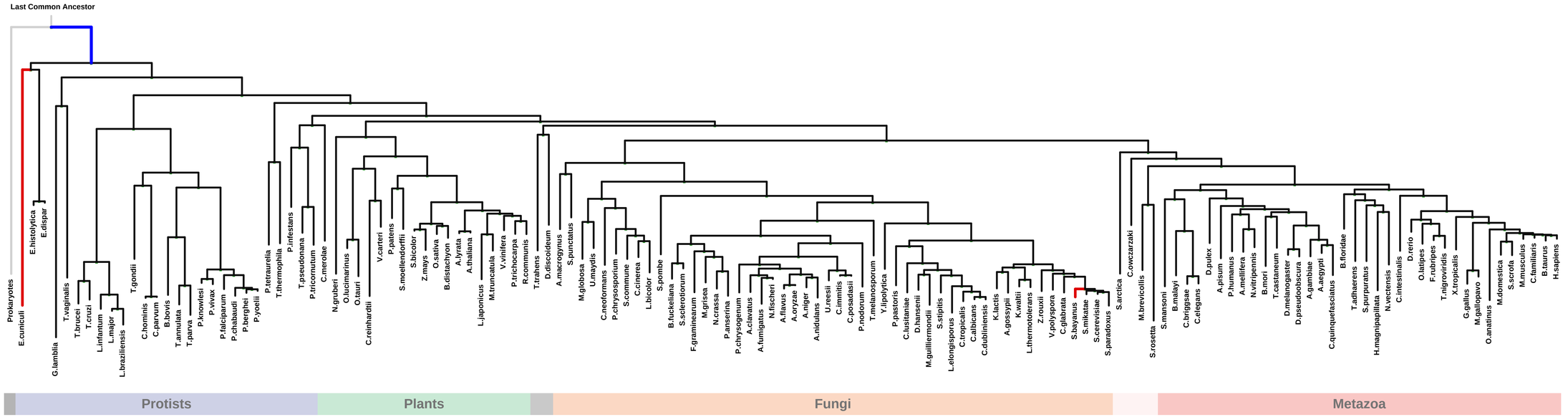


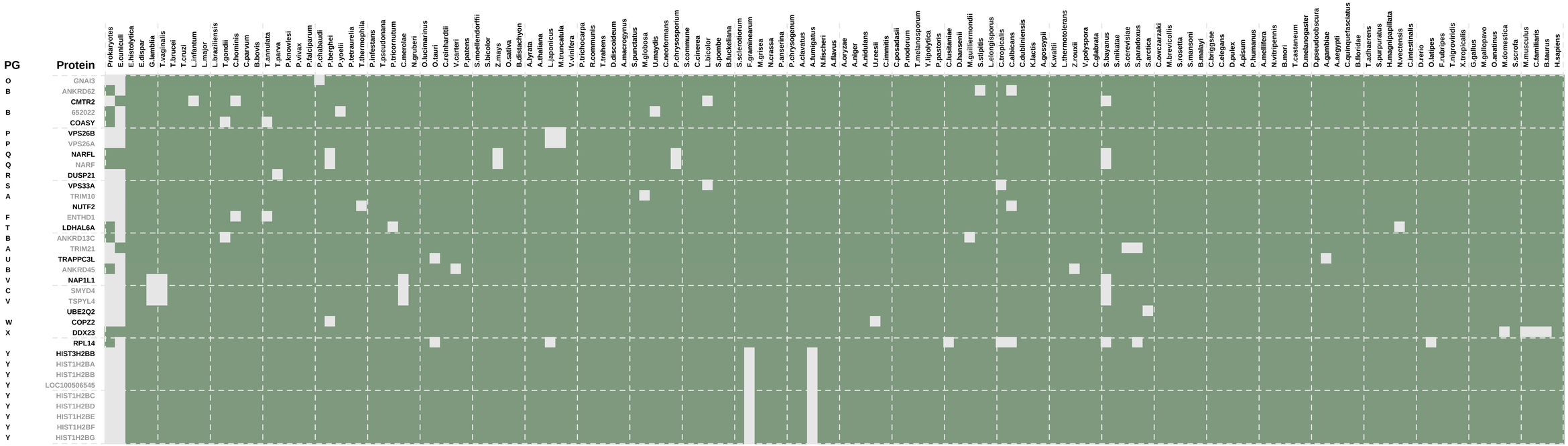


1: Cajal body || 2: nuclear speck || 3: cytosolic small ribosomal subunit || 4: ribonucleoprotein complex || 5: ribosome || 6: endosome || 7: lysosome || 8: synaptic vesicle membrane || 9: endosome membrane || 10: lysosomal membrane ||
11: presynaptic membrane || 12: BRCA1-A complex || 13: BRCA1-BARD1 complex || 14: chromosome || 15: filamentous actin || 16: focal adhesion || 17: gamma-tubulin ring complex || 18: ruffle || 19: ubiquitin ligase complex ||
20: clathrin-coated vesicle || 21: coated pit || 22: small ribosomal subunit || 23: Cul4A-RING ubiquitin ligase complex || 24: Cul4B-RING ubiquitin ligase complex || 25: Cul4-RING ubiquitin ligase complex || 26: trans-Golgi network ||

ECM 25, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 500

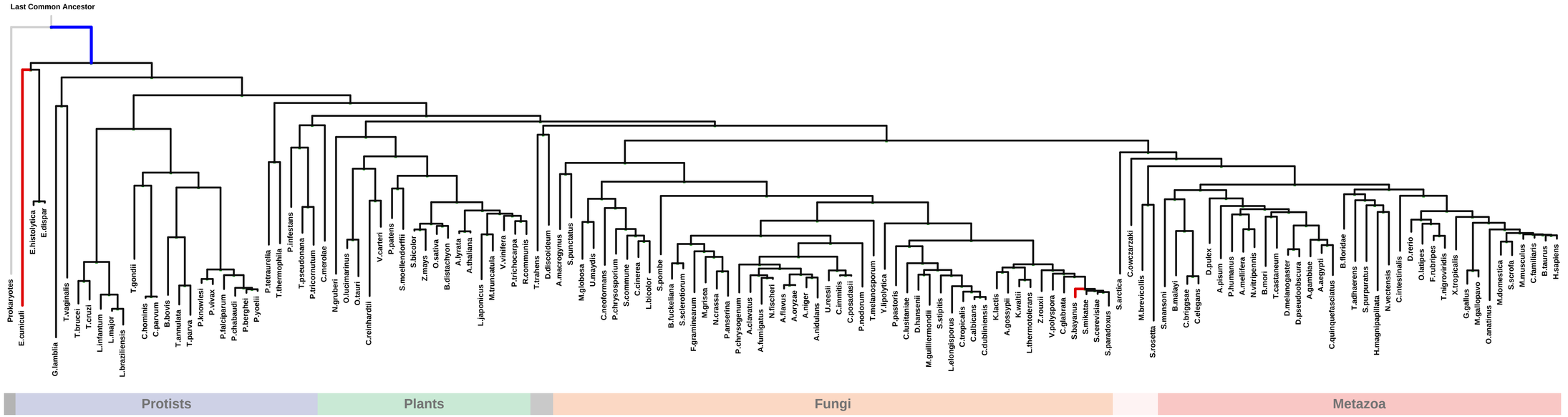


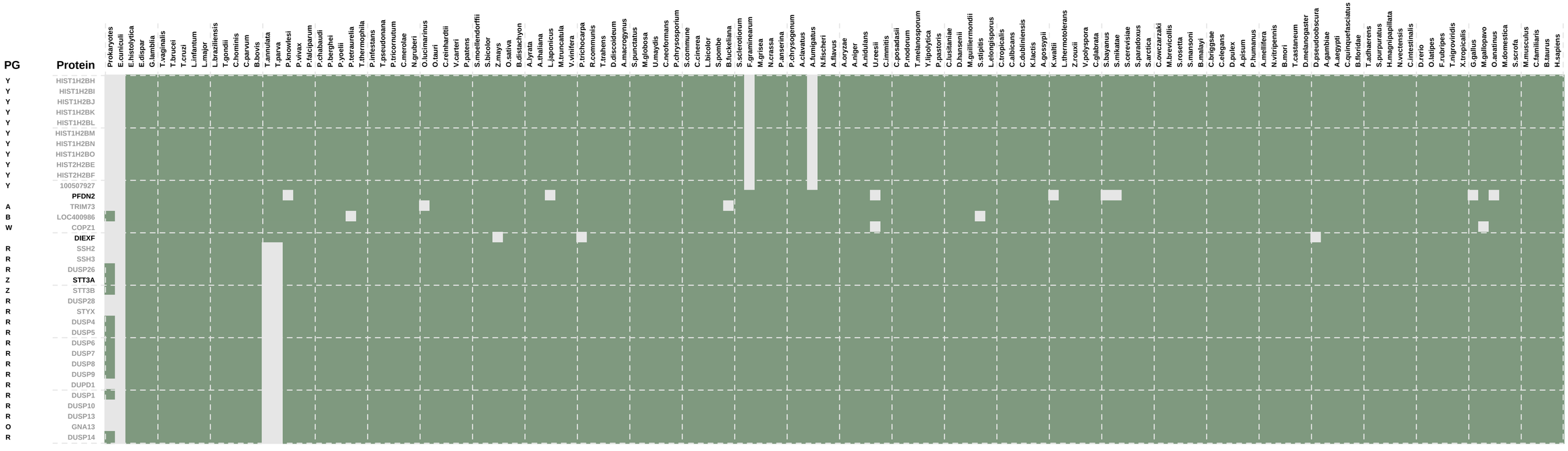


1: extrinsic to internal side of plasma membrane || 2: heterotrimeric G-protein complex || 3: membrane raft || 4: midbody || 5: zymogen granule || 6: mitochondrial outer membrane || 7: retromer complex || 8: endosome || 9: endosome membrane || 10: vesicle || 11: CIA complex || 12: lamin filament || 13: nuclear lamina || 14: nuclear lumen || 15: early endosome || 16: HOPS complex || 17: late endosome || 18: late endosome membrane || 19: lysosomal membrane || 20: microtubule cytoskeleton || 21: nuclear pore || 22: cytoplasmic mRNA processing body || 23: ribonucleoprotein complex || 24: SCF ubiquitin ligase complex || 25: chromatin assembly complex || 26: melanosome || 27: cis-Golgi network ||

ECM 25, Gene set "nuclear speck", Page 3

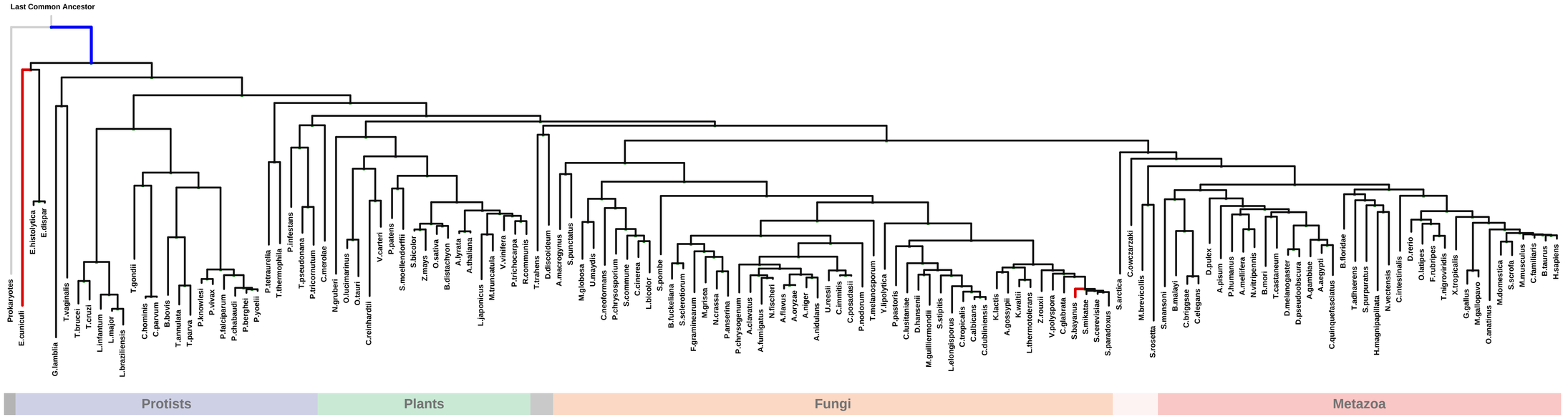
Num of ECM Genes: 1. Num of Predicted Genes: 500





ECM 25, Gene set "nuclear speck", Page 4

Num of ECM Genes: 1. Num of Predicted Genes: 500

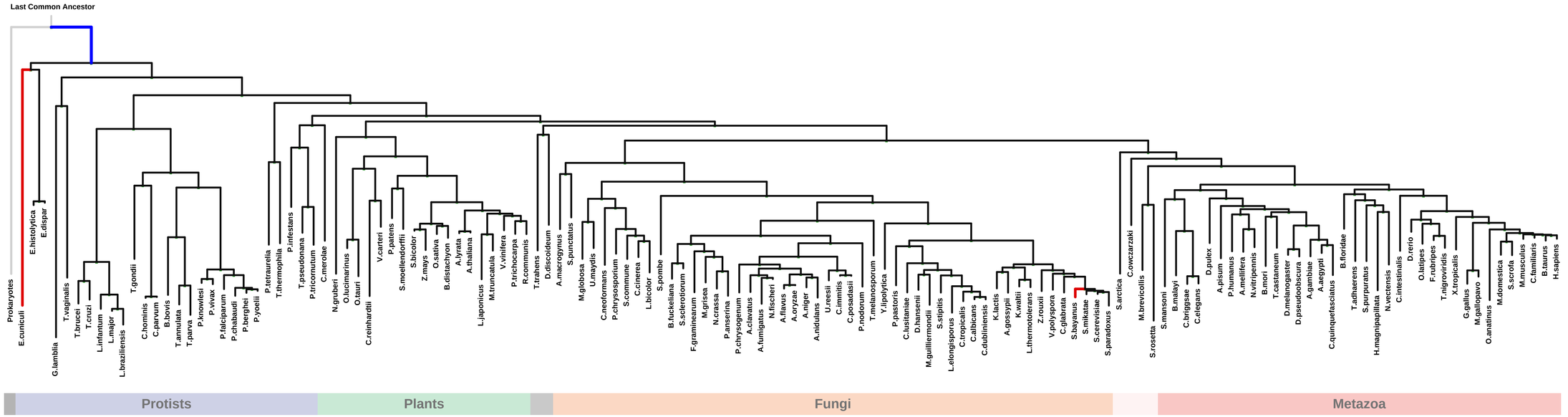


PG	Protein	LLR	Notes
R	DUSP16	11.2	1
R	DUSP18	11.2	
R	DUSP19	11.2	
R	DUSP2	11.2	
a	**CBR4**	**11.2**	
	DUSP22	**11.2**	
R	100290651	11.2	
R	SSH1	11.2	2 / 3 / 4
b	**RNF103-CHMP3**	**11.2**	
	USP30	**11.2**	5
	VPS35	**11.2**	6
A	TRIM74	11.1	
A	TRIM43B	11.1	
A	TRIM43	11.1	
N	HINT2	11.0	
B	ABTB2	10.9	
B	ANKRD33B	10.9	
c	**PANK3**	**10.8**	
C	UNC45B	10.7	
d	**PIAS4**	**10.7**	7 / 8
d	PIAS1	10.7	9
d	PIAS2	10.7	8 / 9
d	PIAS3	10.7	10 / 11
d	ZMIZ1	10.7	9
d	ZMIZ2	10.7	12
	RPL34	**10.7**	13
e	**100294376**	**10.5**	
E	SLC25A41	10.4	
E	SLC25A42	10.4	
E	SLC25A43	10.4	
E	SLC25A44	10.4	
E	SLC25A45	10.4	
E	SLC25A48	10.4	
E	SLC25A5	10.4	14 / 15
E	SLC25A6	10.4	16

1: cytoplasmic membrane-bounded vesicle || 2: cleavage furrow || 3: lamellipodium || 4: midbody || 5: mitochondrial outer membrane || 6: endosome || 7: nuclear matrix || 8: PML body || 9: nuclear speck || 10: dendrite ||
11: synapse || 12: nuclear replication fork || 13: cytosolic large ribosomal subunit || 14: mitochondrial nucleoid || 15: MMXD complex || 16: mitochondrial inner membrane presequence translocase complex

ECM 25, Gene set "nuclear speck", Page 5

Num of ECM Genes: 1. Num of Predicted Genes: 500

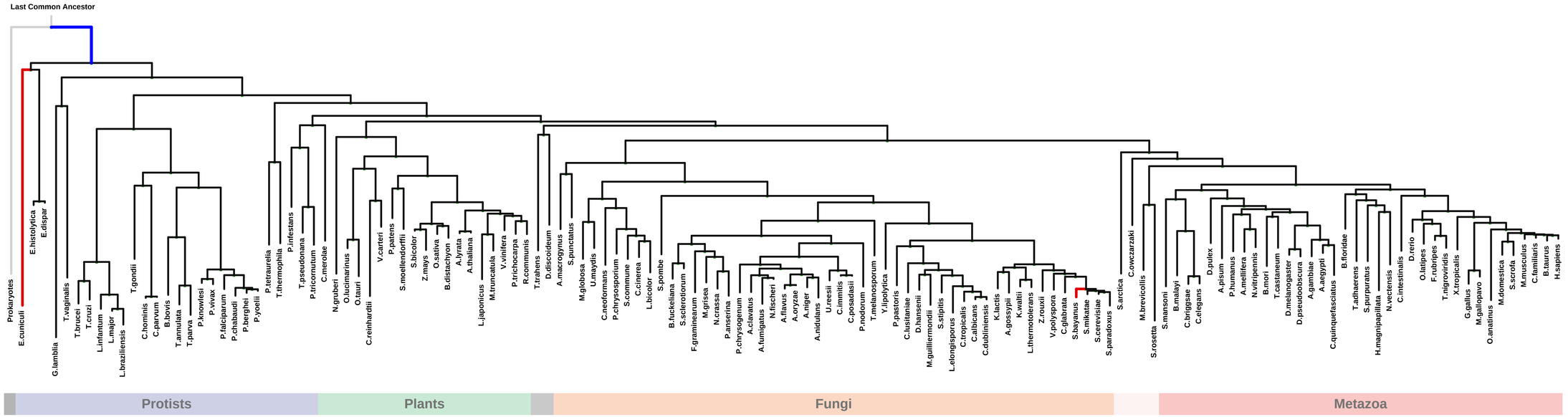


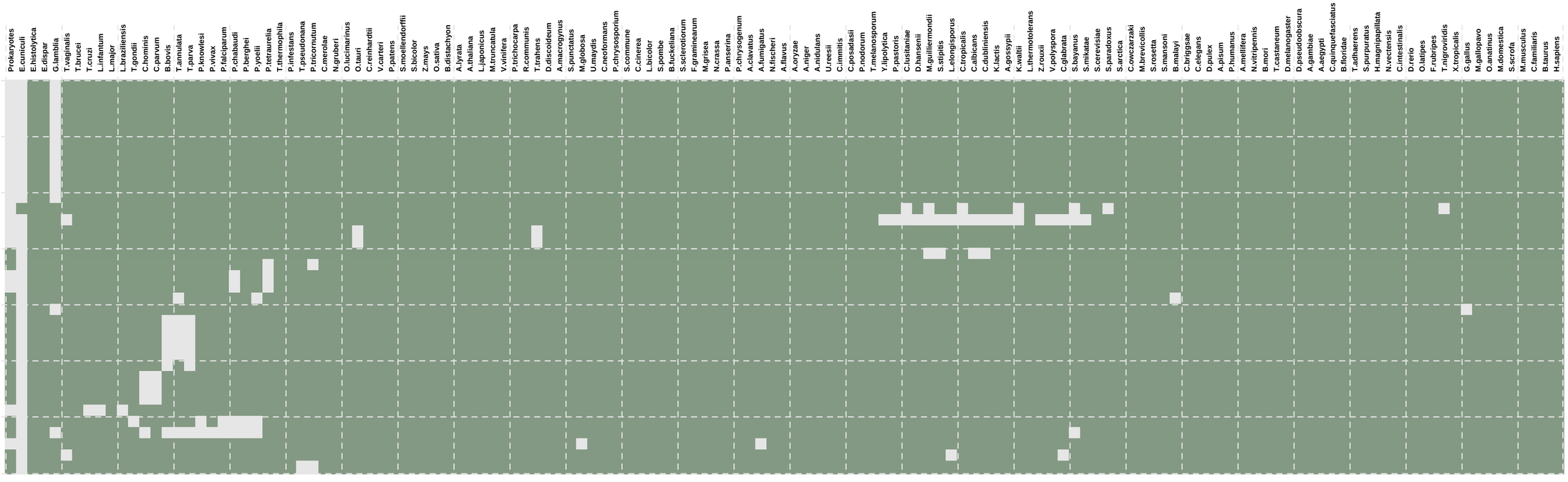
PG	Protein	LLR	Notes
f	ITSN2	10.4	
g	EIF2A	10.4	1
g	EIF3B	10.4	2
a	DECR2	10.4	3
	PRMT8	10.4	
b	CHMP2A	10.4	4
	CHKA	10.4	
	RBM15B	10.4	
G	SF3B3	10.4	5 / 6 / 7 / 8
E	SLC25A1	10.4	
E	SLC25A10	10.4	
E	SLC25A11	10.4	
E	SLC25A12	10.4	
E	SLC25A13	10.4	
h	TNPO1	10.4	9
h	TNPO2	10.4	9
E	SLC25A14	10.4	
E	SLC25A15	10.4	
E	SLC25A16	10.4	
E	SLC25A17	10.4	3 / 10 / 11
E	SLC25A18	10.4	
E	SLC25A19	10.4	
E	SLC25A2	10.4	
E	SLC25A20	10.4	
E	UCP1	10.4	
E	UCP2	10.4	
E	UCP3	10.4	
E	SLC25A21	10.4	
E	SLC25A22	10.4	
E	SLC25A26	10.4	
E	SLC25A28	10.4	
E	SLC25A29	10.4	
E	SLC25A3	10.4	
E	SLC25A30	10.4	
E	SLC25A31	10.4	12 / 13

1: eukaryotic translation initiation factor 2 complex || 2: eukaryotic translation initiation factor 3 complex || 3: peroxisome || 4: late endosome membrane || 5: catalytic step 2 spliceosome || 6: small nuclear ribonucleoprotein complex ||
7: spliceosomal complex || 8: U12-type spliceosomal complex || 9: nuclear pore || 10: integral to peroxisomal membrane || 11: peroxisomal membrane || 12: cilium || 13: flagellum

ECM 25, Gene set "nuclear speck", Page 6

Num of ECM Genes: 1. Num of Predicted Genes: 500

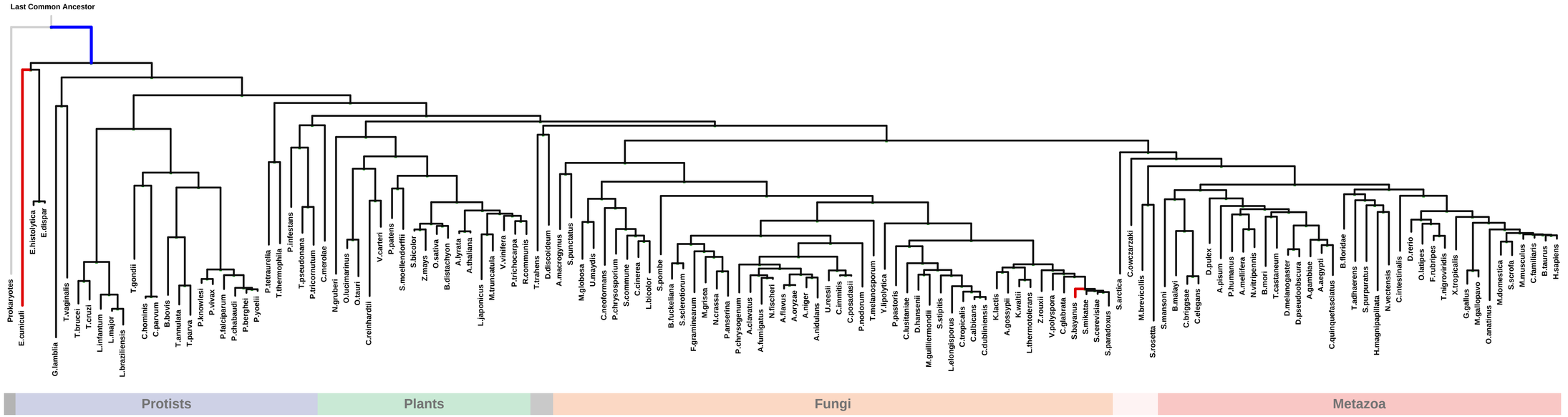


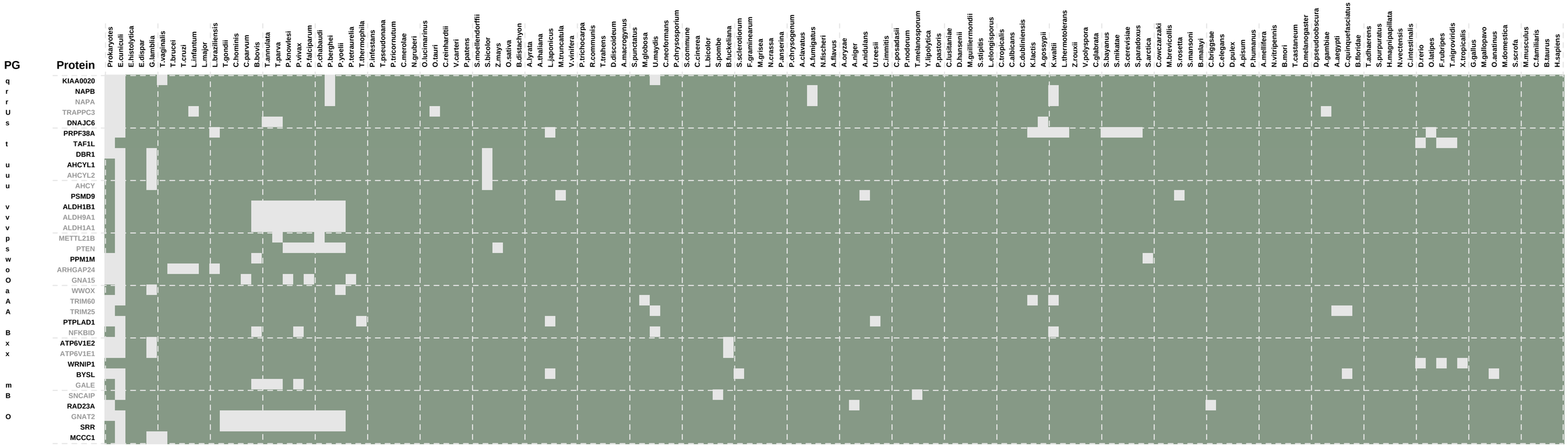


1: mitochondrial outer membrane || 2: cytosolic small ribosomal subunit || 3: small ribosomal subunit || 4: extrinsic to internal side of plasma membrane || 5: heterotrimeric G-protein complex || 6: nuclear membrane || 7: eukaryotic translation initiation factor 2 complex || 8: eukaryotic translation initiation factor 2B complex || 9: sarcoplasmic reticulum membrane || 10: vesicle || 11: Z disc

ECM 25, Gene set "nuclear speck", Page 7

Num of ECM Genes: 1. Num of Predicted Genes: 500

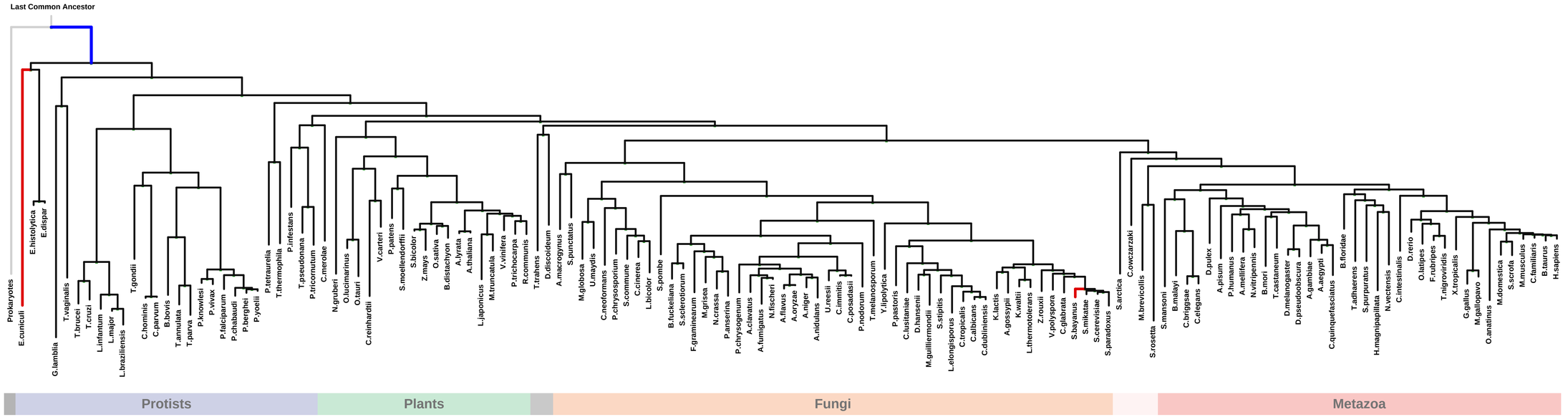




1: synaptobrevin 2-SNAP-25-syntaxin-1a complex || 2: TRAPP complex || 3: spliceosomal complex || 4: transcription factor TFIID complex || 5: melanosome || 6: proteasome regulatory particle || 7: proteasome regulatory particle, base subcomplex ||
8: cell projection || 9: internal side of plasma membrane || 10: myelin sheath adaxonal region || 11: neuron projection || 12: PML body || 13: Schmidt-Lanterman incisure || 14: focal adhesion || 15: extrinsic to internal side of plasma membrane ||
16: heterotrimeric G-protein complex || 17: microvillus || 18: acrosomal vesicle || 19: proton-transporting two-sector ATPase complex, catalytic domain || 20: endosome || 21: proton-transporting two-sector ATPase complex || 22: presynaptic membrane ||

ECM 25, Gene set "nuclear speck", Page 8

Num of ECM Genes: 1. Num of Predicted Genes: 500

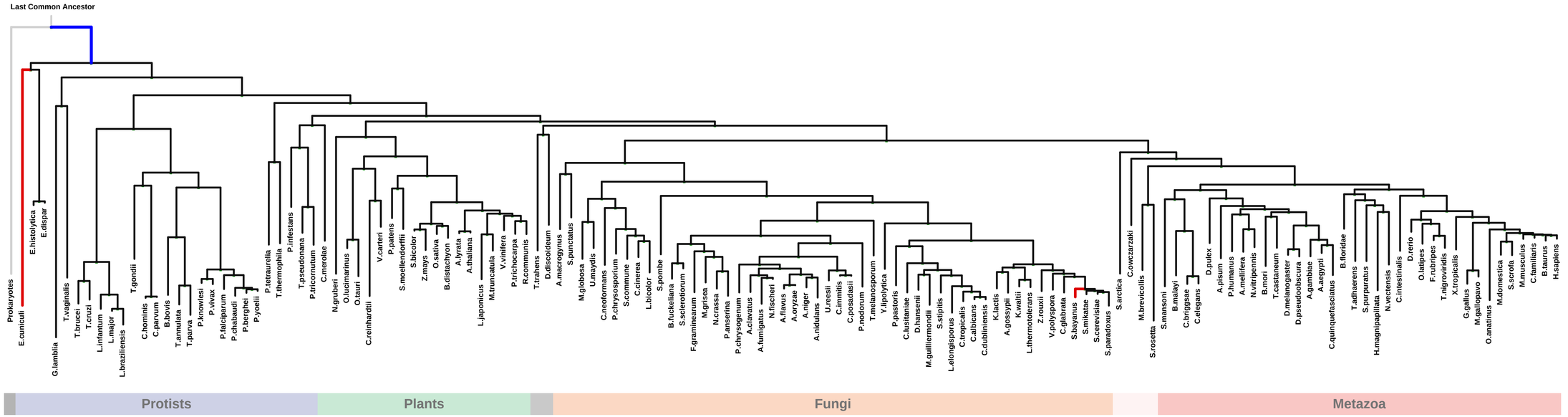


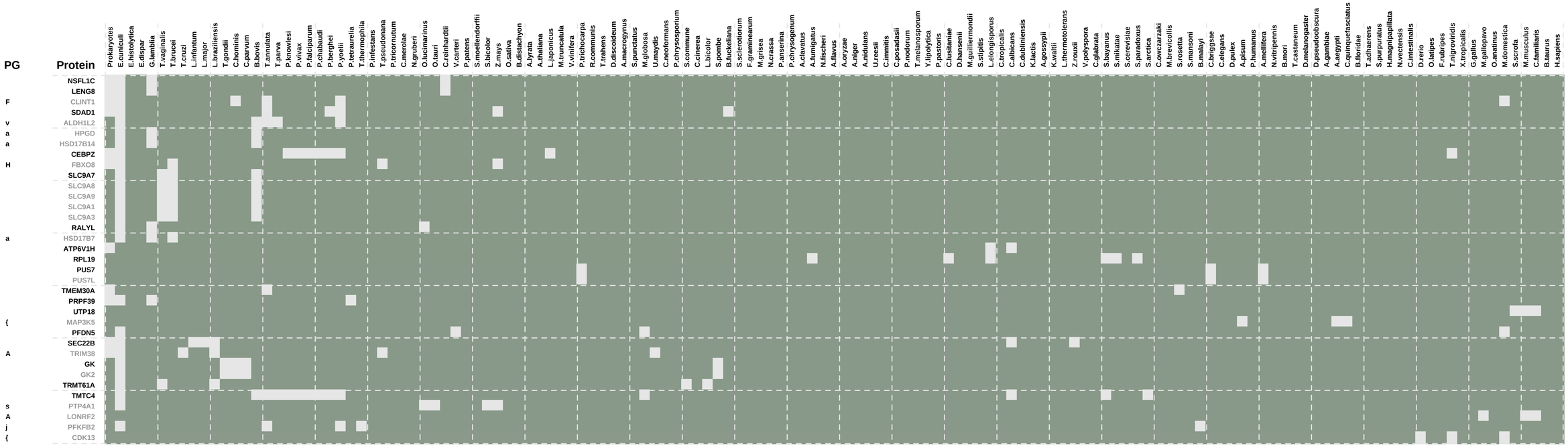
PG	Protein	LLR	Notes
h	IPO4	8.0	1
y	SEC14L1	8.0	
y	SEC14L5	8.0	
	CERS6	8.0	2
j	PFKFB3	7.9	
j	PFKFB1	7.9	
k	NAA16	7.9	
	RSL24D1P11	7.9	
E	SLC25A25	7.8	
	ASCC3	7.7	
e	SRD5A1	7.7	3 / 4
	METAP1D	7.7	
B	IBTK	7.7	
	VPS53	7.7	5 / 6
z	YEATS4	7.7	7 / 8
{	CDKL2	7.7	
|	ISG15	7.6	
	ZFAND4	7.6	
	UBL4B	7.6	
A	UHRF2	7.6	9
S	VPS33B	7.6	10 / 11 / 12 / 13 / 14 / 15
B	NFKBIB	7.6	
	VPS11	7.6	10 / 12 / 13 / 16 / 17
}	FMNL3	7.6	
}	DIAPH3	7.6	
	MPI	7.6	
T	MDH2	7.6	
	TBC1D9	7.6	
	PRPF8	7.5	18 / 19 / 20
B	UACA	7.5	21 / 22
	CHD1	7.5	
A	RNF135	7.4	
w	PPM1J	7.4	
~	XRN1	7.4	23
f	ITSN1	7.4	16 / 24 / 25 / 26 / 27

1: nuclear pore || 2: nuclear membrane || 3: cell body fiber || 4: myelin sheath || 5: endosome membrane || 6: GARP complex || 7: NuA4 histone acetyltransferase complex || 8: nuclear matrix || 9: nuclear heterochromatin ||
10: HOPS complex || 11: late endosome || 12: late endosome membrane || 13: lysosomal membrane || 14: lysosome || 15: platelet alpha granule || 16: endocytic vesicle || 17: endosome || 18: catalytic step 2 spliceosome ||
19: nuclear speck || 20: U5 snRNP || 21: apoptosome || 22: nuclear envelope || 23: intermediate filament cytoskeleton || 24: coated pit || 25: lamellipodium || 26: neuron projection || 27: synapse

ECM 25, Gene set "nuclear speck", Page 9

Num of ECM Genes: 1. Num of Predicted Genes: 500

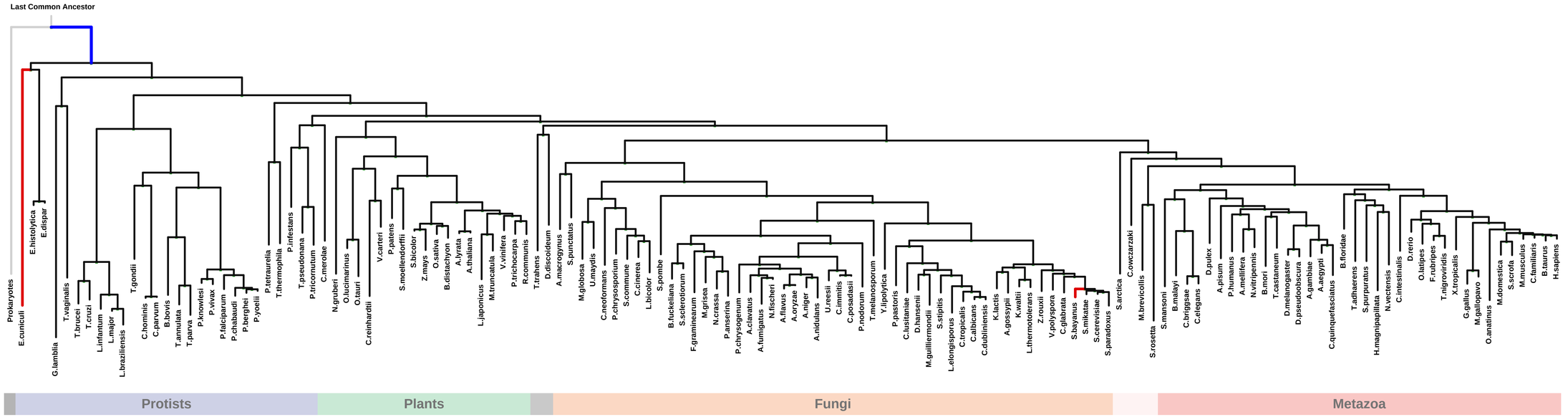




1: chromosome || 2: Golgi stack || 3: clathrin-coated vesicle || 4: trans-Golgi network || 5: ubiquitin ligase complex || 6: recycling endosome membrane || 7: late endosome membrane || 8: recycling endosome || 9: basolateral plasma membrane ||
10: membrane raft || 11: brush border || 12: brush border membrane || 13: vacuolar proton-transporting V-type ATPase, V1 domain || 14: cytosolic large ribosomal subunit || 15: prefoldin complex || 16: endoplasmic reticulum-Golgi intermediate compartment ||
17: endoplasmic reticulum-Golgi intermediate compartment membrane || 18: melanosome || 19: mitochondrial outer membrane || 20: tRNA (m1A) methyltransferase complex || 21: early endosome || 22: internal side of plasma membrane ||

ECM 25, Gene set "nuclear speck", Page 10

Num of ECM Genes: 1. Num of Predicted Genes: 500

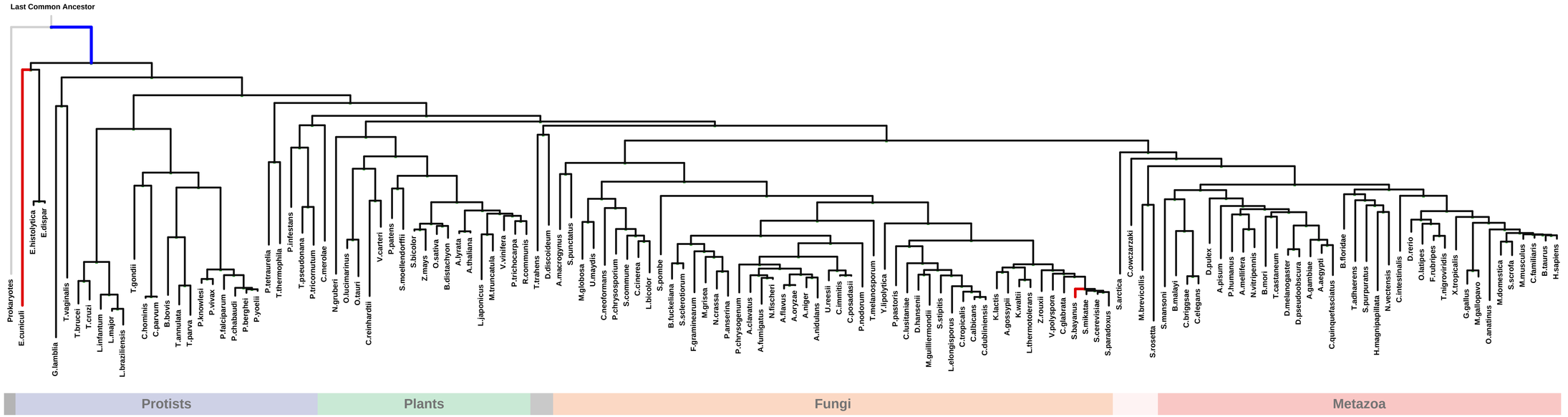


PG	Protein	LLR	Notes
	SLC27A5	6.6	1 / 2
	LSM10	6.6	3 / 4
	LRRC6	6.5	5
	KDELR1	6.5	6 / 7
	652215	6.5	
	KDELR3	6.5	
	VPS13D	6.5	
a	DHRS4	6.4	8 / 9
	TRIT1	6.4	
	INPP5E	6.4	10 / 11
	INPP5K	6.4	12 / 13 / 14 / 15
t	ATAD2B	6.4	
	COQ3	6.4	
	CFL2	6.4	16
	CNOT7	6.4	17 / 18
	CNOT8	6.4	
I	UBD	6.3	19
H	IQSEC3	6.3	15 / 20 / 21
J	STX2	6.3	22 / 23 / 24 / 25 / 26
	VPS13C	6.2	
	LSM2	6.2	27
	RNF113A	6.2	
V	SET	6.2	
J	STX12	6.2	24 / 28 / 29 / 30 / 31
~	XRN2	6.1	19
	WDR34	6.1	
	LOC81691	6.1	
	SPAG6	6.1	5 / 32 / 33 / 34
	ISG20L2	6.1	
	RPLP2	6.1	35
H	PSD3	6.1	15 / 21 / 36
	ASF1B	6.0	37
	ASF1A	6.0	38
Y	H2BFM	6.0	39
Y	H2BFWT	6.0	39 / 40

1: basal plasma membrane || 2: integral to endoplasmic reticulum membrane || 3: Cajal body || 4: U7 snRNP || 5: cilium || 6: cis-Golgi network || 7: endoplasmic reticulum-Golgi intermediate compartment || 8: peroxisomal membrane ||
9: peroxisome || 10: cilium axoneme || 11: Golgi cisterna membrane || 12: neuron projection || 13: ruffle || 14: ruffle membrane || 15: trans-Golgi network || 16: nuclear matrix || 17: CCR4-NOT complex || 18: cytoplasmic mRNA processing body ||
19: aggresome || 20: inhibitory synapse || 21: postsynaptic membrane || 22: basolateral plasma membrane || 23: cell-cell junction || 24: membrane raft || 25: midbody || 26: transport vesicle || 27: catalytic step 2 spliceosome ||

ECM 25, Gene set "nuclear speck", Page 11

Num of ECM Genes: 1. Num of Predicted Genes: 500

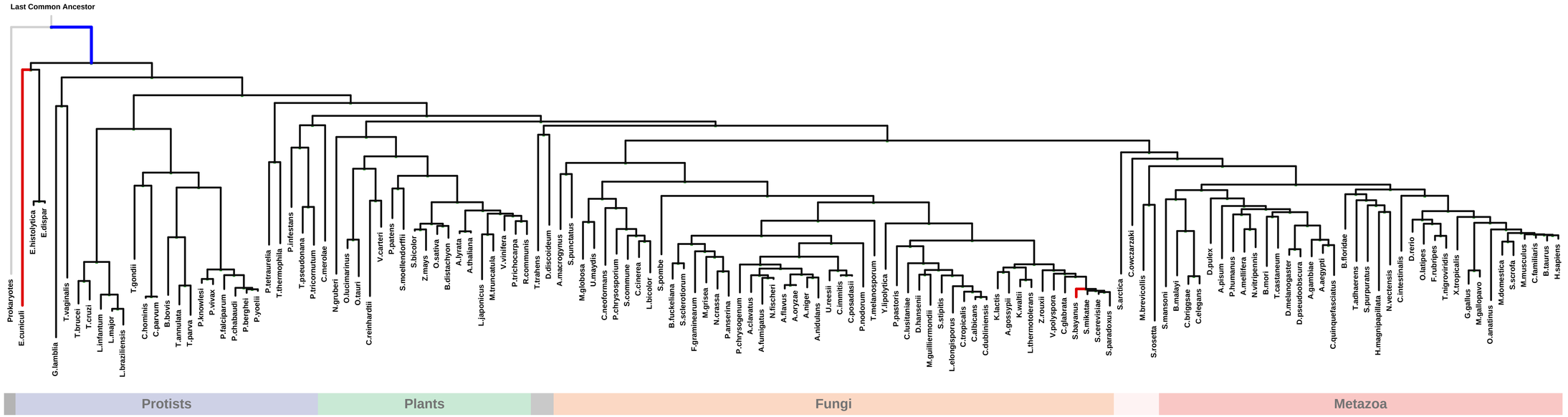


PG	Protein	LLR	Notes
	ZNF622	6.0	
B	NOTCH1	6.0	1 / 2
	DGKZ	6.0	3
C	SMYD1	6.0	
	ASNA1	5.9	
	MCM6	5.9	4
p	METTL18	5.9	
	RPS7	5.9	5 / 6 / 7 / 8 / 9 / 10
A	RFPL4B	5.9	
A	TRIM5	5.7	11
	HCN2	5.7	12 / 13 / 14 / 15
	ELAC1	5.7	
	SENP3	5.7	16
	NAA50	5.7	
	EML4	5.7	
A	TRIM62	5.7	
	RPS5	5.6	6 / 8
A	TRIM4	5.6	
A	PCGF1	5.6	17
	ATR	5.6	18 / 19 / 20
	ZSWIM2	5.5	
H	ARFGEF2	5.5	7 / 21 / 22 / 23 / 24 / 25 / 2
H	ARFGEF1	5.5	28 / 29 / 30
	HIPK2	5.5	
	KRR1	5.5	8
	PIK3C2B	5.4	31
	PSMD4	5.4	32 / 33
	ORC4	5.4	34 / 35
	UCKL1	5.4	
	WIPI1	5.3	28 / 36 / 37 / 38 / 39 / 40
	ZC3H4	5.3	
	UBXN2B	5.2	
	AKTIP	5.2	41 / 42
m	NSDHL	5.2	43
	ATP6V1C1	5.2	24 / 44 / 45 / 46

1: acrosomal vesicle || 2: MAML1-RBP-Jkappa- ICN1 complex || 3: lamellipodium || 4: MCM complex || 5: 90S preribosome || 6: cytosolic small ribosomal subunit || 7: microtubule organizing center || 8: ribonucleoprotein complex ||
9: ribosome || 10: small-subunit processome || 11: cytoplasmic mRNA processing body || 12: axon || 13: dendritic shaft || 14: synapse || 15: voltage-gated potassium channel complex || 16: MLL1 complex || 17: PcG protein complex ||
18: chromosome || 19: PML body || 20: XY body || 21: asymmetric synapse || 22: axonemal microtubule || 23: cytoplasmic membrane-bounded vesicle || 24: cytoplasmic vesicle || 25: dendritic spine || 26: recycling endosome ||

ECM 25, Gene set "nuclear speck", Page 12

Num of ECM Genes: 1. Num of Predicted Genes: 500

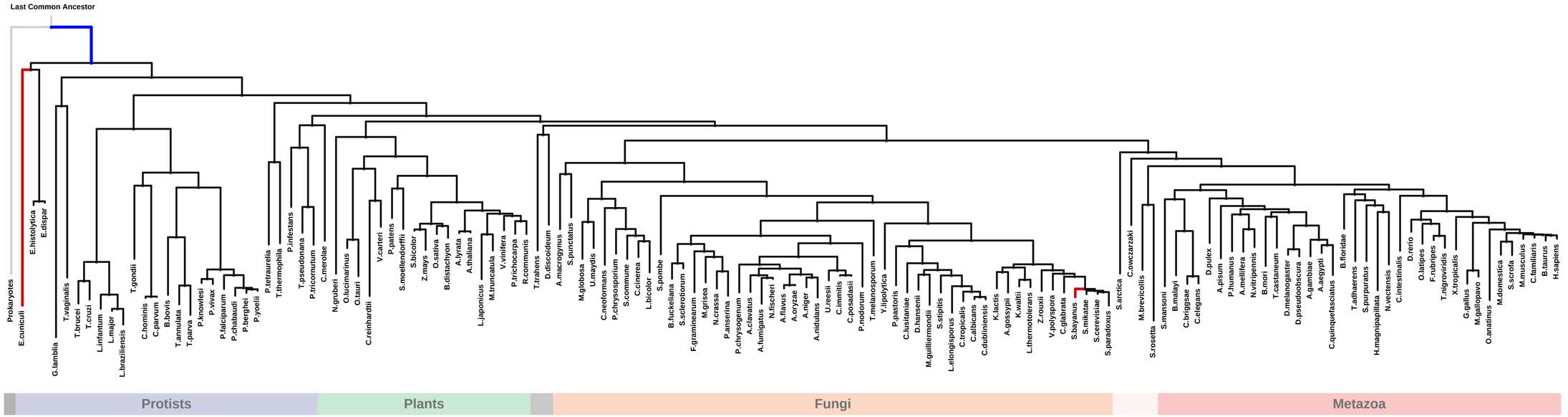


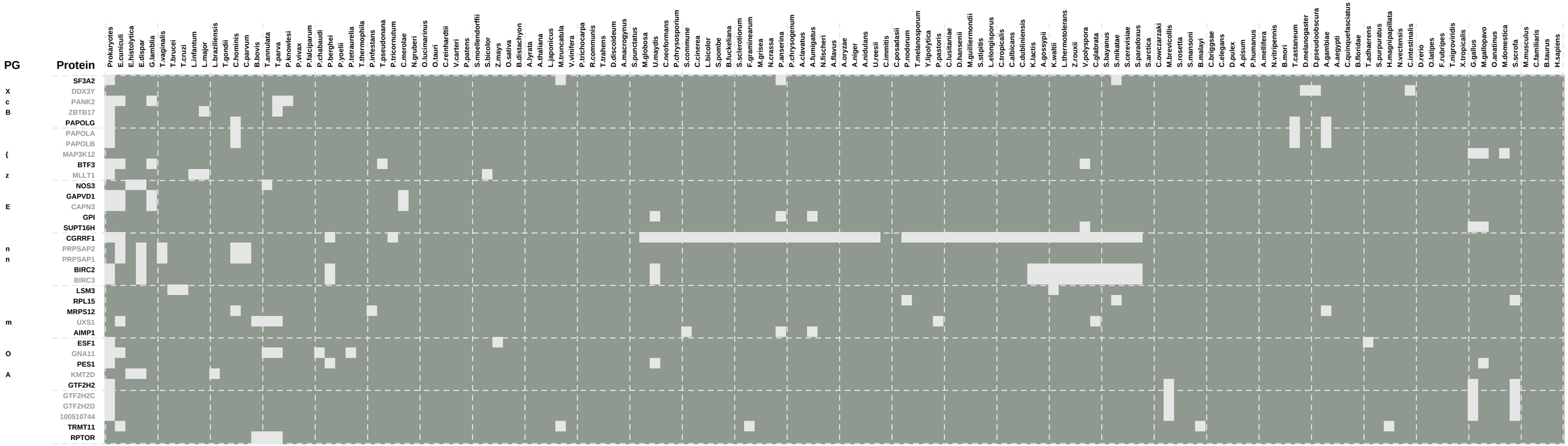
PG	Protein	LLR	Notes
	SLC9A2	5.2	
	POLR3F	5.1	1
J	STX5	5.1	2 / 3
J	100510546	5.1	
I	VAMP3	5.1	3 / 4 / 5 / 6 / 7 / 8
	UBTD2	5.1	
	UBTD1	5.1	
	MOCOS	5.1	
	SV2C	5.0	9
	PDCD2L	5.0	
	SF3A3	5.0	10 / 11 / 12
B	KLHL9	5.0	13 / 14
	DUS3L	5.0	
A	TRIM11	4.9	
	XAB2	4.9	10
a	HSD17B4	4.8	15 / 16 / 17
	UCHL3	4.7	
a	HSD17B8	4.7	18
	GSPT2	4.7	
A	TRIM35	4.7	
	C21orf2	4.7	
A	KMT2A	4.7	19 / 20
	NOL10	4.7	
	MRE11A	4.6	21 / 22 / 23 / 24
A	TRIM72	4.6	25 / 26
i	NACA	4.6	
	PCNA	4.6	27 / 28 / 29 / 30
	MYO18A	4.6	31 / 32 / 33
	COPA	4.6	34
	POLH	4.5	
	DMGDH	4.5	
p	METTL21C	4.5	
	TOP3A	4.5	35 / 36
	RABL6	4.5	
O	GNAZ	4.5	37 / 38 / 39

1: DNA-directed RNA polymerase III complex || 2: endoplasmic reticulum-Golgi intermediate compartment membrane || 3: SNARE complex || 4: clathrin-coated vesicle || 5: clathrin-coated vesicle membrane || 6: neuron projection || 7: recycling endosome ||
8: synapse || 9: synaptic vesicle membrane || 10: catalytic step 2 spliceosome || 11: nuclear speck || 12: spliceosomal complex || 13: Cul3-RING ubiquitin ligase complex || 14: midbody || 15: peroxisomal matrix || 16: peroxisomal membrane ||
17: peroxisome || 18: mitochondrial envelope || 19: histone methyltransferase complex || 20: MLL1 complex || 21: chromosome, telomeric region || 22: condensed nuclear chromosome || 23: Mre11 complex || 24: nuclear chromatin ||

ECM 25, Gene set "nuclear speck", Page 13

Num of ECM Genes: 1. Num of Predicted Genes: 500

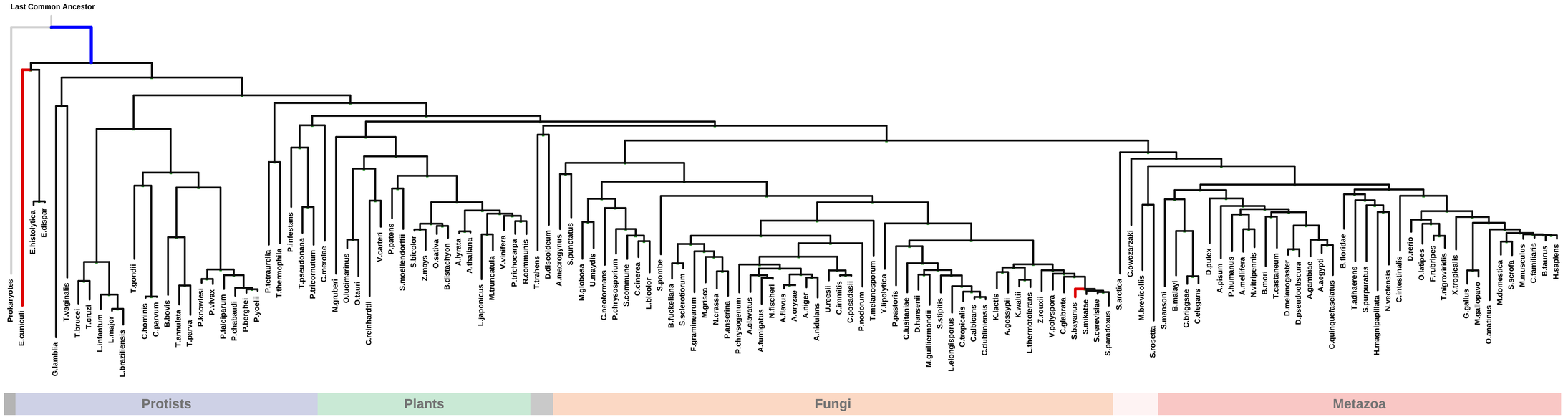


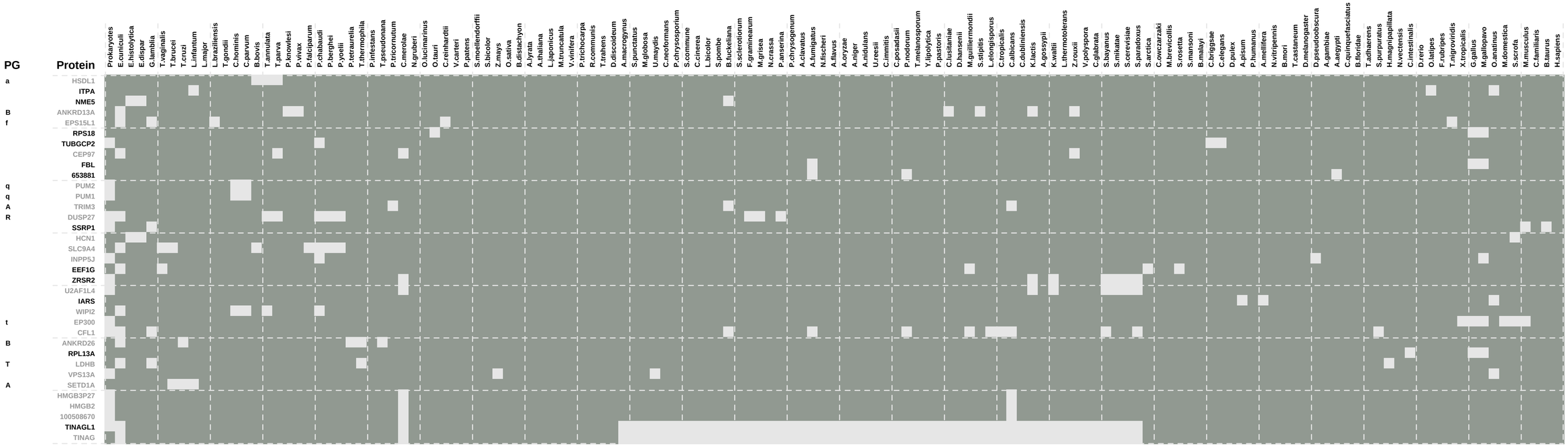


1: catalytic step 2 spliceosome || 2: small nuclear ribonucleoprotein complex || 3: spliceosomal complex || 4: mitochondrial intermembrane space || 5: apical part of cell || 6: caveola || 7: endocytic vesicle membrane || 8: endosome ||
9: myofibril || 10: T-tubule || 11: Z disc || 12: chromosome || 13: CD40 receptor complex || 14: internal side of plasma membrane || 15: cytosolic large ribosomal subunit || 16: ribosome || 17: mitochondrial ribosome ||
18: small ribosomal subunit || 19: Golgi cisterna membrane || 20: aminoacyl-tRNA synthetase multienzyme complex || 21: transport vesicle || 22: extrinsic to internal side of plasma membrane || 23: heterotrimeric G-protein complex ||

ECM 25, Gene set "nuclear speck", Page 14

Num of ECM Genes: 1. Num of Predicted Genes: 500

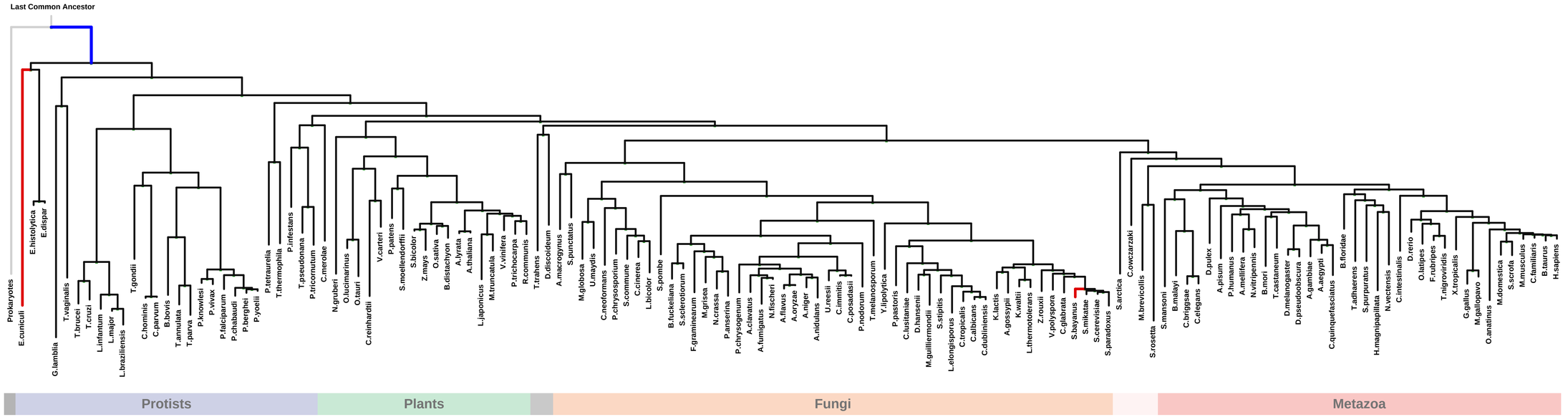


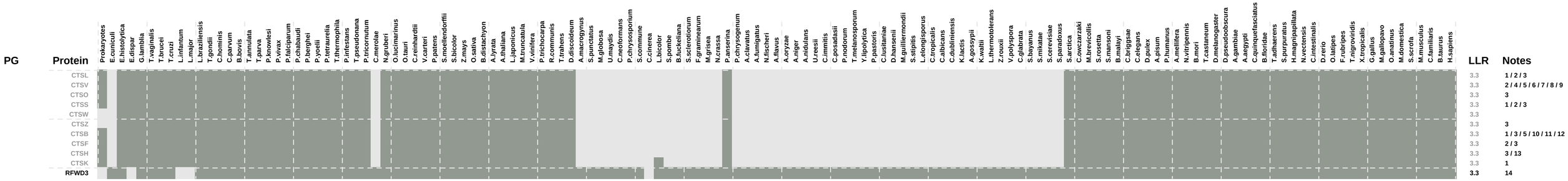


1: coated pit || 2: cytosolic small ribosomal subunit || 3: ribosome || 4: small ribosomal subunit || 5: cytoplasmic microtubule || 6: microtubule organizing center || 7: spindle pole || 8: box C/D snoRNP complex || 9: Cajal body ||
10: granular component || 11: cytoplasmic stress granule || 12: early endosome || 13: chromosome || 14: axon || 15: dendrite || 16: basolateral plasma membrane || 17: dendritic shaft || 18: growth cone || 19: ruffle ||
20: eukaryotic translation elongation factor 1 complex || 21: U12-type spliceosomal complex || 22: nuclear speck || 23: spliceosomal complex || 24: autophagic vacuole || 25: autophagic vacuole membrane || 26: pre-autophagosomal structure membrane ||

ECM 25, Gene set "nuclear speck", Page 15

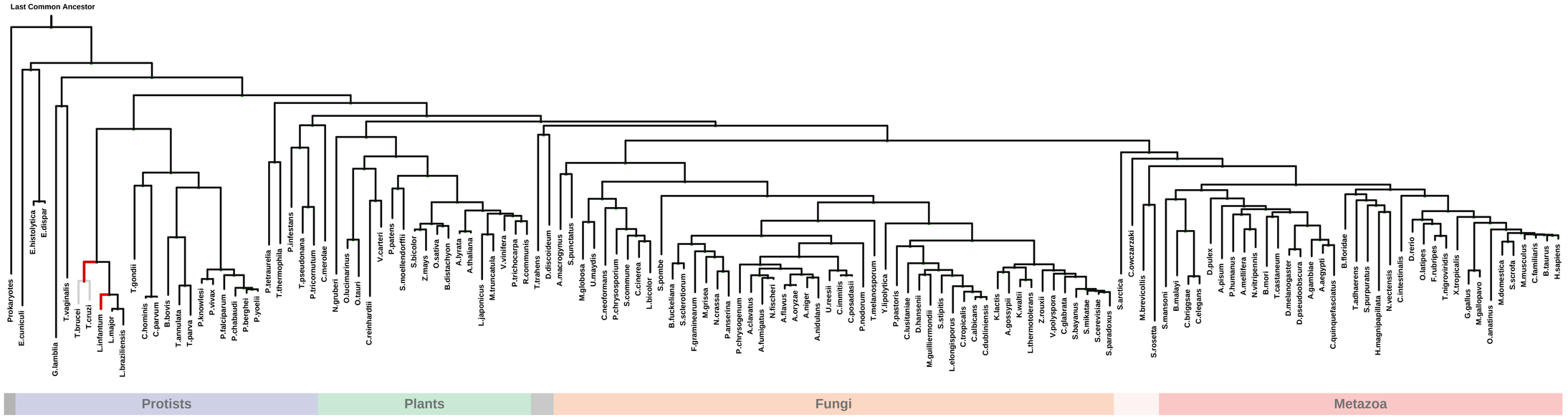
Num of ECM Genes: 1. Num of Predicted Genes: 500

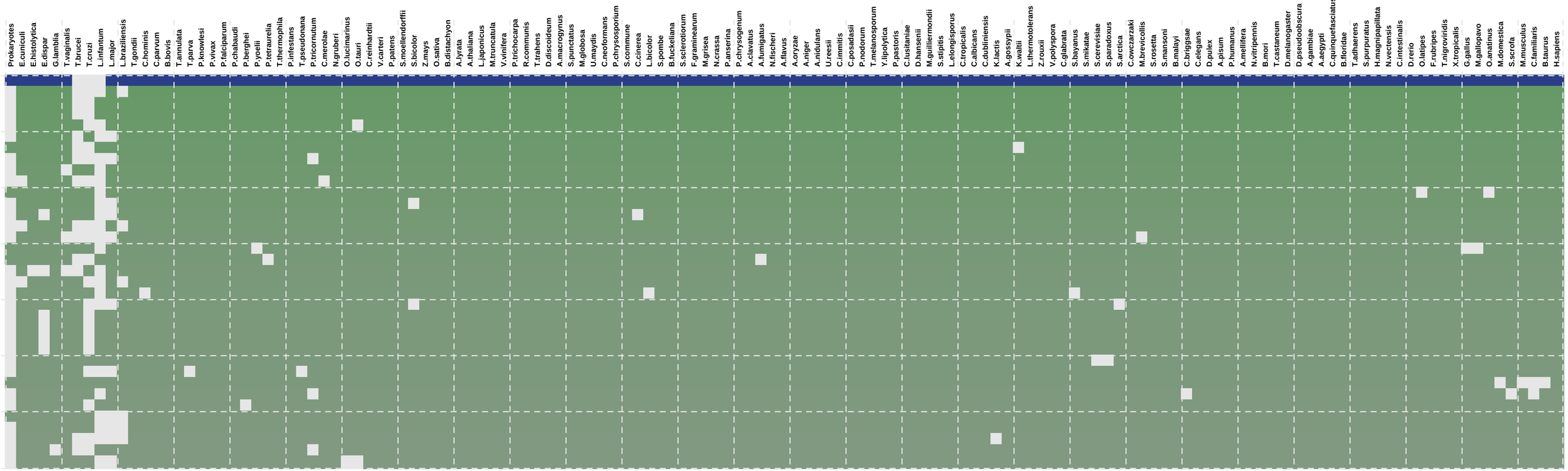




ECM 26, Gene set "nuclear speck", Page 1

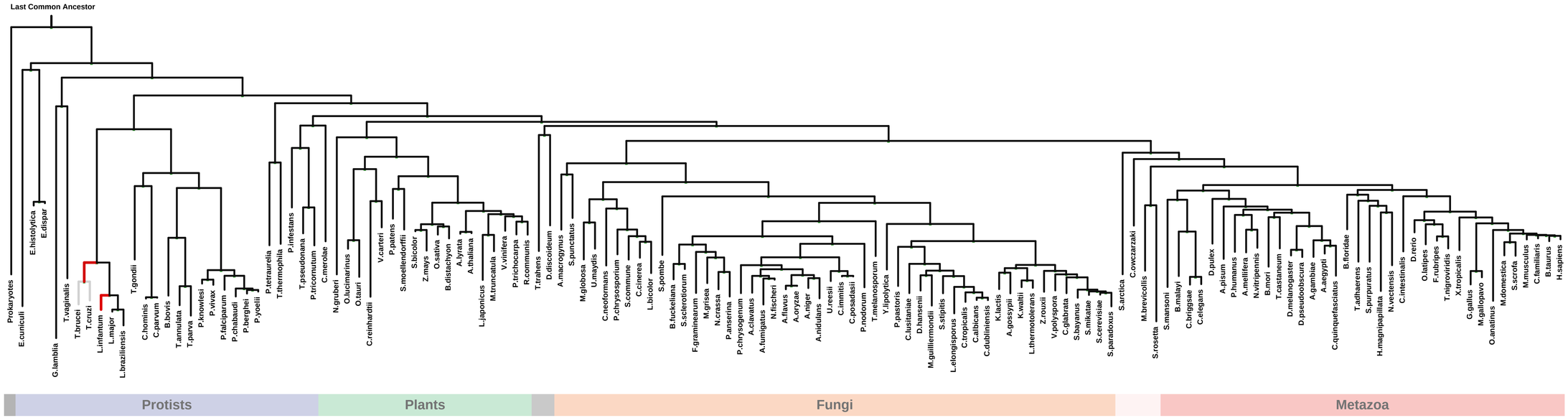
Num of ECM Genes: 1. Num of Predicted Genes: 500

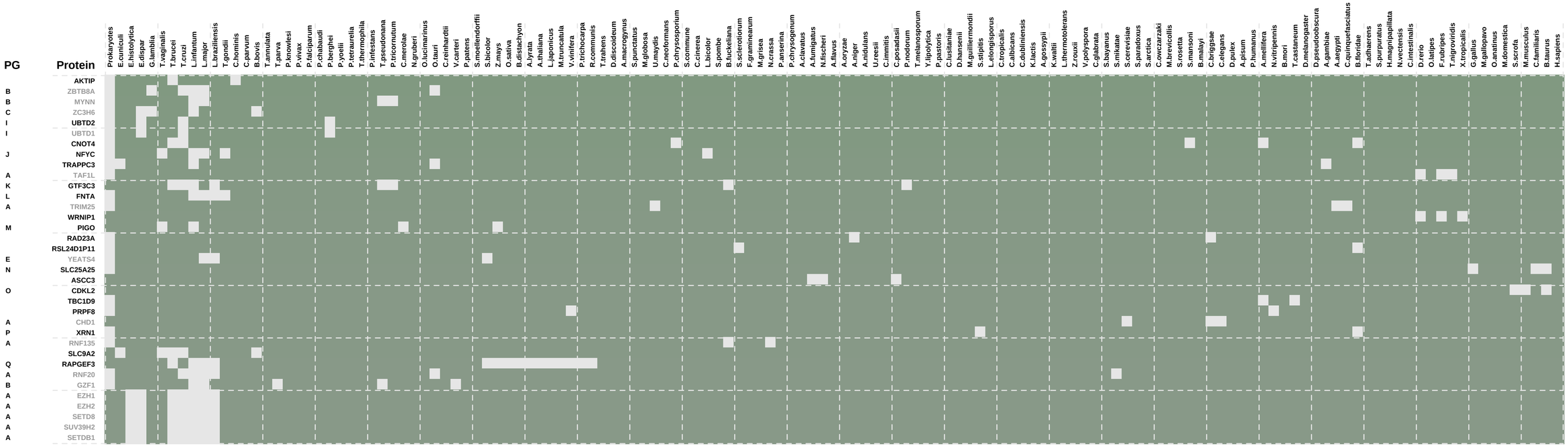




ECM 26, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 500

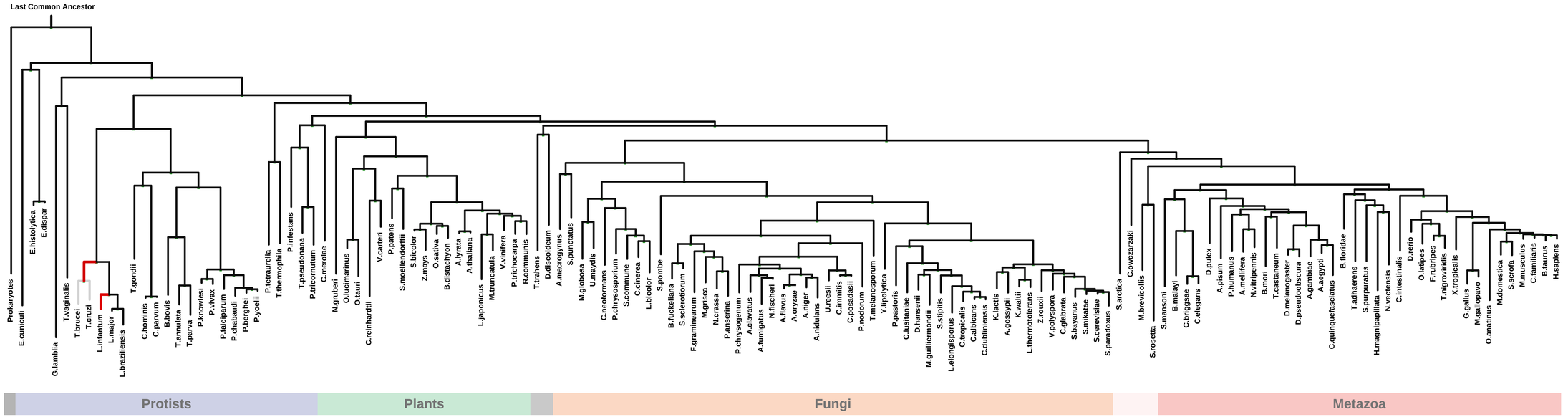


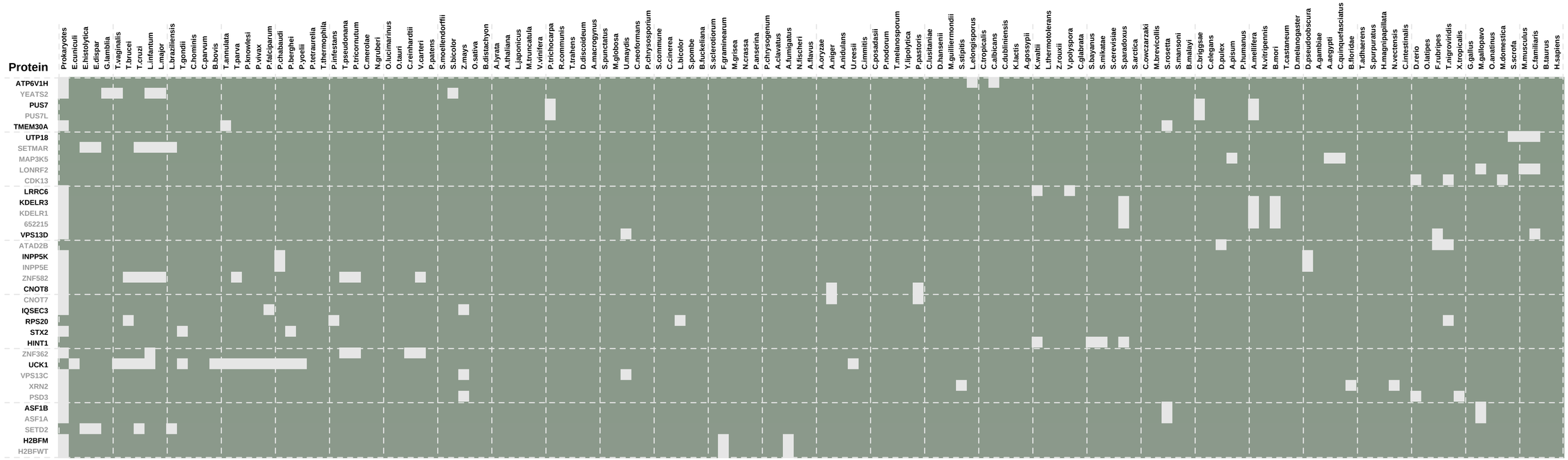


1: FHF complex || 2: HOPS complex || 3: CCAAT-binding factor complex || 4: TRAPP complex || 5: transcription factor TFIID complex || 6: transcription factor TFIIIC complex || 7: microtubule associated complex || 8: proteasome complex ||
9: NuA4 histone acetyltransferase complex || 10: nuclear matrix || 11: catalytic step 2 spliceosome || 12: nuclear speck || 13: U5 snRNP || 14: intermediate filament cytoskeleton || 15: cAMP-dependent protein kinase complex || 16: endomembrane system ||
17: HULC complex || 18: ubiquitin ligase complex || 19: ESC/E(Z) complex || 20: pronucleus || 21: chromosome || 22: chromatin || 23: chromosome, centromeric region || 24: nuclear heterochromatin

ECM 26, Gene set "nuclear speck", Page 3

Num of ECM Genes: 1. Num of Predicted Genes: 500



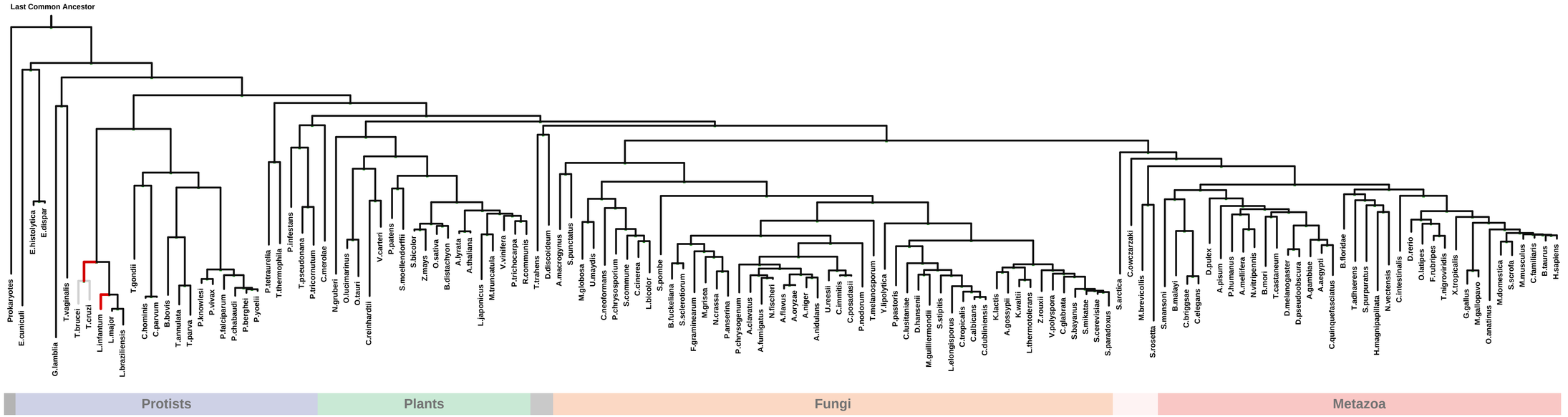


PG	Protein	LLR	Notes
ERR	ATP6V1H	7.3	1
	YEATS2	7.2	2
	PUS7	7.2	
	PUS7L	7.2	
	TMEM30A	7.2	
SAOAO	UTP18	7.2	
	SETMAR	7.1	3
	MAP3K5	7.1	
	LONRF2	6.8	
	CDK13	6.8	4 / 5
TTUAV	LRRC6	6.7	6
	KDELR3	6.6	
	KDELR1	6.6	7 / 8
	652215	6.6	
	VPS13D	6.6	
VBWWX	ATAD2B	6.6	
	INPP5K	6.6	9 / 10 / 11 / 12
	INPP5E	6.6	13 / 14
	ZNF582	6.6	
	CNOT8	6.5	
	CNOT7	6.5	15 / 16
	IQSEC3	6.5	12 / 17 / 18
	RPS20	6.5	19
	STX2	6.4	20 / 21 / 22 / 23 / 24
YB	HINT1	6.4	
	ZNF362	6.4	
	UCK1	6.4	
UPXZZ	VPS13C	6.4	
	XRN2	6.3	25
	PSD3	6.2	12 / 18 / 26
	ASF1B	6.2	27
	ASF1A	6.2	28
	SETD2	6.2	3
Aaa	H2BFM	6.2	29
	H2BFWT	6.2	29 / 30

1: vacuolar proton-transporting V-type ATPase, V1 domain || 2: Ada2/Gcn5/Ada3 transcription activator complex || 3: chromosome || 4: nuclear cyclin-dependent protein kinase holoenzyme complex || 5: nuclear speck || 6: cilium || 7: cis-Golgi network ||
8: endoplasmic reticulum-Golgi intermediate compartment || 9: neuron projection || 10: ruffle || 11: ruffle membrane || 12: trans-Golgi network || 13: cilium axoneme || 14: Golgi cisterna membrane || 15: CCR4-NOT complex ||
16: cytoplasmic mRNA processing body || 17: inhibitory synapse || 18: postsynaptic membrane || 19: cytosolic small ribosomal subunit || 20: basolateral plasma membrane || 21: cell-cell junction || 22: membrane raft || 23: midbody ||

ECM 26, Gene set "nuclear speck", Page 4

Num of ECM Genes: 1. Num of Predicted Genes: 500

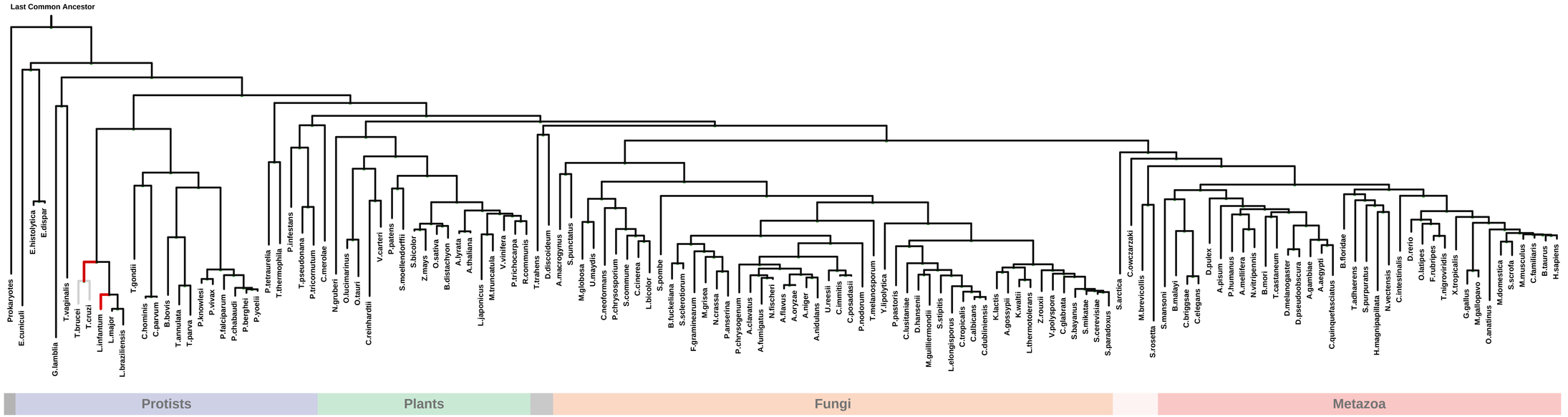


PG	Protein	LLR	Notes
	SPAG6	6.2	1 / 2 / 3 / 4
b	LOC81691	6.2	
b	ISG20L2	6.2	
	WDR34	6.2	
	MCM6	6.1	5
c	KCNAB2	6.1	6
B	ZBTB38	6.1	
O	GP5	6.0	
A	RFPL4B	6.0	
	UFD1L	6.0	
A	TRIM5	5.9	7
	NAA50	5.9	
	EML4	5.8	
A	TRIM62	5.8	
	RPS5	5.8	8 / 9
Q	HCN2	5.8	10 / 11 / 12 / 13
A	TRIM4	5.8	
A	PCGF1	5.7	14
	ATR	5.7	15 / 16 / 17
M	PIGG	5.7	
	HIPK2	5.7	
X	ARFGEF2	5.7	18 / 19 / 20 / 21 / 22 / 23 /
X	ARFGEF1	5.7	26 / 27 / 28
d	MAPRE3	5.6	29 / 30
d	MAPRE2	5.6	4
	KRR1	5.6	9
	PIK3C2B	5.6	31
	PSMD4	5.6	32 / 33
F	DR1	5.5	34
B	ZBTB48	5.5	
	ATP6V1C1	5.4	21 / 35 / 36 / 37
c	KCNAB3	5.4	
B	ZNF408	5.3	
	POLR3F	5.3	38
	DUS3L	5.2	

1: axoneme || 2: cilium || 3: flagellum || 4: microtubule cytoskeleton || 5: MCM complex || 6: juxtaparanode region of axon || 7: cytoplasmic mRNA processing body || 8: cytosolic small ribosomal subunit || 9: ribonucleoprotein complex ||
10: axon || 11: dendritic shaft || 12: synapse || 13: voltage-gated potassium channel complex || 14: PcG protein complex || 15: chromosome || 16: PML body || 17: XY body || 18: asymmetric synapse || 19: axonemal microtubule ||
20: cytoplasmic membrane-bounded vesicle || 21: cytoplasmic vesicle || 22: dendritic spine || 23: microtubule organizing center || 24: recycling endosome || 25: symmetric synapse || 26: trans-Golgi network || 27: nuclear matrix ||

ECM 26, Gene set "nuclear speck", Page 5

Num of ECM Genes: 1. Num of Predicted Genes: 500

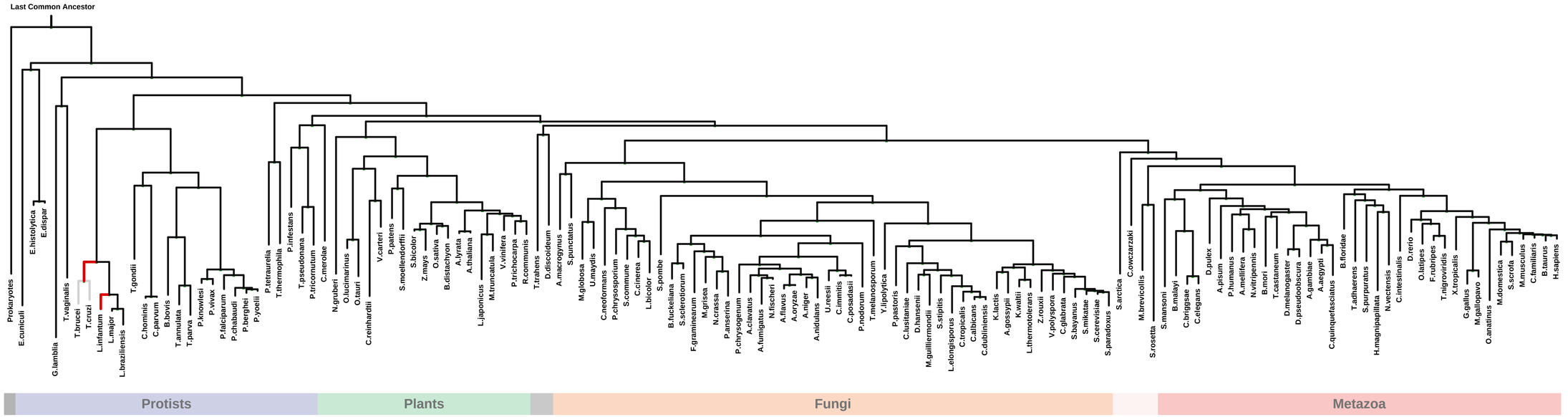


PG	Protein	LLR	Notes
	SF3A3	5.2	1 / 2 / 3
A	TRIM11	5.1	
	XAB2	5.0	1
	RPS9	4.9	4 / 5 / 6
e	GSPT2	4.9	
A	TRIM35	4.9	
	MOCOS	4.8	
B	HIC2	4.8	7
	NOL10	4.8	
	MRE11A	4.8	8 / 9 / 10 / 11
	COPA	4.8	12
	PCNA	4.8	13 / 14 / 15 / 16
	NACA	4.7	
A	KMT2A	4.7	17 / 18
	MYO18A	4.7	19 / 20 / 21
f	TOP3A	4.7	22 / 23
	RABL6	4.6	
	SF3A2	4.6	1 / 3 / 24
H	DDX3Y	4.6	
B	ZBTB11	4.6	
O	MAP3K12	4.5	
g	PAPOLB	4.5	
g	PAPOLG	4.5	
g	PAPOLA	4.5	
B	ZBTB17	4.5	
	GPI	4.4	
	SUPT16H	4.3	22
A	NOS3	4.3	25 / 26 / 27
B	KLHL20	4.3	23 / 28 / 29 / 30
	RPL15	4.2	6 / 31
J	DRAP1	4.2	
	MRPS12	4.2	32 / 33
D	PRR5-ARHGAP8	4.2	
	AIMP1	4.2	34 / 35
	PES1	4.1	36 / 37 / 38

1: catalytic step 2 spliceosome || 2: nuclear speck || 3: spliceosomal complex || 4: cytosolic small ribosomal subunit || 5: ribonucleoprotein complex || 6: ribosome || 7: focal adhesion || 8: chromosome, telomeric region ||
9: condensed nuclear chromosome || 10: Mre11 complex || 11: nuclear chromatin || 12: COPI vesicle coat || 13: DNA replication factor C complex || 14: microtubule cytoskeleton || 15: nuclear replication fork || 16: PCNA-p21 complex ||
17: histone methyltransferase complex || 18: MLL1 complex || 19: actomyosin || 20: endoplasmic reticulum-Golgi intermediate compartment || 21: myosin complex || 22: chromosome || 23: PML body || 24: small nuclear ribonucleoprotein complex ||

ECM 26, Gene set "nuclear speck", Page 6

Num of ECM Genes: 1. Num of Predicted Genes: 500

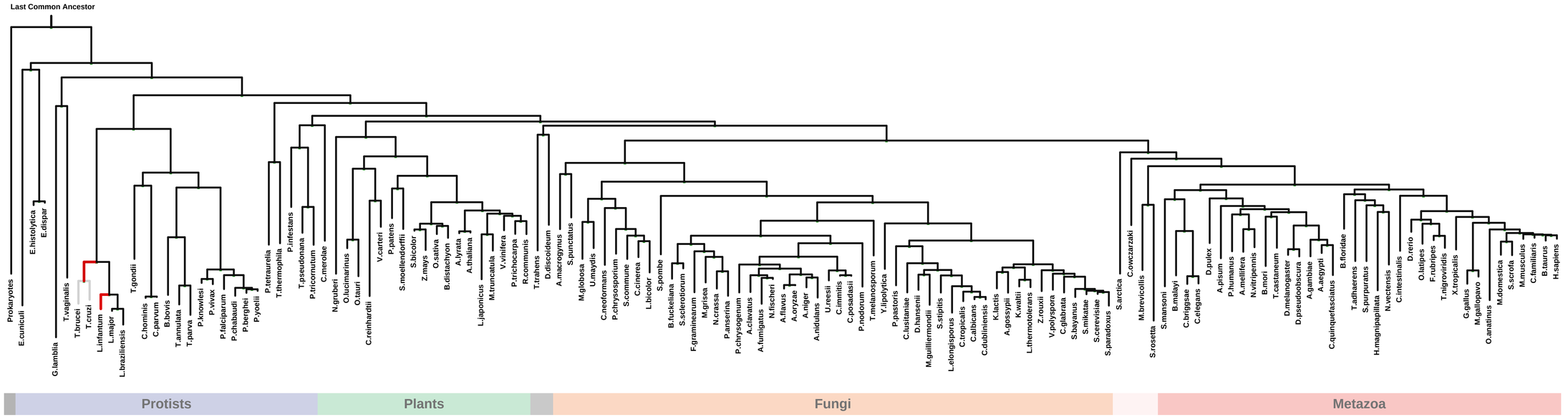


PG	Protein	LLR	Notes
	ESF1	4.1	
h	GTF2H2	4.1	1
h	GTF2H2C	4.1	
h	GTF2H2D	4.1	
h	100510744	4.1	
	RPTOR	4.1	2 / 3 / 4
	HSDL1	4.1	
A	KMT2D	4.0	5
	RPS18	4.0	6 / 7 / 8
i	TUBGCP2	3.9	9 / 10 / 11
	FBL	3.9	12 / 13 / 14
j	NME5	3.9	
	653881	3.9	
k	PUM1	3.9	
k	PUM2	3.9	15
Y	HINT2	3.8	
A	TRIM3	3.8	16
J	POLE4	3.8	17 / 18
l	SSRP1	3.8	19
m	TADA2B	3.8	20 / 21
A	TRIM43	3.8	
A	TRIM43B	3.8	
A	SETDB2	3.8	19
V	INPP5J	3.7	22 / 23 / 24
B	ZBTB8B	3.7	
	IARS	3.7	
Q	HCN1	3.7	2 / 25
A	EP300	3.7	26 / 27 / 28
	RPL13A	3.6	29 / 30 / 31
U	VPS13A	3.5	
l	HMGB3P27	3.5	19
l	100508670	3.5	
l	HMGB2	3.5	32
	PPAN-P2RY11	3.5	
	ABHD17A	3.5	

1: holo TFIIH complex || 2: dendrite || 3: lysosome || 4: TORC1 complex || 5: histone methyltransferase complex || 6: cytosolic small ribosomal subunit || 7: ribosome || 8: small ribosomal subunit || 9: cytoplasmic microtubule ||
10: microtubule organizing center || 11: spindle pole || 12: box C/D snoRNP complex || 13: Cajal body || 14: granular component || 15: cytoplasmic stress granule || 16: early endosome || 17: Ada2/Gcn5/Ada3 transcription activator complex ||
18: epsilon DNA polymerase complex || 19: chromosome || 20: SAGA-type complex || 21: STAGA complex || 22: dendritic shaft || 23: growth cone || 24: ruffle || 25: axon || 26: chromatin || 27: histone acetyltransferase complex ||

ECM 26, Gene set "nuclear speck", Page 7

Num of ECM Genes: 1. Num of Predicted Genes: 500

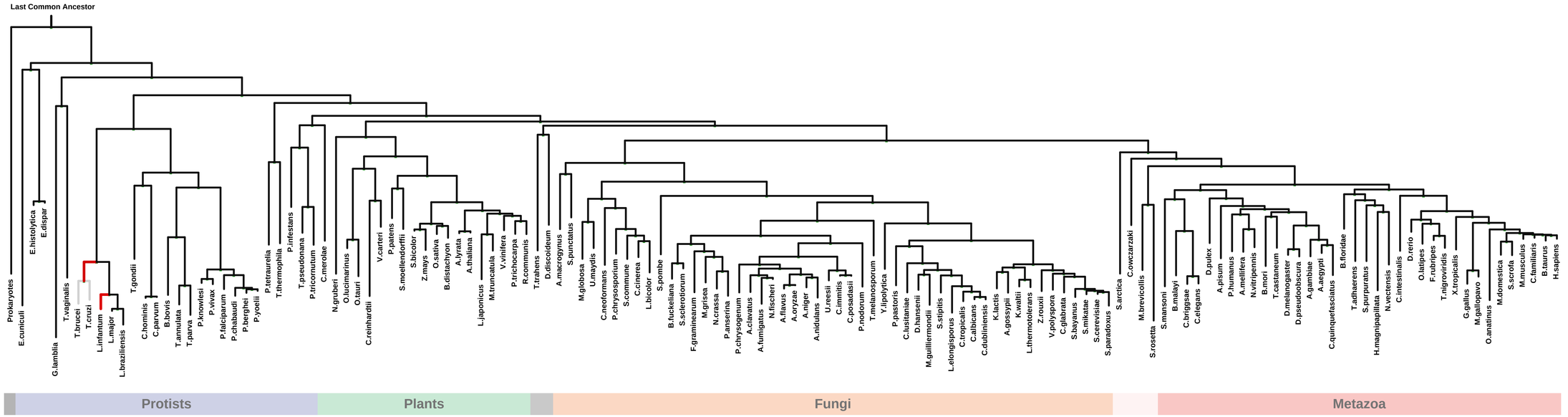


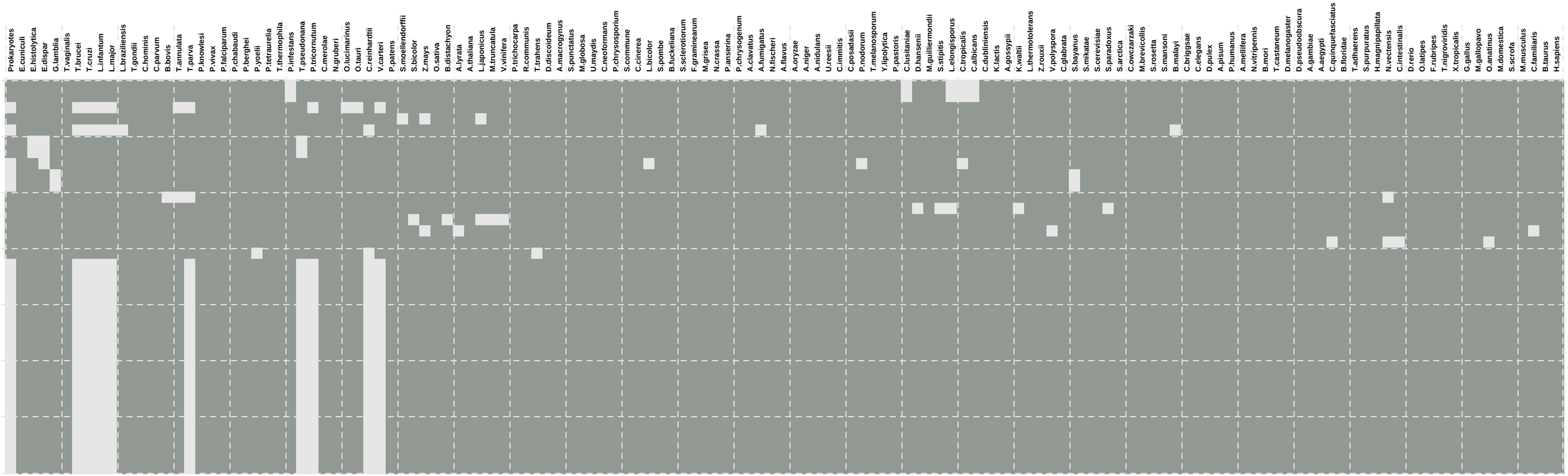
PG	Protein	LLR	Notes
O	LRG1	3.5	
O	FEM1C	3.4	
	PSMC2	3.4	1 / 2
	UBA1	3.4	
	UTP11L	3.4	3
O	TLR5	3.4	
	REV3L	3.4	4 / 5
O	PHLPP2	3.4	
O	LATS1	3.4	6 / 7
	SLC36A4	3.3	
A	PCGF3	3.3	8
B	ZKSCAN5	3.3	
	PTRH2	3.3	
O	LOC100289085	3.3	
B	ZNF470	3.3	
n	**SLC2A6**	3.2	
n	SLC2A8	3.2	9 / 10
b	LOC100288562	3.2	
b	REXO1L11P	3.2	
b	REXO1L10P	3.2	
b	REXO1L1	3.2	
	PIGA	3.2	11
o	**EIF4E1B**	3.2	12
o	EIF4E2	3.2	12
o	EIF4E	3.2	12 / 13 / 14 / 15 / 16
i	TUBGCP3	3.2	17 / 18 / 19
	CCDC94	3.2	
J	CHRAC1	3.1	20 / 21
	RPL5	3.1	22 / 23
b	PAN2	3.1	
B	BCL6	3.0	24
Q	PRKAR2A	3.0	25 / 26
e	GSPT1	3.0	
	ORC4	3.0	27 / 28
	TBCE	2.9	

1: proteasome accessory complex || 2: proteasome complex || 3: small-subunit processome || 4: chromosome || 5: zeta DNA polymerase complex || 6: microtubule organizing center || 7: spindle pole || 8: PcG protein complex ||
9: cytoplasmic vesicle membrane || 10: synaptic vesicle || 11: glycosylphosphatidylinositol-N-acetylglucosaminyltransferase (GPI-GnT) complex || 12: mRNA cap binding complex || 13: cytoplasmic mRNA processing body || 14: cytoplasmic stress granule ||
15: eukaryotic translation initiation factor 4F complex || 16: RNA-induced silencing complex || 17: centriole || 18: polar microtubule || 19: spindle || 20: chromatin accessibility complex || 21: epsilon DNA polymerase complex || 22: cytosolic large ribosomal subunit ||

ECM 26, Gene set "nuclear speck", Page 8

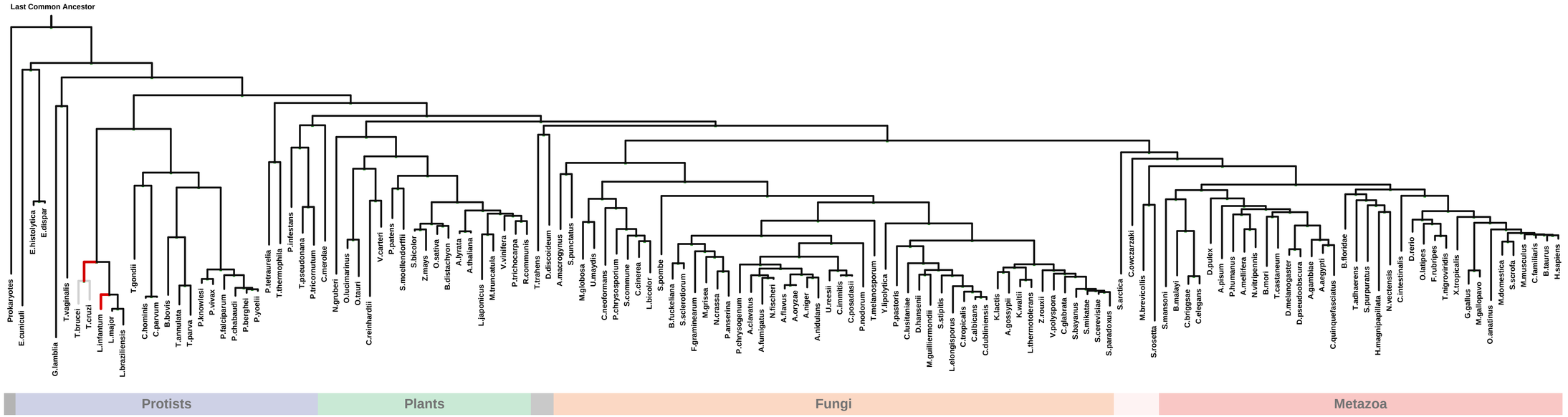
Num of ECM Genes: 1. Num of Predicted Genes: 500




PG
Protein
RPL26
RPL26L1
ZBTB34
ATAD5
TADA2A
EIF2B3
GMPPB
MAK16
ZNRF1
ZNRF2
TRMT2A
ANKRD13B
ABCC2
MDN1
BUB1
SNRPB
ZNF311
ZSCAN31
ZNF329
ZNF33A
ZFP14
ZFP1
ZNF454
ZNF461
ZNF132
ZNF529
ZNF564
ZNF567
ZNF578
ZNF134
ZNF658
ZNF674
ZNF729
ZNF749
ZNF154
LLR
Notes
2.9 1
2.9 2
2.9
2.9
2.9 3 / 4
2.9 5
2.9
2.9
2.9 6 / 7 / 8
2.9 9 / 10 / 11
2.8
2.8
2.8 12
2.8
2.8 13 / 14 / 15
2.8 16 / 17 / 18 / 19 / 20 / 21
2.7
2.7
2.7

ECM 26, Gene set "nuclear speck", Page 9

Num of ECM Genes: 1. Num of Predicted Genes: 500

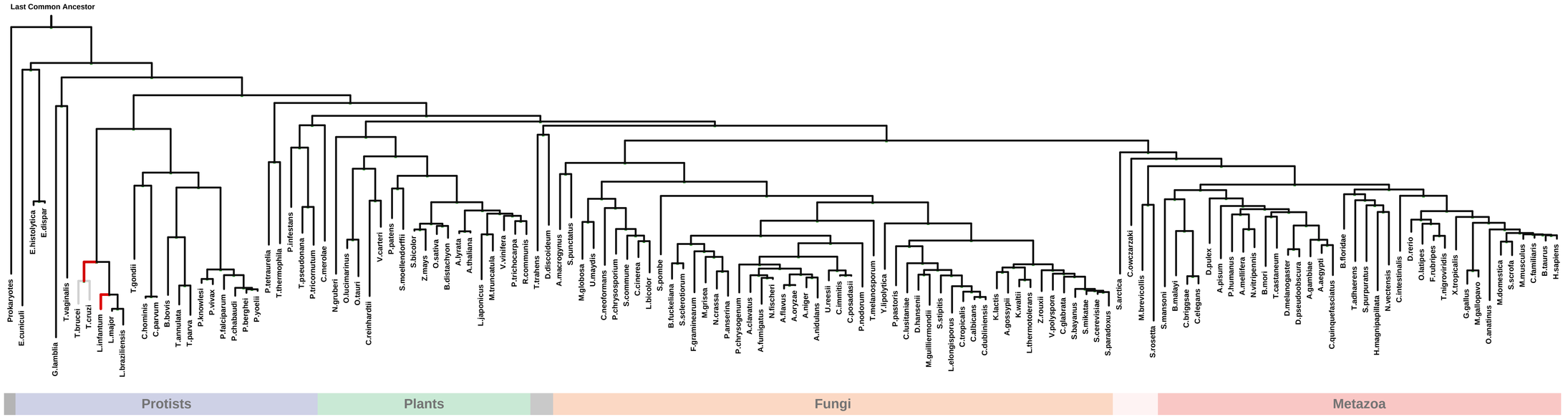


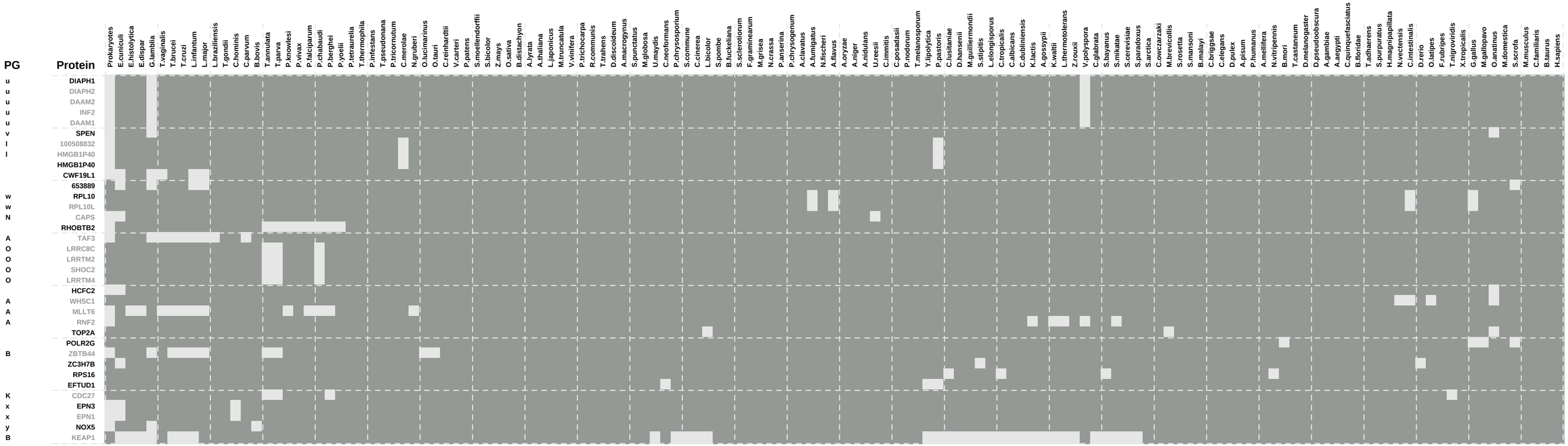
PG	Protein	LLR	Notes
B	ZNF792	2.7	
B	ZNF81	2.7	
B	ZNF85	2.7	
B	ZNF878	2.7	
B	ZNF99	2.7	
B	ZKSCAN7	2.7	
B	ZNF205	2.7	
B	ZNF250	2.7	
B	ZNF256	2.7	
B	ZNF264	2.7	
B	ZNF266	2.7	
B	IBTK	2.7	
	METAP1D	**2.7**	
O	HIPK1	2.7	**1 / 2**
A	TRIM22	2.7	**1 / 3**
A	BRCA1	2.6	**4 / 5 / 6 / 7 / 8 / 9 / 10 / 11**
s	**PMM1**	**2.6**	
s	PMM2	2.6	
	TRMT1	**2.6**	
O	SLIT2	2.6	
O	ABL1	2.6	**13 / 14**
O	IGFALS	2.6	
	STON1-GTF2A1L	**2.6**	
t	**NMT1**	**2.5**	**13**
t	NMT2	2.5	
	CHPT1	**2.5**	
n	SLC2A9	2.5	**15**
K	TMTC1	2.5	
	SF3B2	**2.5**	**16 / 17 / 18**
	DERL2	**2.4**	**19 / 20 / 21**
f	APEX2	2.4	
B	ZBTB49	2.4	
A	NOS1	2.3	**22 / 23 / 24 / 25**
	100510614	**2.3**	
	GGPS1	**2.3**	

1: nuclear speck || 2: PML body || 3: Cajal body || 4: BRCA1-A complex || 5: BRCA1-BARD1 complex || 6: chromosome || 7: filamentous actin || 8: focal adhesion || 9: gamma-tubulin ring complex || 10: ribonucleoprotein complex || 11: ruffle || 12: ubiquitin ligase complex || 13: actin cytoskeleton || 14: nuclear membrane || 15: nuclear envelope || 16: catalytic step 2 spliceosome || 17: spliceosomal complex || 18: U12-type spliceosomal complex || 19: early endosome || 20: integral to endoplasmic reticulum membrane || 21: late endosome || 22: dendritic spine || 23: photoreceptor inner segment || 24: sarcolemma || 25: sarcoplasmic reticulum

ECM 26, Gene set "nuclear speck", Page 10

Num of ECM Genes: 1. Num of Predicted Genes: 500

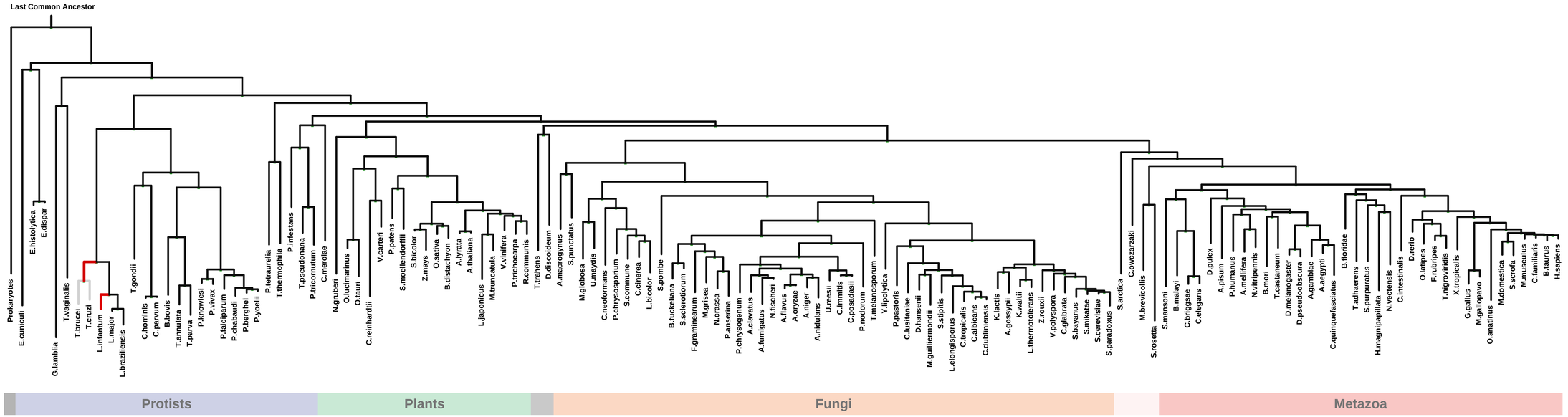


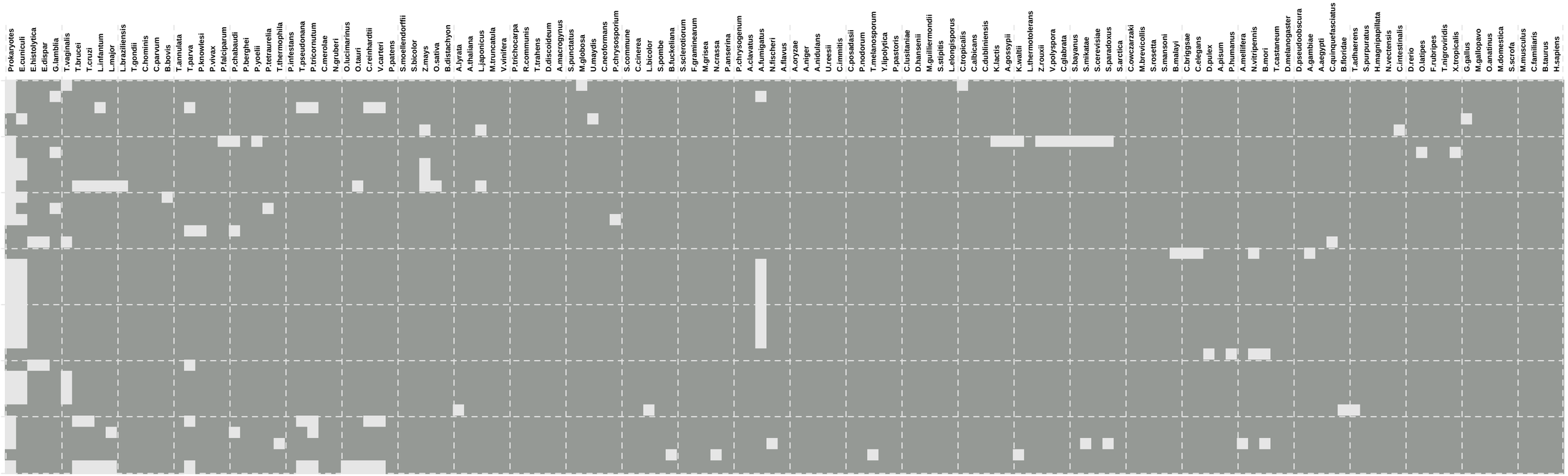


1: mitotic spindle || 2: ruffle membrane || 3: early endosome || 4: stress fiber || 5: transcriptional repressor complex || 6: cytosolic large ribosomal subunit || 7: transcription factor TFIID complex || 8: postsynaptic membrane ||
9: protein phosphatase type 1 complex || 10: chromosome || 11: nuclear membrane || 12: MLL1 complex || 13: nuclear body || 14: PcG protein complex || 15: PRC1 complex || 16: sex chromatin || 17: ubiquitin ligase complex ||
18: centriole || 19: nuclear chromosome || 20: nucleoid || 21: synaptonemal complex || 22: DNA-directed RNA polymerase II, core complex || 23: cytosolic small ribosomal subunit || 24: small ribosomal subunit || 25: anaphase-promoting complex ||

ECM 26, Gene set "nuclear speck", Page 11

Num of ECM Genes: 1. Num of Predicted Genes: 500

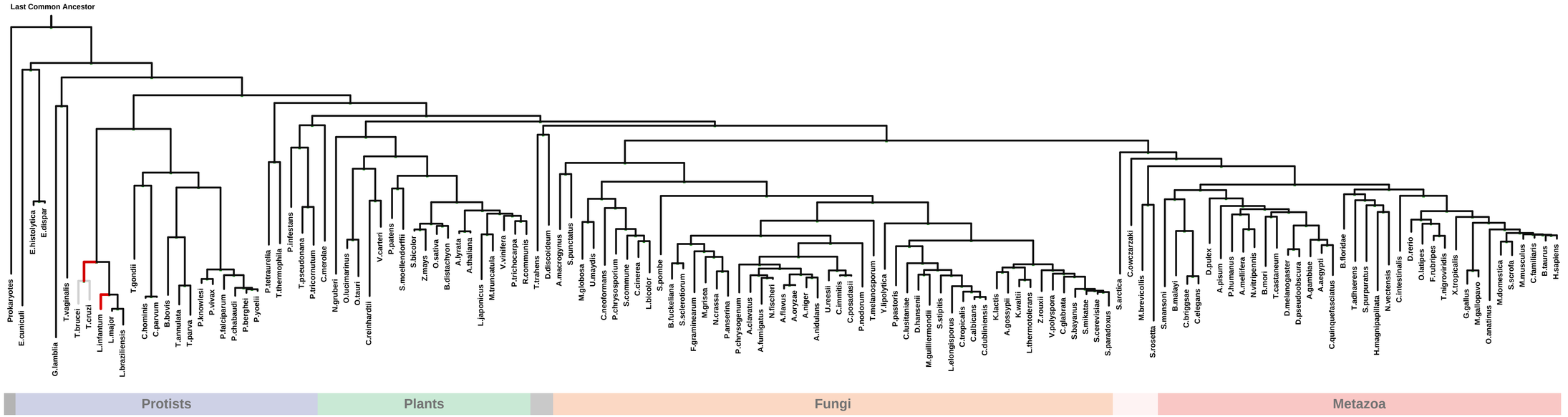




1: eukaryotic translation initiation factor 4F complex || 2: trans-Golgi network || 3: ruffle || 4: early endosome || 5: late endosome membrane || 6: lysosomal membrane || 7: recycling endosome || 8: secretory granule membrane ||
9: SNARE complex || 10: mRNA cleavage and polyadenylation specificity factor complex || 11: intermediate filament cytoskeleton || 12: nBAF complex || 13: npBAF complex || 14: nuclear chromatin || 15: SWI/SNF complex || 16: WINAC complex ||
17: nucleosome || 18: Barr body || 19: nuclear nucleosome || 20: transcriptionally active chromatin || 21: endoplasmic reticulum-Golgi intermediate compartment || 22: endoplasmic reticulum-Golgi intermediate compartment membrane ||

ECM 26, Gene set "nuclear speck", Page 12

Num of ECM Genes: 1. Num of Predicted Genes: 500

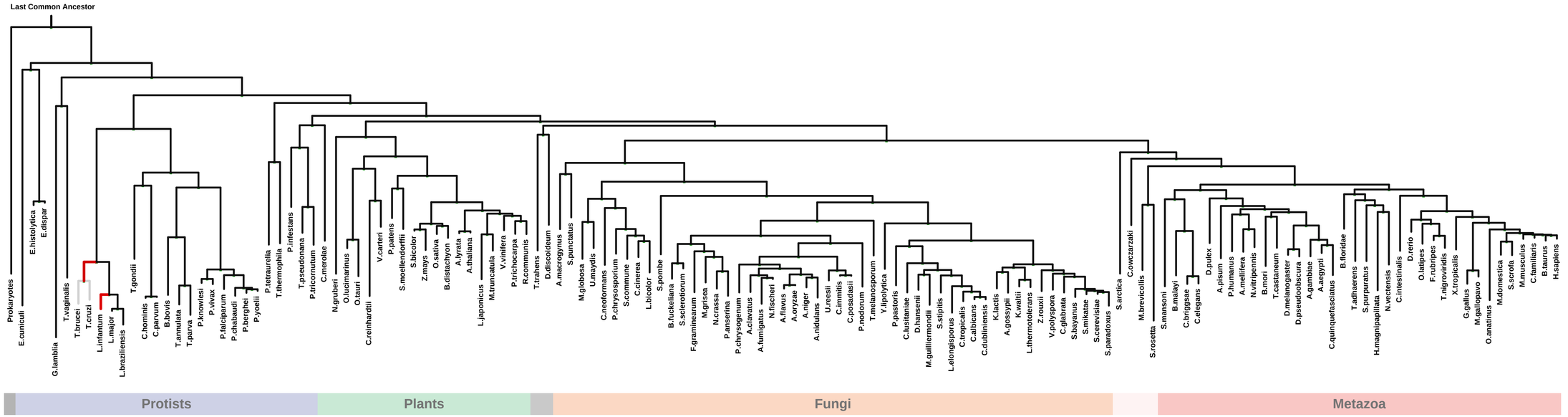


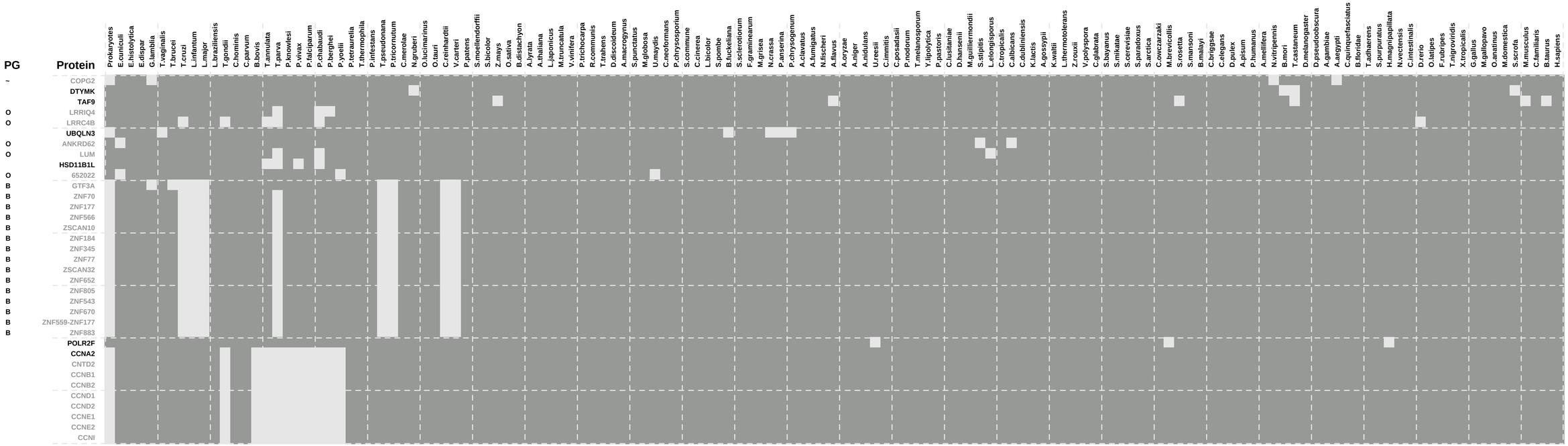
PG	Protein	LLR	Notes
B	ZNF232	1.5	
B	ZNF75D	1.5	
B	ZNF213	1.5	
A	RNF4	1.5	1 / 2
	TPI1	1.5	
B	ZSCAN21	1.4	
Q	HCN3	1.4	
O	TRIO	1.4	
	EXOSC2	1.4	3
	COQ3	1.4	
A	NSD1	1.4	4
B	ZBTB47	1.3	
	PRIM1	1.3	5
	TBPL1	1.3	6
O	CPN2	1.3	
	PSMD13	1.3	7 / 8 / 9
	MYSM1	1.3	10
	TMX2	1.2	
	DHPS	1.2	
	RNASEH2A	1.2	11
	SOWAHC	1.2	
A	PDZRN3	1.1	12
C	ZC3H8	1.1	
	XPR1	1.1	
}	GNAI3	1.1	13 / 14 / 15 / 16 / 17
}	GNAI2	1.1	13 / 14 / 15 / 16
d	MAPRE1	1.0	18 / 19 / 20 / 21 / 22
	RPL27A	1.0	23
A	SH3RF2	1.0	
	RPS13	1.0	24 / 25
	TRNT1	1.0	
	UBE4A	1.0	26
	WDR74	0.9	
r	RNF43	0.9	27
~	COPG1	0.9	28

1: microtubule cytoskeleton || 2: PML body || 3: exosome (RNase complex) || 4: chromosome || 5: alpha DNA polymerase:primase complex || 6: transcription factor TFIIA complex || 7: proteasome accessory complex || 8: proteasome complex || 9: proteasome regulatory particle || 10: chromatin remodeling complex || 11: ribonuclease H2 complex || 12: neuromuscular junction || 13: extrinsic to internal side of plasma membrane || 14: heterotrimeric G-protein complex || 15: membrane raft || 16: midbody || 17: zymogen granule || 18: cell projection membrane || 19: cortical microtubule cytoskeleton || 20: cytoplasmic microtubule || 21: microtubule plus end || 22: spindle || 23: cytosolic large ribosomal subunit ||

ECM 26, Gene set "nuclear speck", Page 13

Num of ECM Genes: 1. Num of Predicted Genes: 500

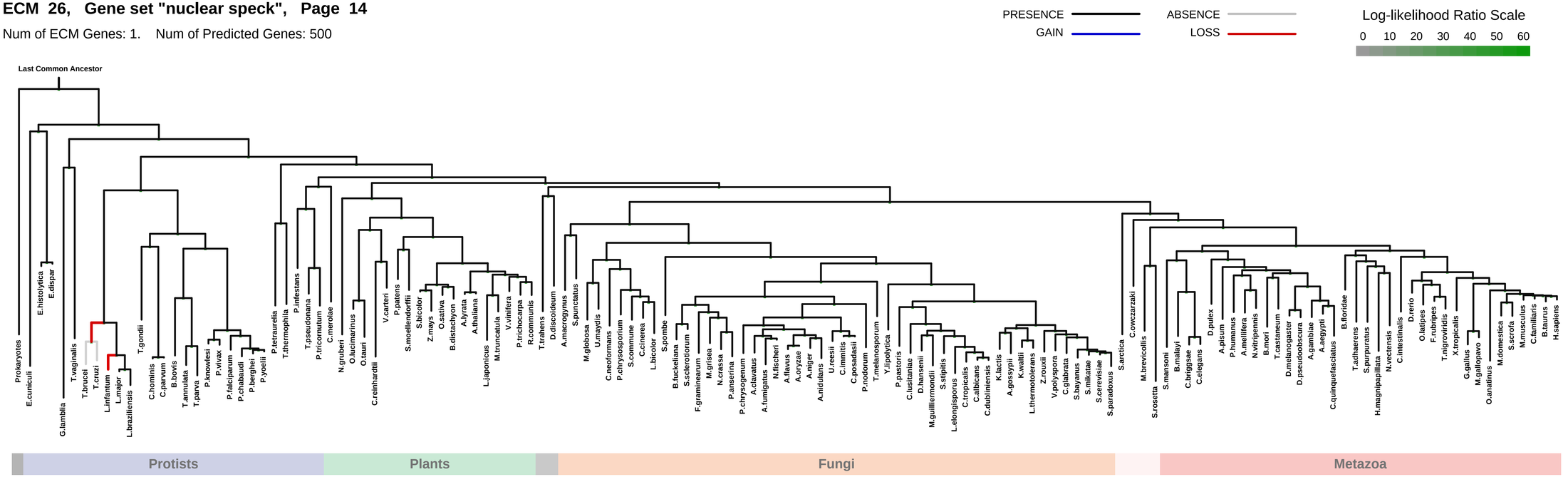


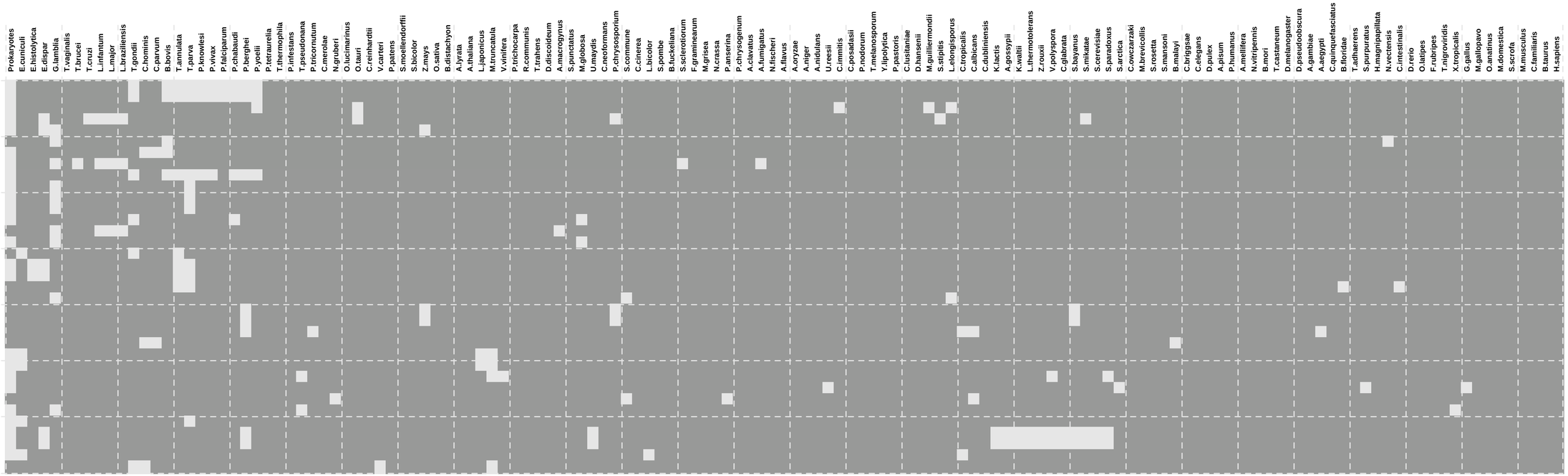


1: COPI vesicle coat || 2: Cajal body || 3: MLL1 complex || 4: PCAF complex || 5: pre-snoRNP complex || 6: STAGA complex || 7: transcription factor TFIID complex || 8: transcription factor TFTC complex || 9: presynaptic membrane ||
10: extracellular matrix || 11: fibrillar collagen || 12: Golgi lumen || 13: lysosomal lumen || 14: proteinaceous extracellular matrix || 15: DNA-directed RNA polymerase II, core complex || 16: female pronucleus || 17: male pronucleus ||
18: condensed nuclear chromosome outer kinetochore || 19: spindle pole || 20: microtubule cytoskeleton || 21: cyclin-dependent protein kinase holoenzyme complex || 22: chromatin || 23: nuclear membrane

ECM 26, Gene set "nuclear speck", Page 14

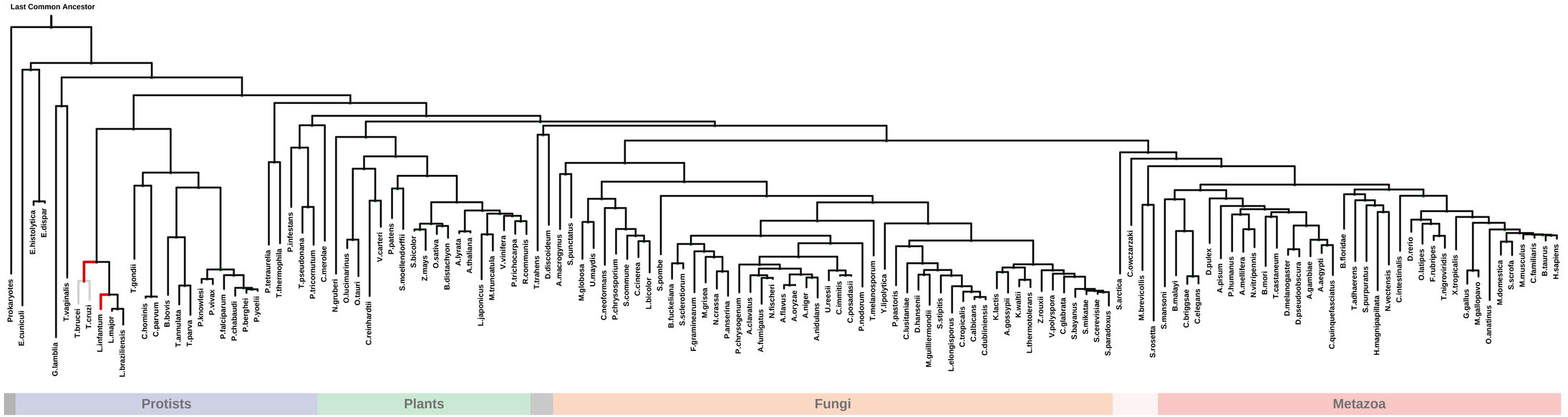
Num of ECM Genes: 1. Num of Predicted Genes: 500





ECM 26, Gene set "nuclear speck", Page 15

Num of ECM Genes: 1. Num of Predicted Genes: 500

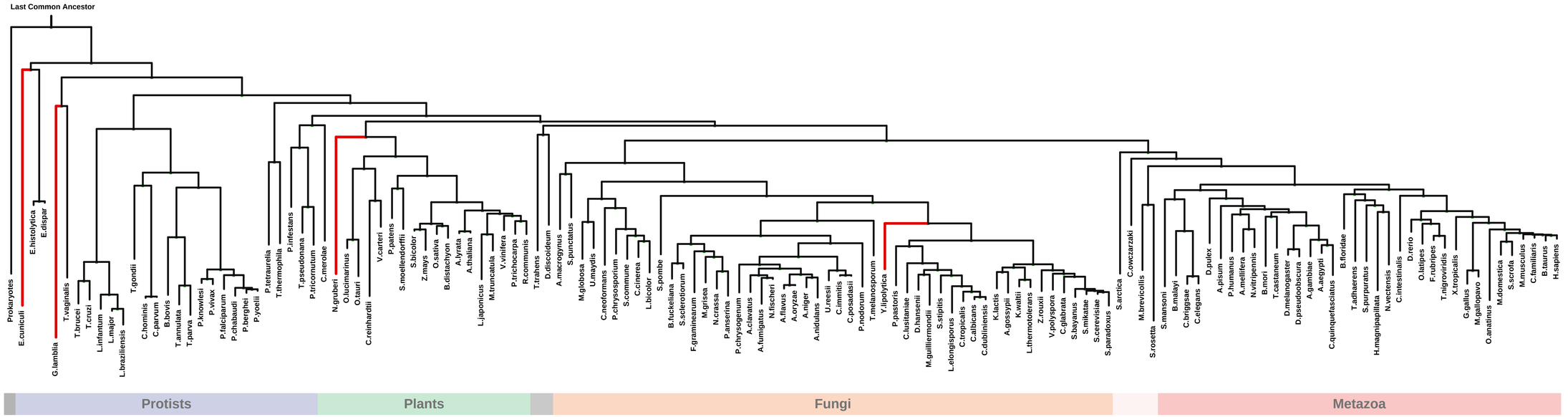


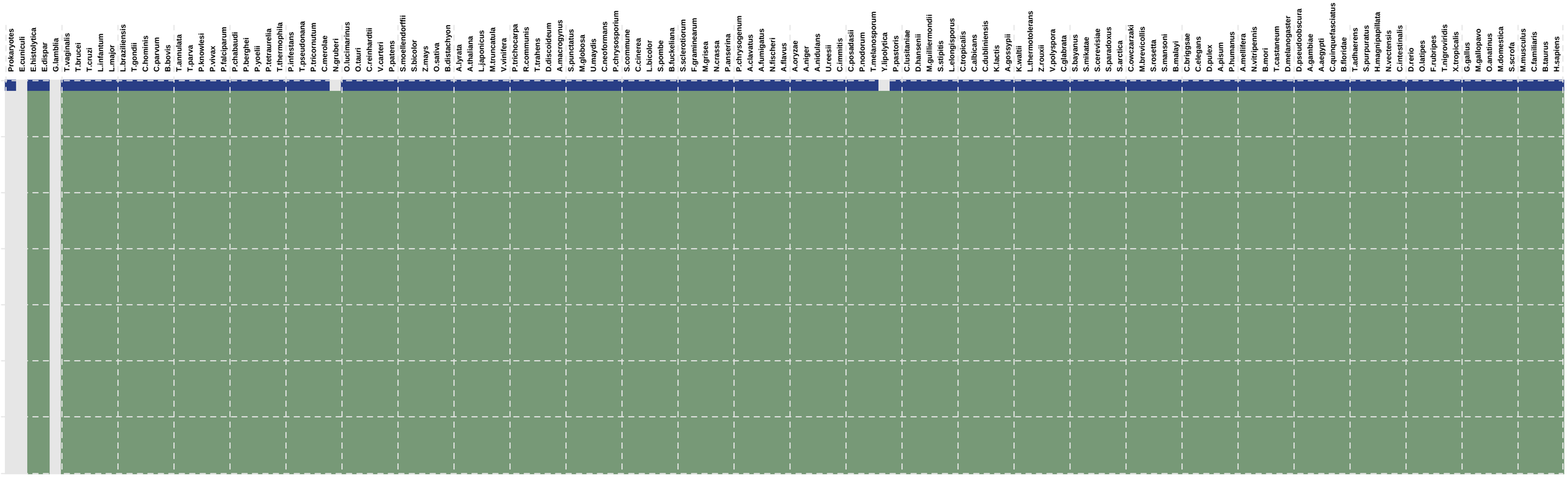
PG	Protein	LLR	Notes
A	TRIM10	0.3	
O	LRCH3	0.3	
A	JADE1	0.3	1
	LOC642574	0.3	
O	100508128	0.3	
O	LOC642574	0.3	
	NUTF2	0.2	2 / 3
B	ZNF148	0.1	
B	BCL6B	0.1	
B	ZNF707	0.1	
	DYNC1H1	0.1	4

1: histone acetyltransferase complex || 2: microtubule cytoskeleton || 3: nuclear pore || 4: cytoplasmic dynein complex

ECM 27, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 462

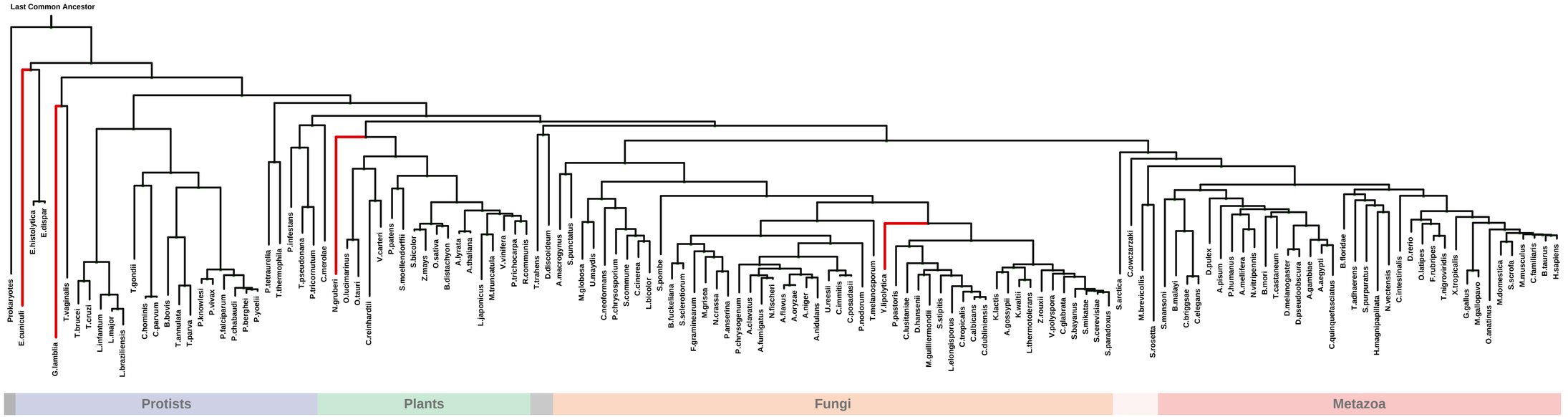




1: nuclear speck || 2: late endosome membrane || 3: peroxisome || 4: eukaryotic translation initiation factor 2 complex || 5: eukaryotic translation initiation factor 3 complex || 6: catalytic step 2 spliceosome || 7: small nuclear ribonucleoprotein complex || 8: spliceosomal complex || 9: U12-type spliceosomal complex || 10: integral to peroxisomal membrane || 11: peroxisomal membrane || 12: cilium || 13: flagellum

ECM 27, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 462

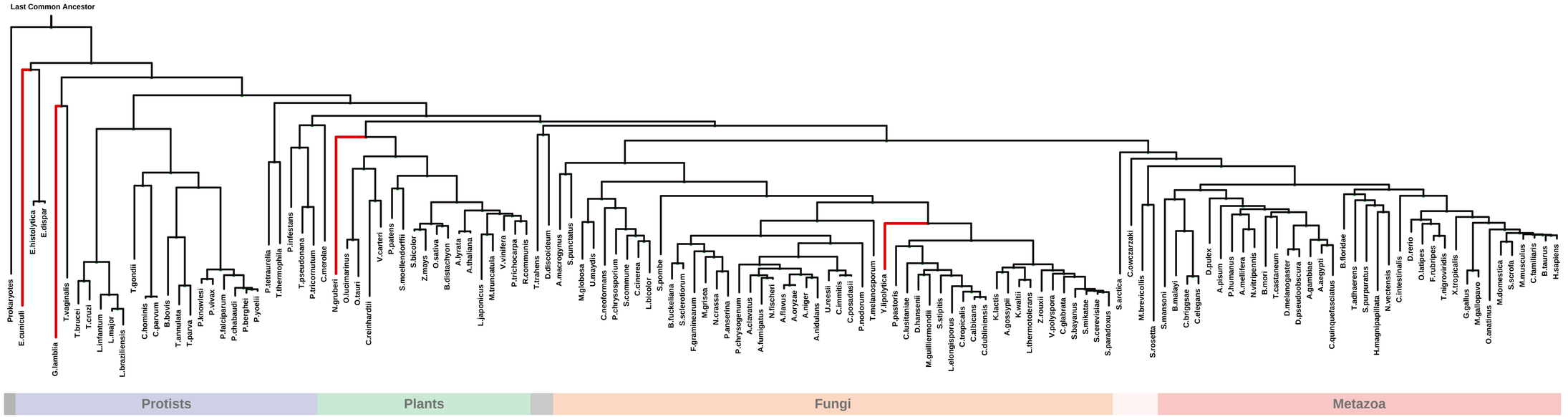


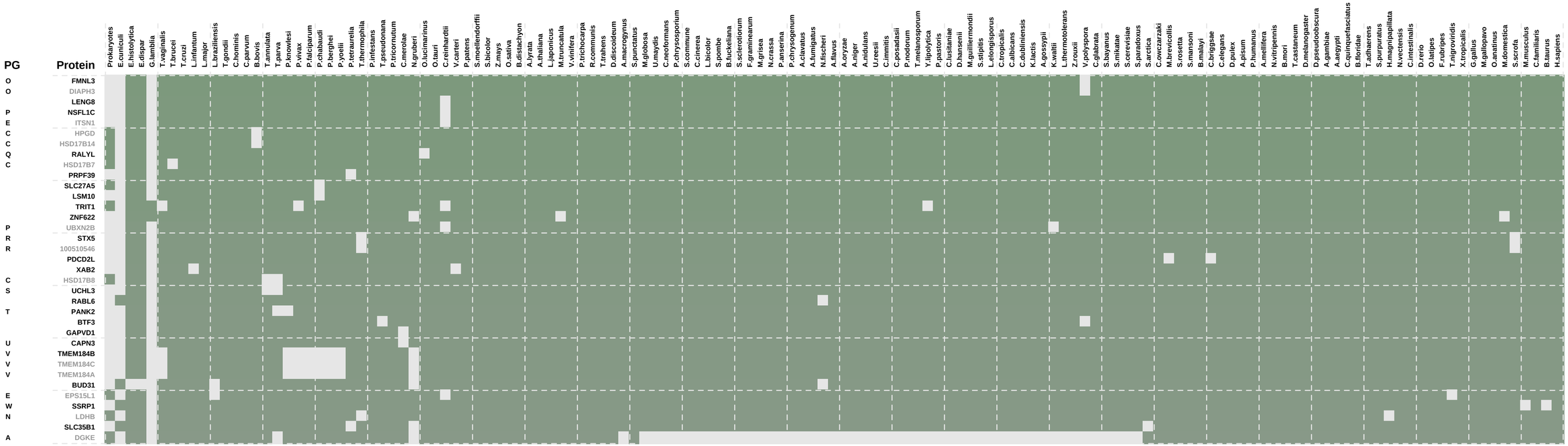
PG	Protein	LLR	Notes
H	SLC25A37	14.7	
H	SLC25A38	14.7	
H	SLC25A39	14.7	
H	SLC25A4	14.7	1
H	SLC25A40	14.7	
H	SLC25A41	14.7	
H	SLC25A42	14.7	
H	SLC25A43	14.7	
H	SLC25A44	14.7	
H	SLC25A45	14.7	
H	SLC25A48	14.7	
H	SLC25A5	14.7	2 / 3
H	SLC25A6	14.7	4
I	**TNPO1**	**14.7**	5
I	TNPO2	14.7	5
H	UCP1	14.7	
H	UCP2	14.7	
H	UCP3	14.7	
H	100508457	14.7	
H	100510457	14.7	
	PPAT	**13.8**	
J	**NAA15**	**13.7**	
K	**AHCYL2**	**13.0**	
K	AHCY	13.0	6
K	AHCYL1	13.0	
L	**DBR1**	**13.0**	
G	DDB1	12.7	7 / 8 / 9
G	100290337	12.7	
C	WWOX	12.6	10
M	**ATP6V1E1**	**12.4**	10 / 11 / 12 / 13
M	ATP6V1E2	12.4	13 / 14
J	NAA16	12.2	
	VPS53	**12.0**	15 / 16
	MPI	**11.9**	
N	**MDH2**	**11.9**	

1: mitochondrial outer membrane || 2: mitochondrial nucleoid || 3: MMXD complex || 4: mitochondrial inner membrane presequence translocase complex || 5: nuclear pore || 6: melanosome || 7: Cul4A-RING ubiquitin ligase complex || 8: Cul4B-RING ubiquitin ligase complex || 9: Cul4-RING ubiquitin ligase complex || 10: microvillus || 11: endosome || 12: proton-transporting two-sector ATPase complex || 13: proton-transporting two-sector ATPase complex, catalytic domain || 14: acrosomal vesicle || 15: endosome membrane || 16: GARP complex

ECM 27, Gene set "nuclear speck", Page 3

Num of ECM Genes: 1. Num of Predicted Genes: 462

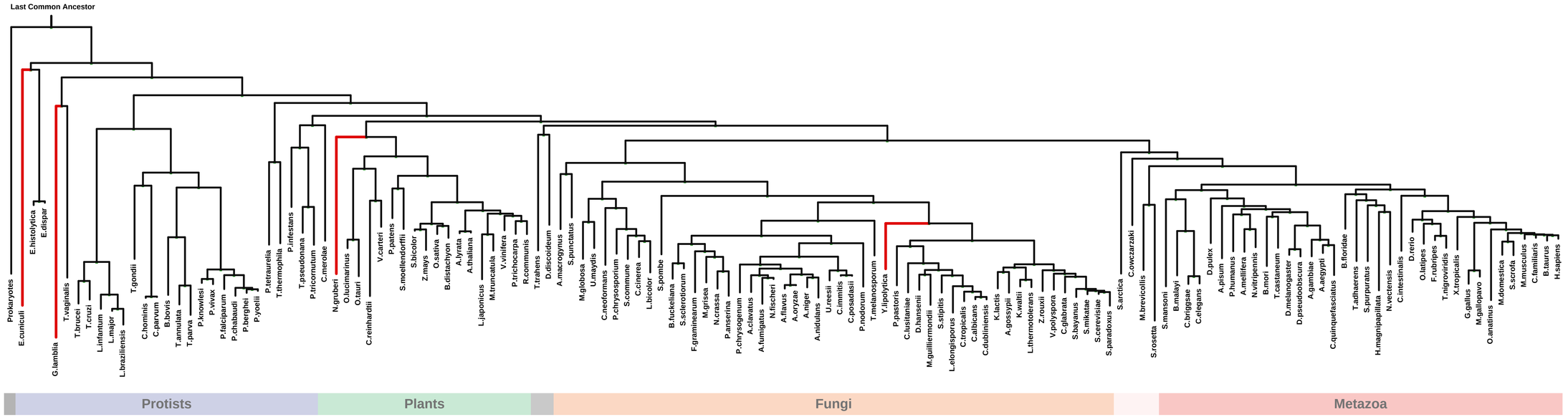


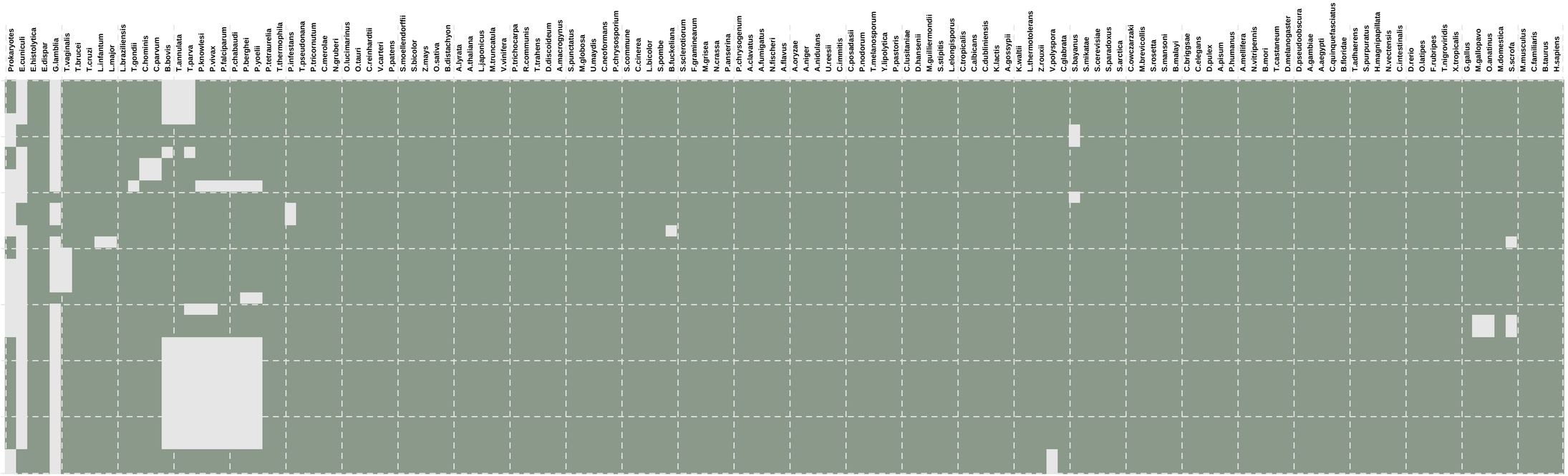


1: chromosome || 2: Golgi stack || 3: coated pit || 4: endocytic vesicle || 5: lamellipodium || 6: neuron projection || 7: synapse || 8: basal plasma membrane || 9: integral to endoplasmic reticulum membrane || 10: Cajal body || 11: U7 snRNP || 12: endoplasmic reticulum-Golgi intermediate compartment membrane || 13: SNARE complex || 14: catalytic step 2 spliceosome || 15: mitochondrial envelope || 16: mitochondrial intermembrane space || 17: endosome || 18: myofibril || 19: T-tubule || 20: Z disc

ECM 27, Gene set "nuclear speck", Page 4

Num of ECM Genes: 1. Num of Predicted Genes: 462

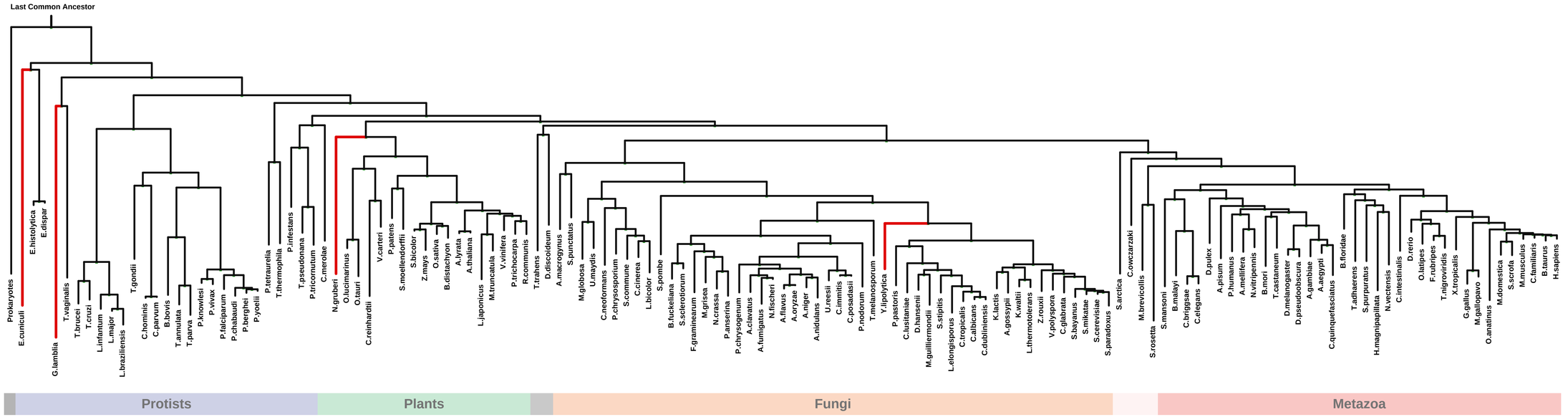


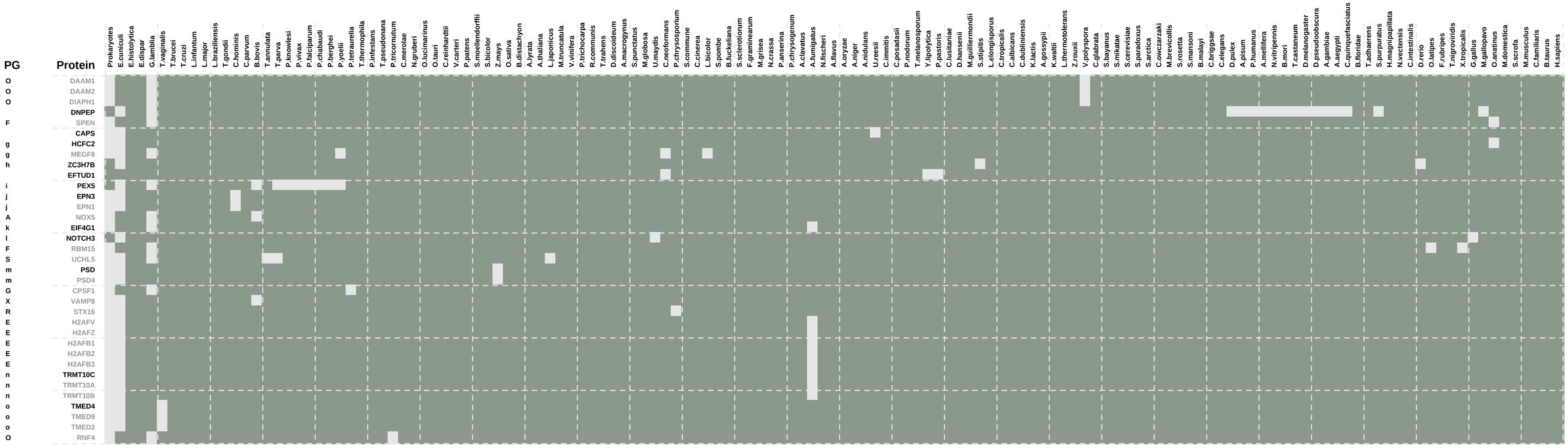


1: brush border || 2: microvillus || 3: apical part of cell || 4: late endosome membrane || 5: lysosomal membrane || 6: neuron projection || 7: phagocytic vesicle || 8: phagocytic vesicle membrane || 9: SNARE complex ||
10: synapse || 11: transport vesicle membrane || 12: endosome || 13: lysosome || 14: synaptic vesicle membrane || 15: endosome membrane || 16: presynaptic membrane || 17: cytoplasmic microtubule || 18: Cajal body ||
19: nuclear speck || 20: BRCA1-A complex || 21: BRCA1-BARD1 complex || 22: chromosome || 23: filamentous actin || 24: focal adhesion || 25: gamma-tubulin ring complex || 26: ribonucleoprotein complex || 27: ruffle ||

ECM 27, Gene set "nuclear speck", Page 5

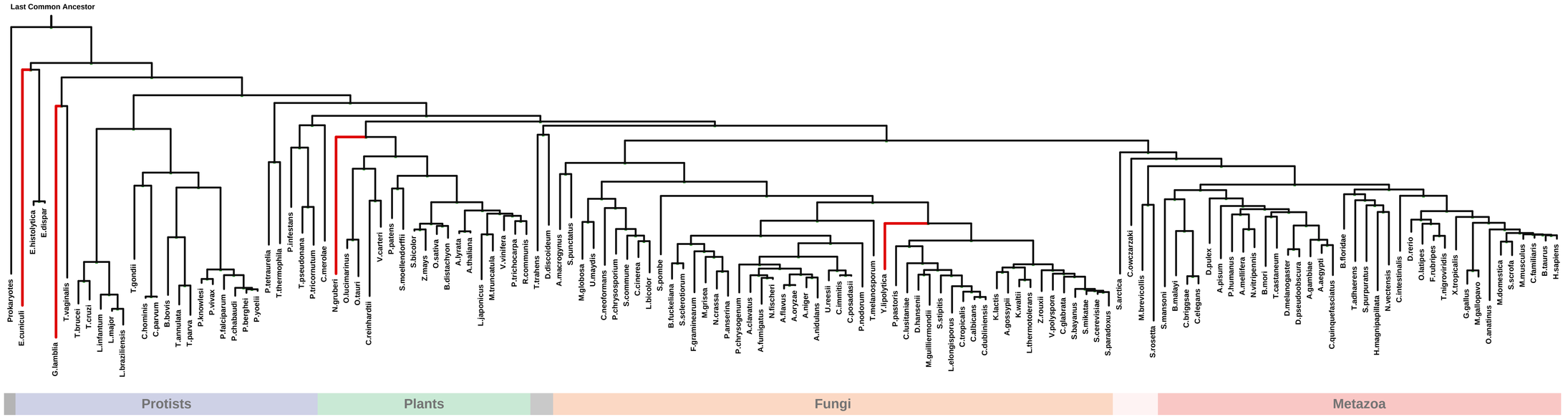
Num of ECM Genes: 1. Num of Predicted Genes: 462

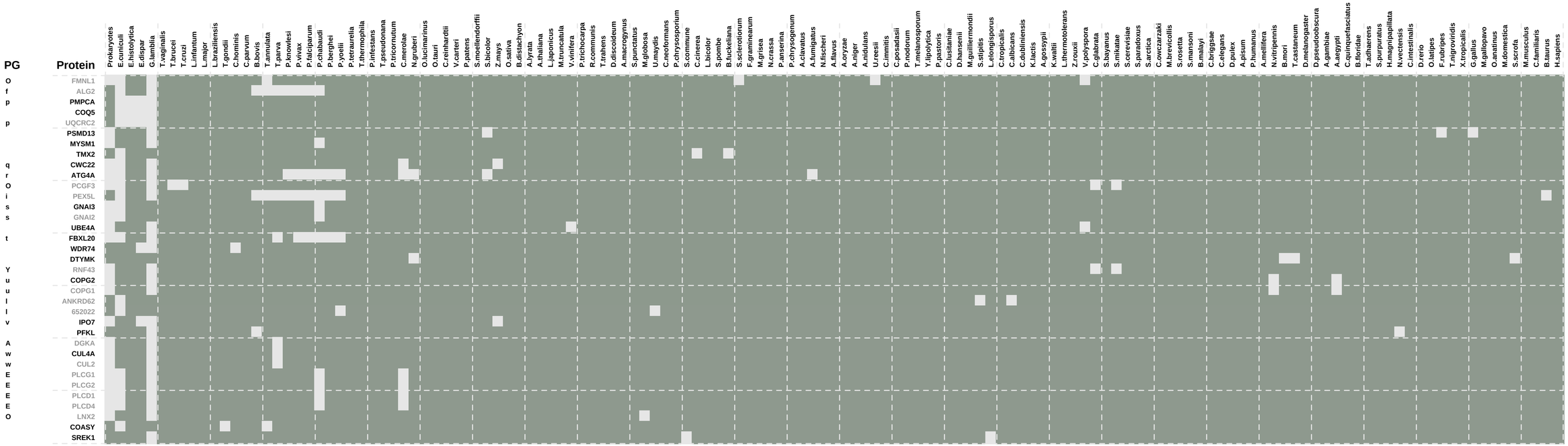




ECM 27, Gene set "nuclear speck", Page 6

Num of ECM Genes: 1. Num of Predicted Genes: 462

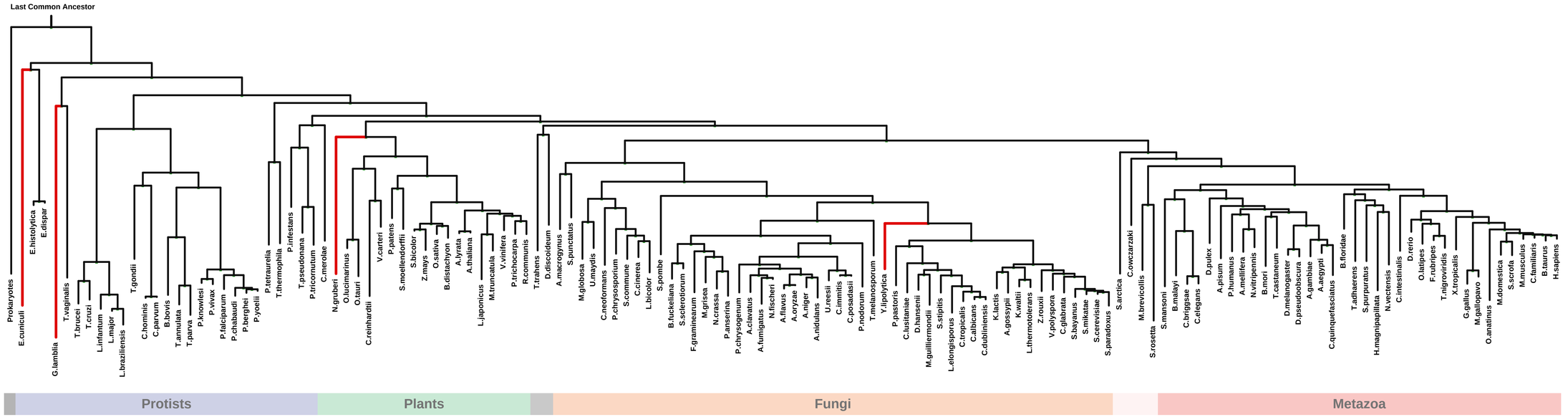




1: bleb || 2: cell cortex || 3: phagocytic vesicle || 4: mitochondrial respiratory chain complex III || 5: proteasome accessory complex || 6: proteasome complex || 7: proteasome regulatory particle || 8: chromatin remodeling complex ||
9: catalytic step 2 spliceosome || 10: spliceosomal complex || 11: PcG protein complex || 12: cell tip || 13: dendrite || 14: intracellular cyclic nucleotide activated cation channel complex || 15: peroxisomal membrane || 16: extrinsic to internal side of plasma membrane ||
17: heterotrimeric G-protein complex || 18: membrane raft || 19: midbody || 20: zymogen granule || 21: ubiquitin ligase complex || 22: nuclear envelope || 23: COPI vesicle coat || 24: nuclear pore || 25: 6-phosphofructokinase complex ||

ECM 27, Gene set "nuclear speck", Page 7

Num of ECM Genes: 1. Num of Predicted Genes: 462

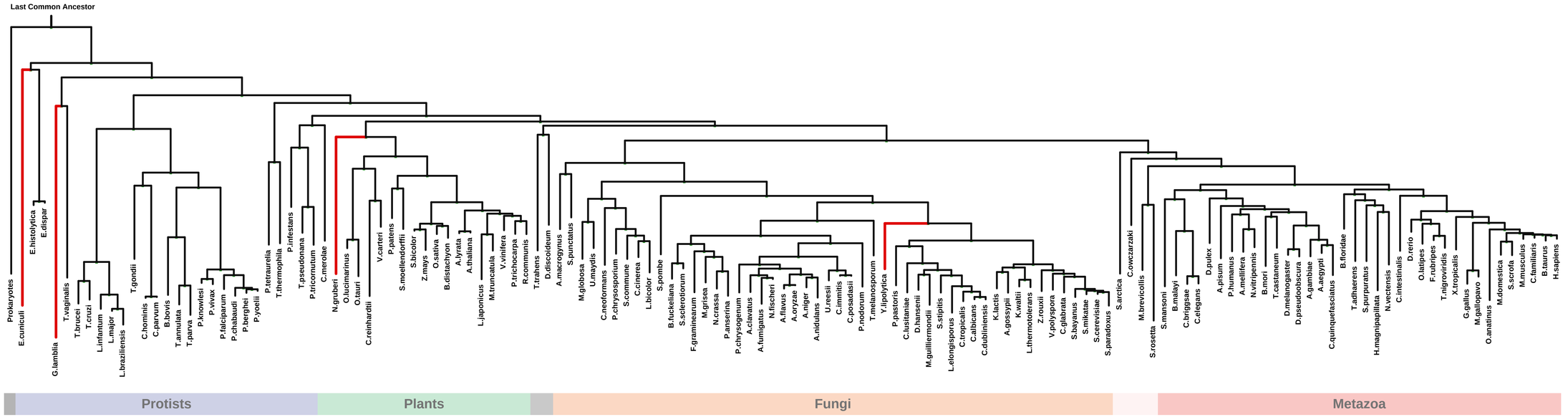


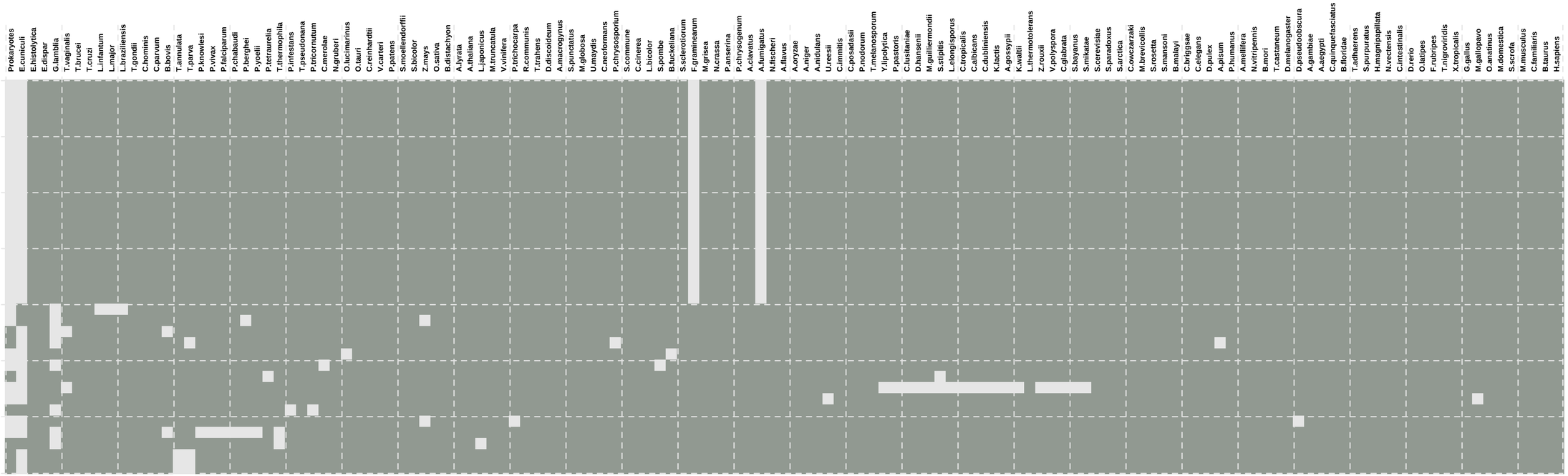
PG	Protein	LLR	Notes
h x x O y O j z N l O r A { z l l l E } ~ ~	DNAJC13	4.6	
	ZC3H7A	4.6	
	VPS26A	4.5	1 / 2 / 3 / 4
	VPS26B	4.5	3
	PDZRN4	4.5	
	DUSP21	4.5	
	VPS33A	4.4	5 / 6 / 7 / 8 / 9
	TRIM10	4.4	
	NUTF2	4.3	10 / 11
	ENTHD1	4.3	
	ANKIB1	4.3	
	RBM41	4.3	
	LDHAL6A	4.2	
	ANKRD13C	4.2	
	TRIM21	4.1	12 / 13 / 14
	UNG	4.0	
	ATG4B	4.0	
	FBXW9	4.0	
	ARCN1	4.0	15 / 16
	DGKI	3.9	17
	TRAPPC3L	3.9	
	ANKRD45	3.9	
	ERGIC2	3.8	18
	ERGIC3	3.8	18
	ERGIC1	3.8	18 / 19
	DDX23	3.8	20 / 21
	KIN	3.8	22
	SV2C	3.8	23
	IDH3A	3.8	
	SOS1	3.8	
	CNOT6	3.8	
	UBE2Q2	3.8	
	IP6K1	3.8	
	IP6K2	3.8	24
	COPZ2	3.7	16 / 25

1: endosome || 2: endosome membrane || 3: retromer complex || 4: vesicle || 5: early endosome || 6: HOPS complex || 7: late endosome || 8: late endosome membrane || 9: lysosomal membrane || 10: microtubule cytoskeleton || 11: nuclear pore || 12: cytoplasmic mRNA processing body || 13: ribonucleoprotein complex || 14: SCF ubiquitin ligase complex || 15: clathrin adaptor complex || 16: COPI vesicle coat || 17: guanyl-nucleotide exchange factor complex || 18: endoplasmic reticulum-Golgi intermediate compartment membrane || 19: endoplasmic reticulum-Golgi intermediate compartment || 20: catalytic step 2 spliceosome || 21: U5 snRNP || 22: nuclear matrix || 23: synaptic vesicle membrane ||

ECM 27, Gene set "nuclear speck", Page 8

Num of ECM Genes: 1. Num of Predicted Genes: 462

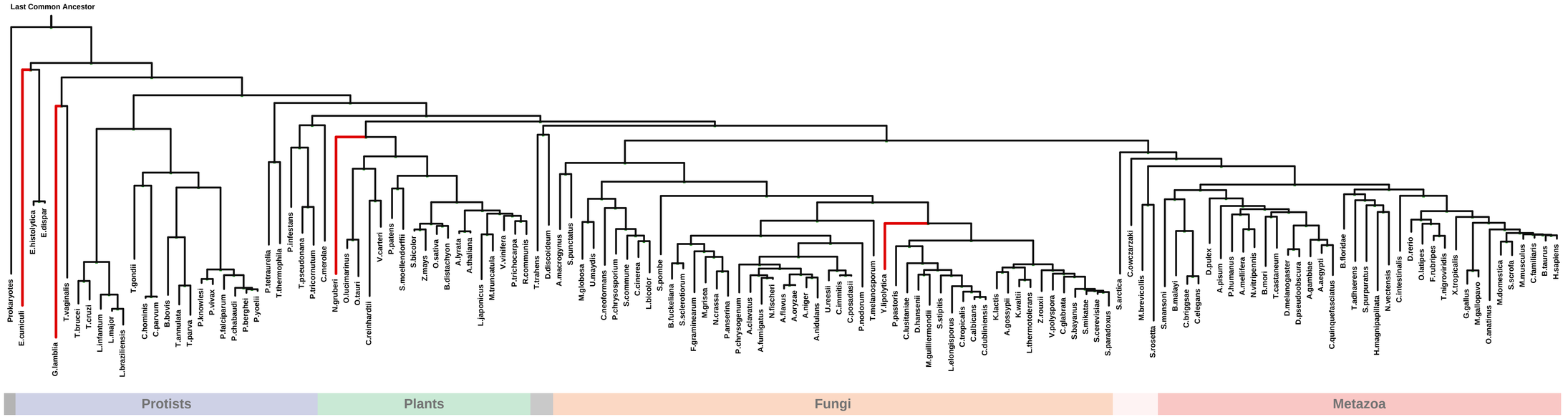


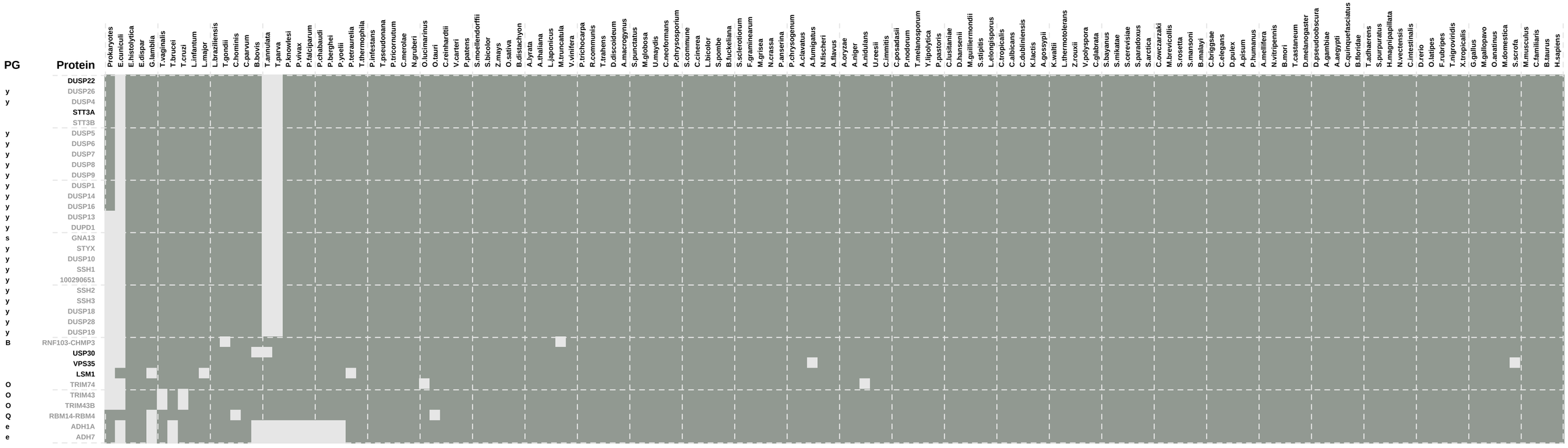


1: nucleosome || 2: extrinsic to plasma membrane || 3: nuclear pore || 4: peroxisomal matrix || 5: peroxisomal membrane || 6: peroxisome || 7: COPI vesicle coat || 8: clathrin-coated vesicle || 9: clathrin-sculpted gamma-aminobutyric acid transport vesicle membrane || 10: clathrin-sculpted glutamate transport vesicle membrane || 11: clathrin-sculpted monoamine transport vesicle membrane || 12: endocytic vesicle membrane || 13: neuron projection || 14: secretory granule membrane || 15: SNARE complex || 16: synaptic vesicle membrane || 17: chromosome, telomeric region || 18: nuclear chromosome, telomeric region || 19: nucleotide-excision repair complex

ECM 27, Gene set "nuclear speck", Page 9

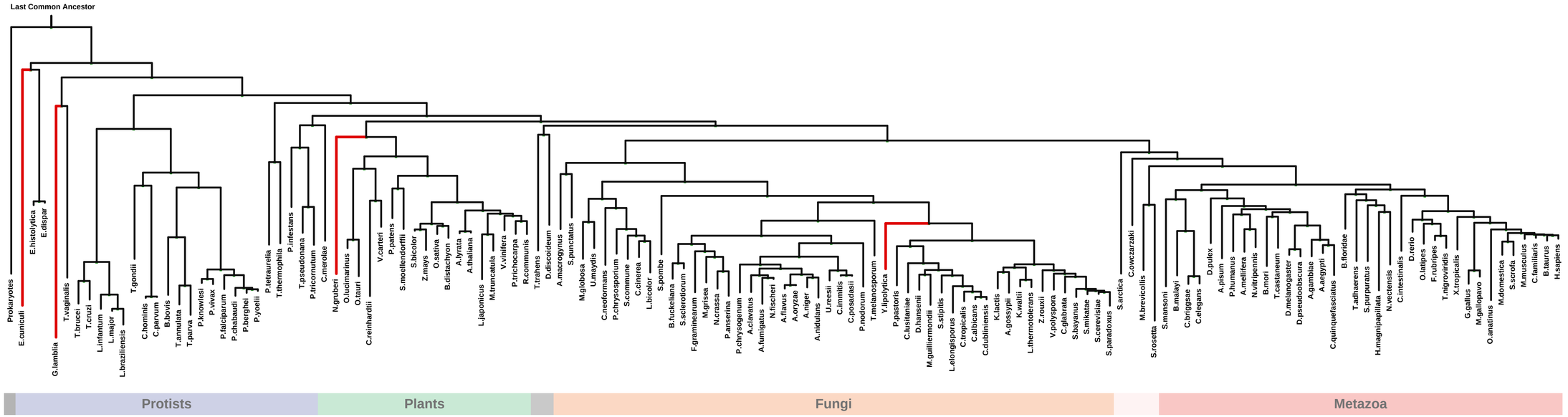
Num of ECM Genes: 1. Num of Predicted Genes: 462

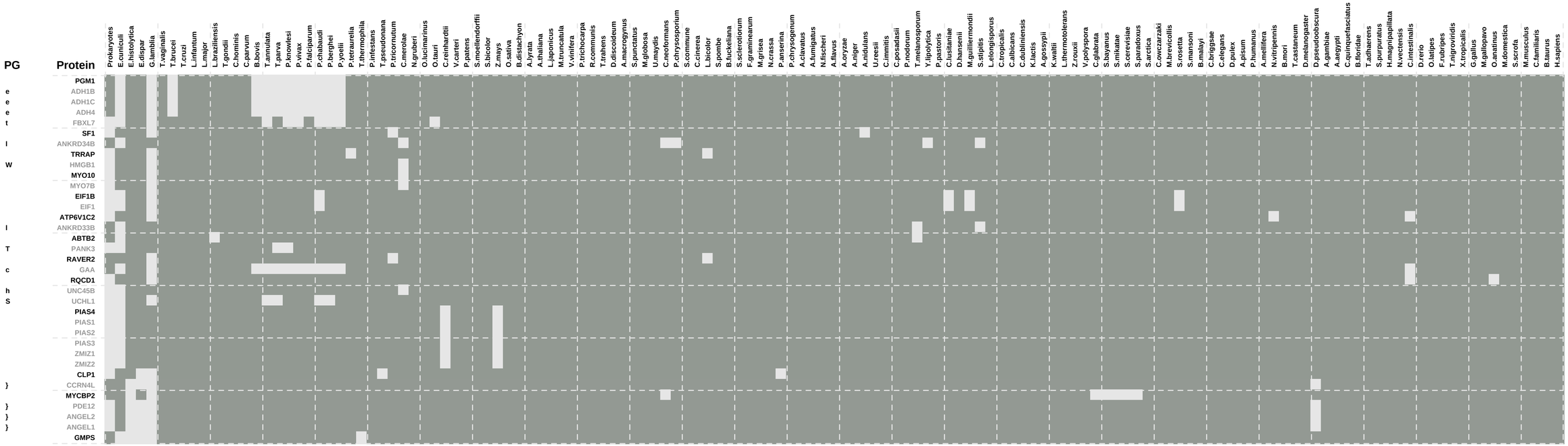




ECM 27, Gene set "nuclear speck", Page 10

Num of ECM Genes: 1. Num of Predicted Genes: 462

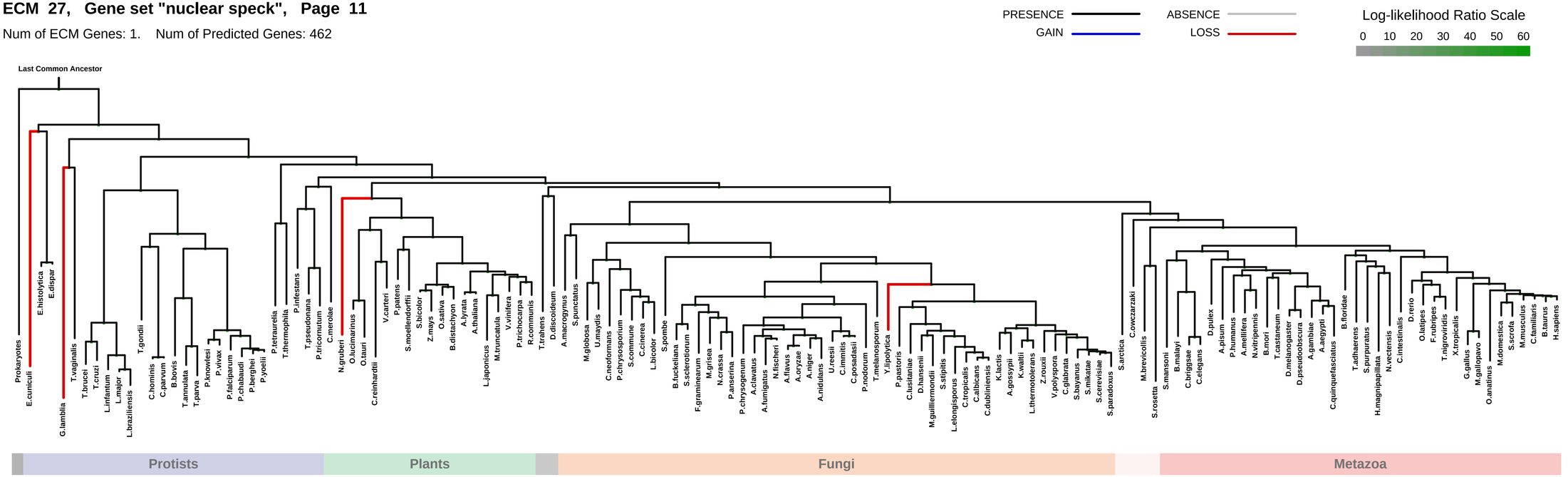


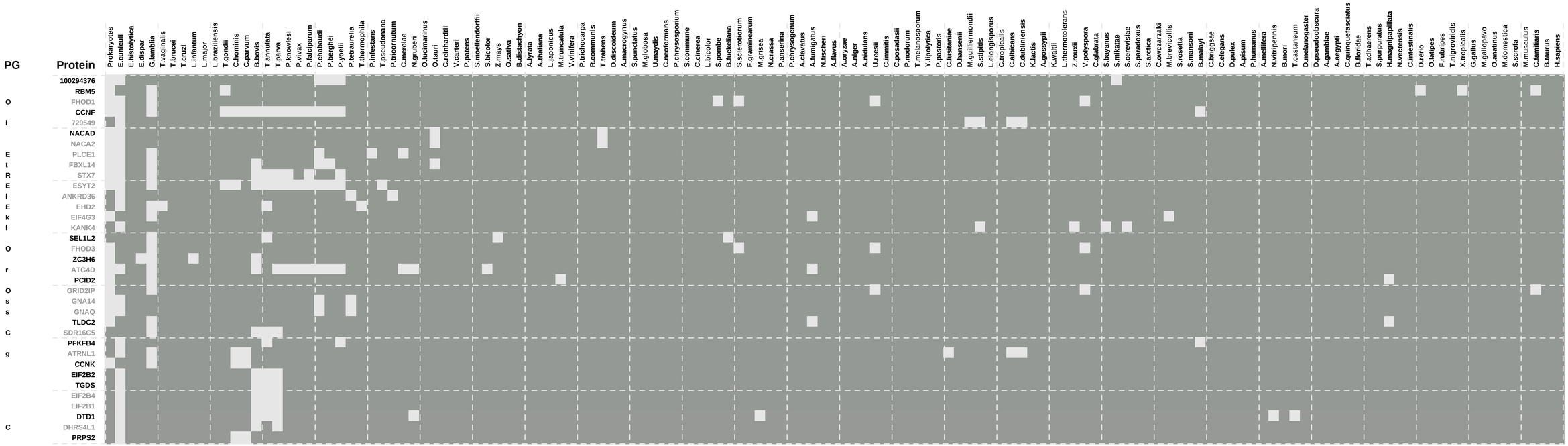


1: actin cytoskeleton || 2: microtubule cytoskeleton || 3: SCF ubiquitin ligase complex || 4: ubiquitin ligase complex || 5: ribosome || 6: spliceosomal complex || 7: NuA4 histone acetyltransferase complex || 8: PCAF complex ||
9: STAGA complex || 10: transcription factor TFTC complex || 11: condensed chromosome || 12: neuron projection || 13: transcriptional repressor complex || 14: cell cortex || 15: filopodium membrane || 16: filopodium tip ||
17: lamellipodium || 18: myosin complex || 19: ruffle || 20: proton-transporting V-type ATPase, V1 domain || 21: lysosomal membrane || 22: lysosome || 23: cytoplasmic mRNA processing body || 24: nuclear matrix || 25: PML body ||

ECM 27, Gene set "nuclear speck", Page 11

Num of ECM Genes: 1. Num of Predicted Genes: 462

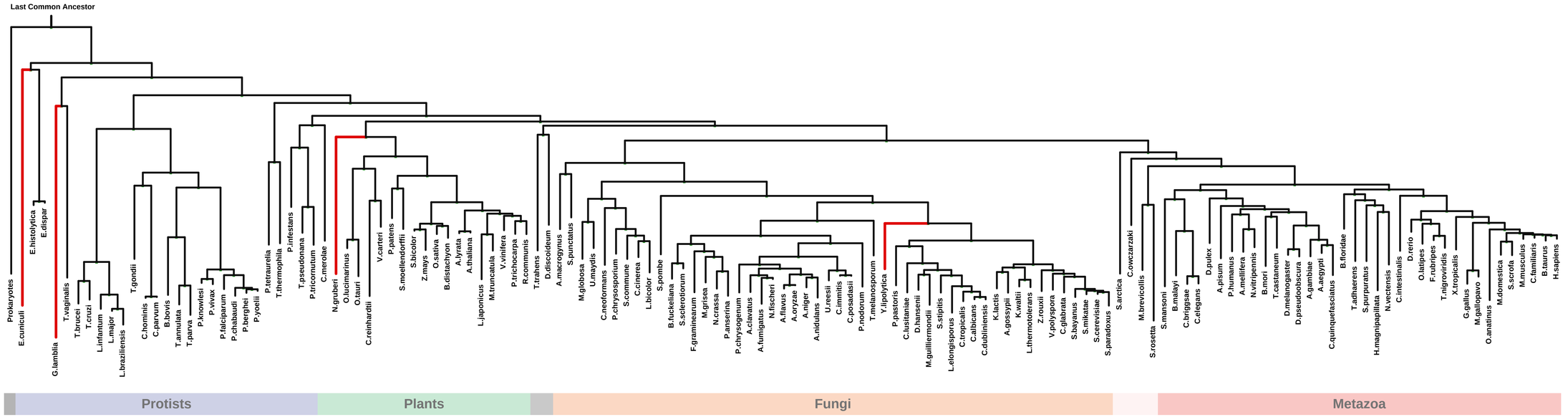


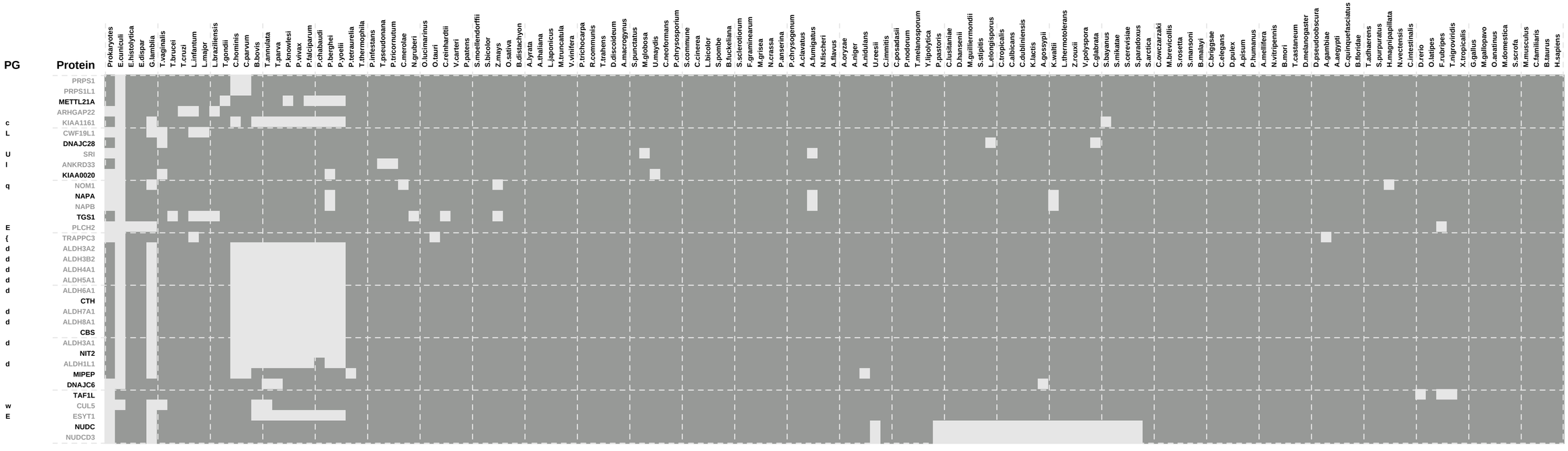


1: spliceosomal complex || 2: bleb || 3: stress fiber || 4: centriole || 5: SCF ubiquitin ligase complex || 6: early endosome membrane || 7: late endosome membrane || 8: lysosomal membrane || 9: SNARE complex || 10: endosome membrane || 11: recycling endosome membrane || 12: eukaryotic translation initiation factor 4F complex || 13: postsynaptic membrane || 14: extrinsic to internal side of plasma membrane || 15: heterotrimeric G-protein complex || 16: nuclear membrane || 17: eukaryotic translation initiation factor 2B complex || 18: eukaryotic translation initiation factor 2 complex

ECM 27, Gene set "nuclear speck", Page 12

Num of ECM Genes: 1. Num of Predicted Genes: 462

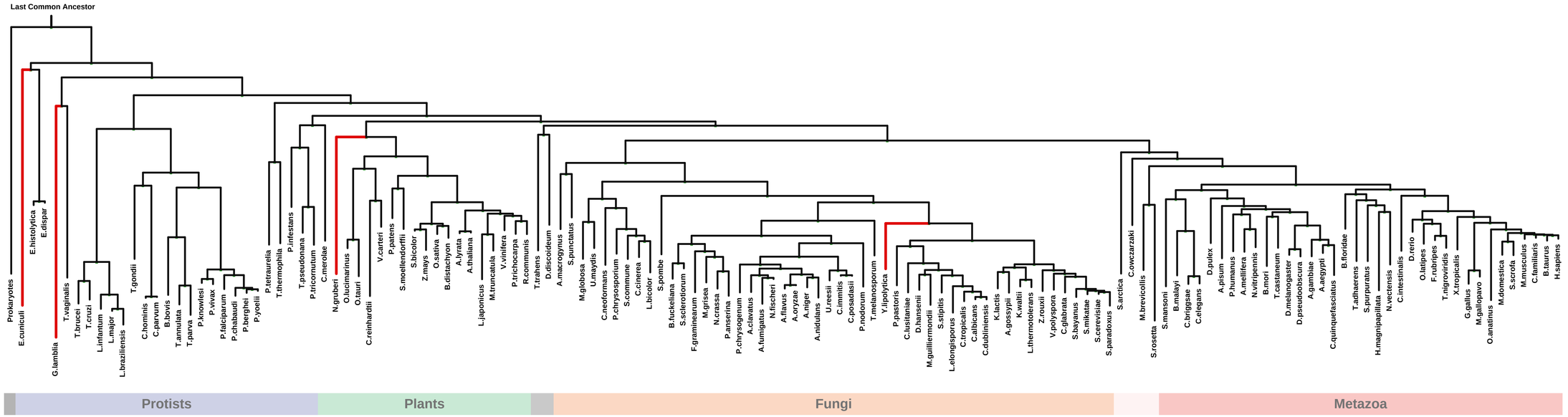


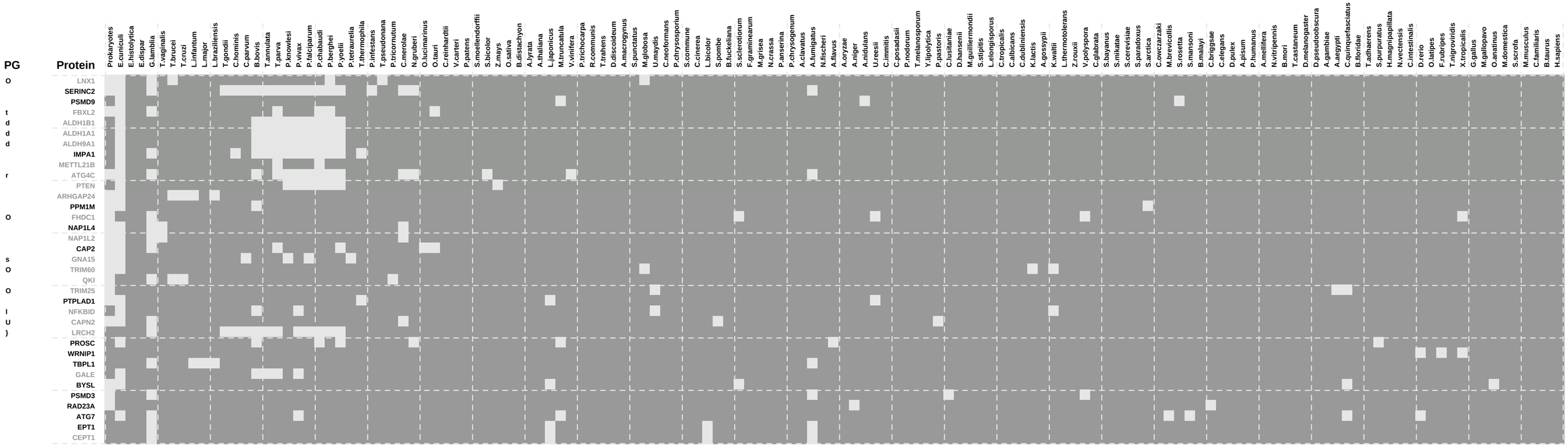


1: nuclear membrane || 2: sarcoplasmic reticulum membrane || 3: vesicle || 4: Z disc || 5: synaptobrevin 2-SNAP-25-syntaxin-1a complex || 6: Cajal body || 7: small nuclear ribonucleoprotein complex || 8: TRAPP complex ||
9: peroxisome || 10: transcription factor TFIID complex || 11: Cul5-RING ubiquitin ligase complex

ECM 27, Gene set "nuclear speck", Page 13

Num of ECM Genes: 1. Num of Predicted Genes: 462

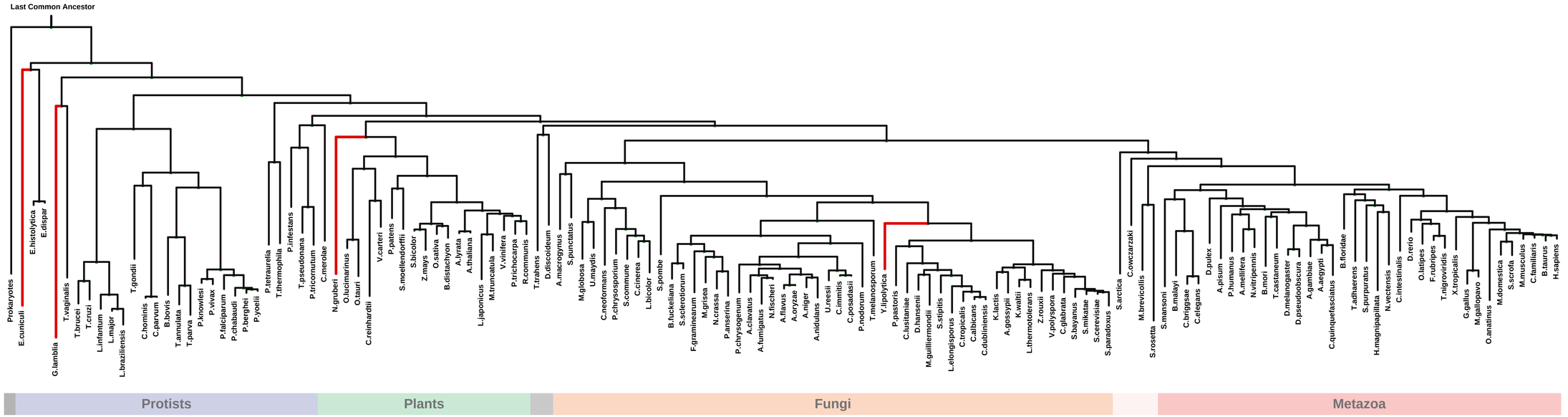


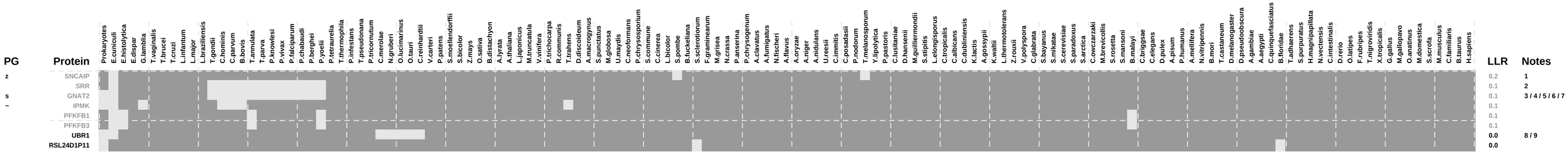


1: proteasome regulatory particle || 2: proteasome regulatory particle, base subcomplex || 3: axon || 4: cell projection || 5: internal side of plasma membrane || 6: myelin sheath adaxonal region || 7: neuron projection || 8: PML body ||
9: Schmidt-Lanterman incisure || 10: focal adhesion || 11: chromatin assembly complex || 12: extrinsic to internal side of plasma membrane || 13: heterotrimeric G-protein complex || 14: chromatin || 15: transcription factor TFIIA complex ||
16: proteasome accessory complex || 17: proteasome complex || 18: nuclear membrane

ECM 27, Gene set "nuclear speck", Page 14

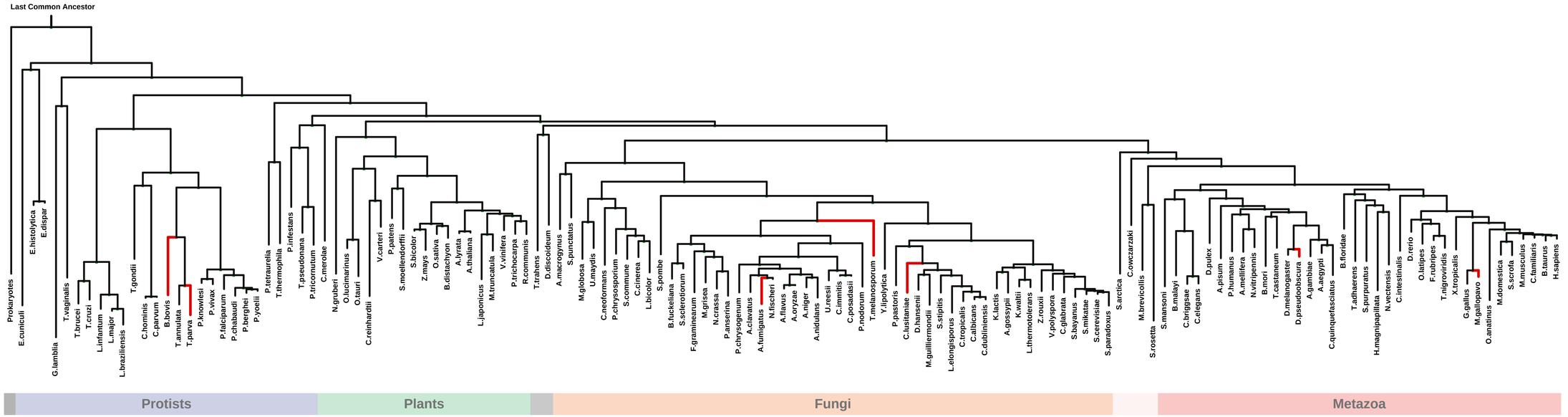
Num of ECM Genes: 1. Num of Predicted Genes: 462





ECM 28, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 32

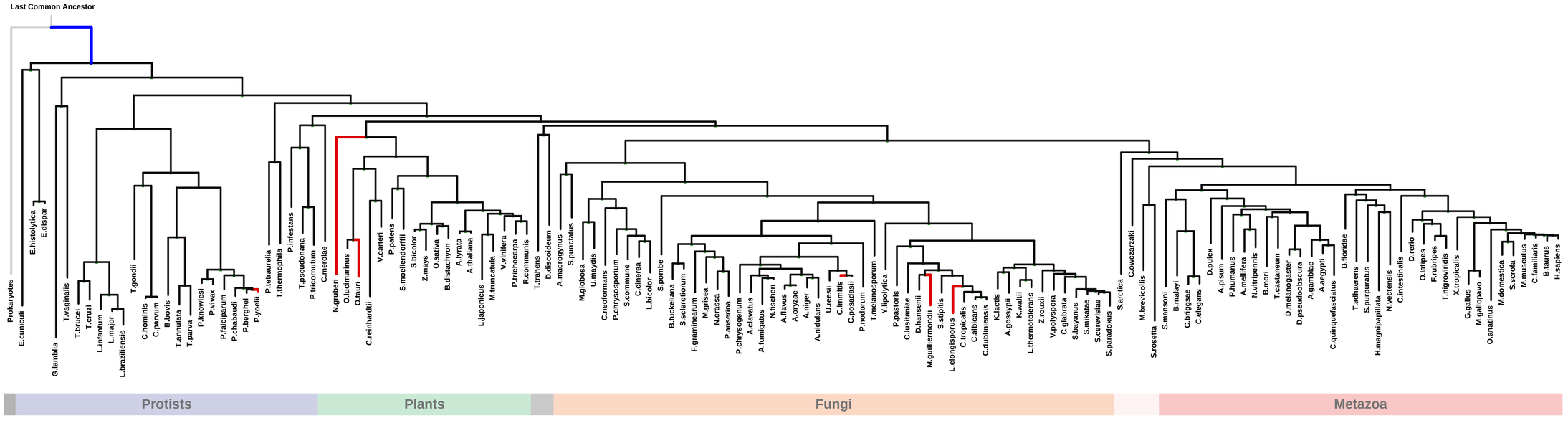


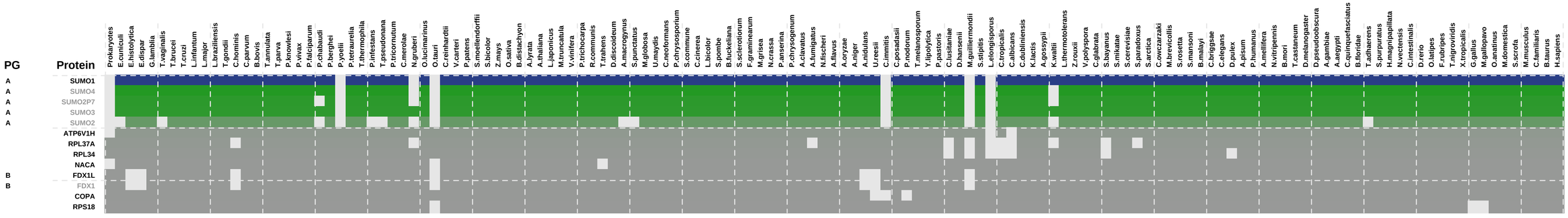
PG	Protein	LLR	Notes
A	APEX1		1 / 2
	PSMC2	20.2	3 / 4
	INPP5J	8.3	5 / 6 / 7
A	APEX2	6.2	
	RPL18	5.9	8
	NEMF	5.3	
	RPL19	4.6	8
B	HIST1H4F	3.8	
B	HIST1H4G	3.8	9 / 10
B	HIST1H4H	3.8	
B	HIST1H4I	3.8	
B	HIST1H4J	3.8	
B	HIST1H4K	3.8	
B	HIST1H4L	3.8	
B	HIST2H4A	3.8	
B	HIST2H4B	3.8	9 / 10
B	HIST4H4	3.8	
B	HIST1H4A	3.8	
B	HIST1H4B	3.8	
B	HIST1H4C	3.8	
B	HIST1H4D	3.8	
B	HIST1H4E	3.8	
	RANGAP1	3.4	11 / 12 / 13 / 14 / 15
	NSA2	3.4	16
	FBL	3.0	17 / 18 / 19
C	RPS17	2.0	2 / 20
C	RPS17L	2.0	2
	PODN	2.0	21
	RRP8	2.0	22 / 23
	RPS14	1.7	20
	DHRS4L1	1.3	
	PSMD3	0.7	3 / 4
	CERS2	0.2	13

1: nuclear speck || 2: ribosome || 3: proteasome accessory complex || 4: proteasome complex || 5: dendritic shaft || 6: growth cone || 7: ruffle || 8: cytosolic large ribosomal subunit || 9: actin cytoskeleton || 10: nucleosome ||
11: condensed chromosome kinetochore || 12: kinetochore || 13: nuclear membrane || 14: nuclear pore || 15: spindle pole || 16: ribonucleoprotein complex || 17: box C/D snoRNP complex || 18: Cajal body || 19: granular component ||
20: cytosolic small ribosomal subunit || 21: proteinaceous extracellular matrix || 22: chromatin silencing complex || 23: rDNA heterochromatin

ECM 29, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 12

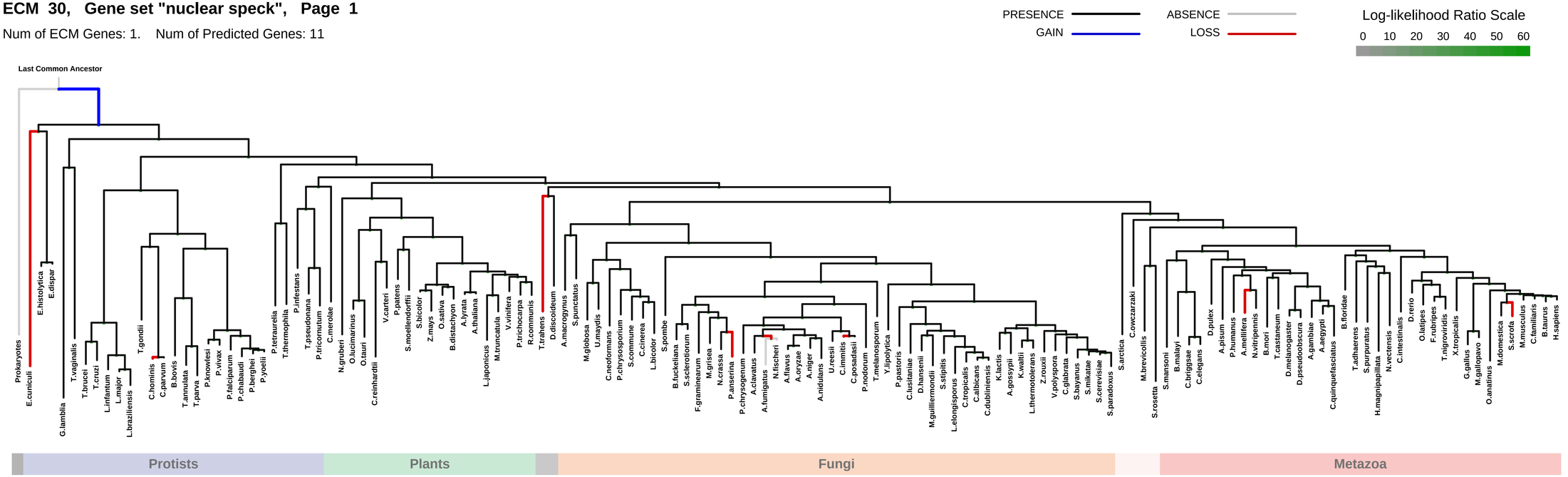


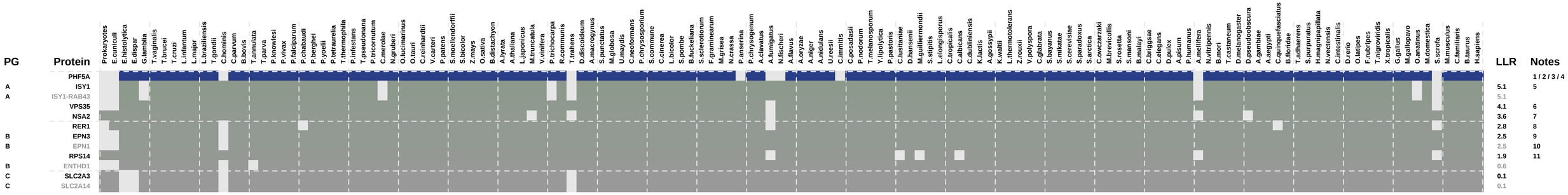


1: dendrite || 2: nuclear membrane || 3: nuclear pore || 4: nuclear speck || 5: PML body || 6: synapse || 7: kinetochore || 8: vacuolar proton-transporting V-type ATPase, V1 domain || 9: cytosolic large ribosomal subunit || 10: mitochondrial crista || 11: COPI vesicle coat || 12: cytosolic small ribosomal subunit || 13: ribosome || 14: small ribosomal subunit

ECM 30, Gene set "nuclear speck", Page 1

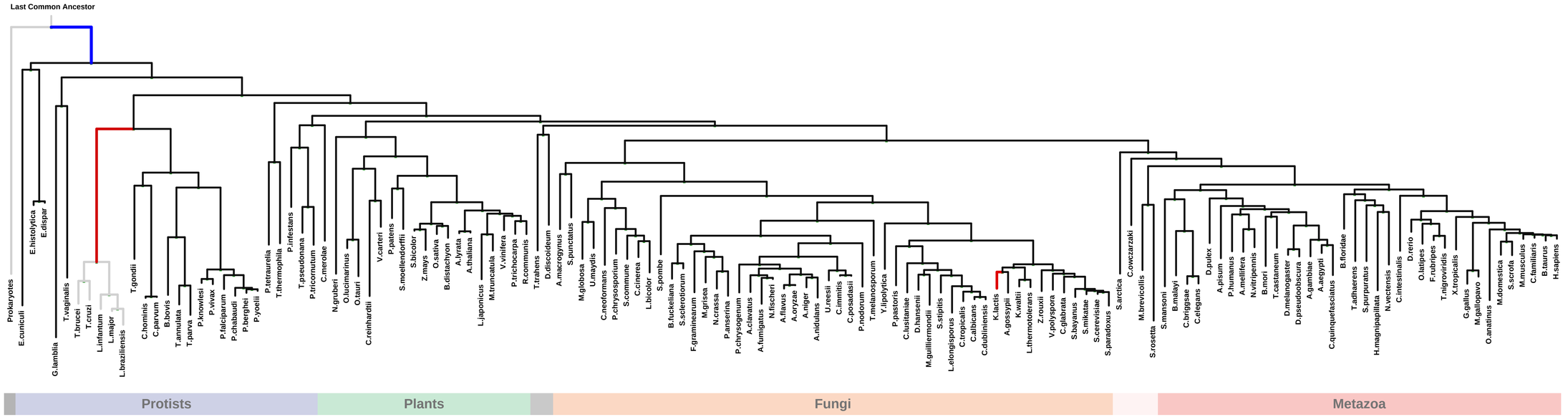
Num of ECM Genes: 1. Num of Predicted Genes: 11





ECM 31, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 453

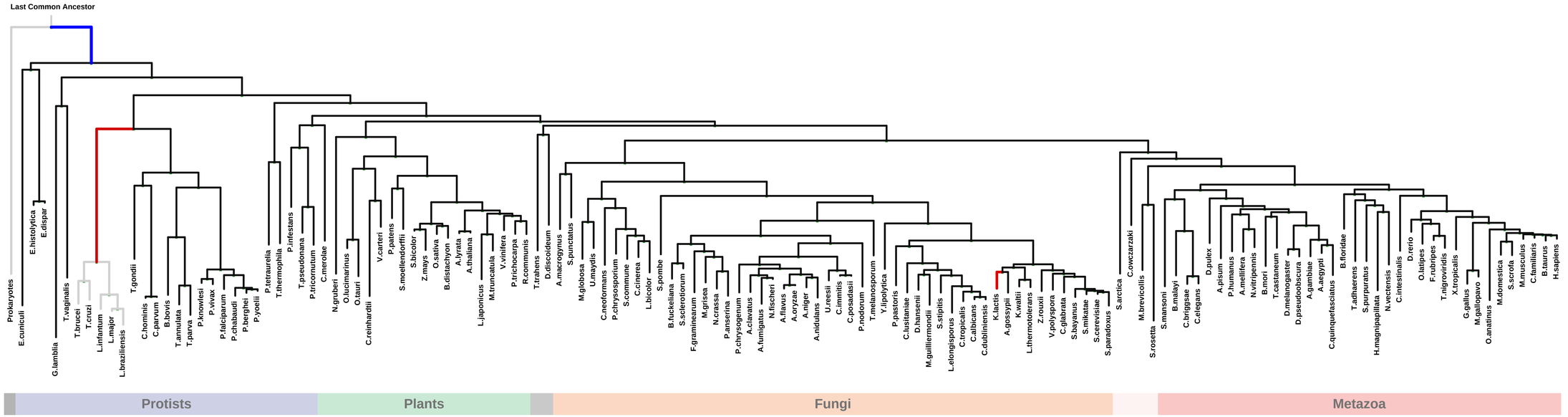


PG	Protein	LLR	Notes
	RBM25		1
A	ZMYND8	17.5	
B	ZBTB14	13.9	
	SNAPC4	13.2	
A	RNF2	12.9	2 / 3 / 4 / 5 / 6 / 7
	LSM2	12.4	8
	RNF113A	12.4	
A	SETDB1	12.1	9
A	EZH2	12.1	10 / 11
A	SUV39H2	12.1	12 / 13 / 14
A	EZH1	12.1	10
A	SETD8	12.1	9
A	SETD1A	12.1	1 / 9 / 15 / 16
C	SENP3	12.0	2
	ELAC1	12.0	
D	YEATS4	11.9	17 / 18
A	RING1	11.7	1 / 4 / 5 / 6 / 7
A	TRIM21	11.7	19 / 20 / 21
E	DDX23	11.5	8 / 22
F	U2AF1	11.3	1 / 8 / 23 / 24
	LOC441722	11.3	
G	RAPGEF3	10.9	25 / 26
A	RNF20	10.9	7 / 27
H	ARHGAP24	10.8	28 / 29
A	SETMAR	10.6	9
F	U2AF1L4	10.4	1 / 24
F	ZRSR2	10.4	30
I	DR1	10.3	31
	LSM3	10.2	8
I	NFYB	10.2	32
J	ISG15	9.6	
	ZFAND4	9.6	
	UBL4B	9.6	
A	UHRF2	9.6	14
K	FNTA	9.4	33

1: nuclear speck || 2: MLL1 complex || 3: nuclear body || 4: PcG protein complex || 5: PRC1 complex || 6: sex chromatin || 7: ubiquitin ligase complex || 8: catalytic step 2 spliceosome || 9: chromosome || 10: ESC/E(Z) complex ||
11: pronucleus || 12: chromatin || 13: chromosome, centromeric region || 14: nuclear heterochromatin || 15: histone methyltransferase complex || 16: Set1C/COMPASS complex || 17: NuA4 histone acetyltransferase complex || 18: nuclear matrix ||
19: cytoplasmic mRNA processing body || 20: ribonucleoprotein complex || 21: SCF ubiquitin ligase complex || 22: U5 snRNP || 23: Cajal body || 24: spliceosomal complex || 25: cAMP-dependent protein kinase complex || 26: endomembrane system ||

ECM 31, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 453

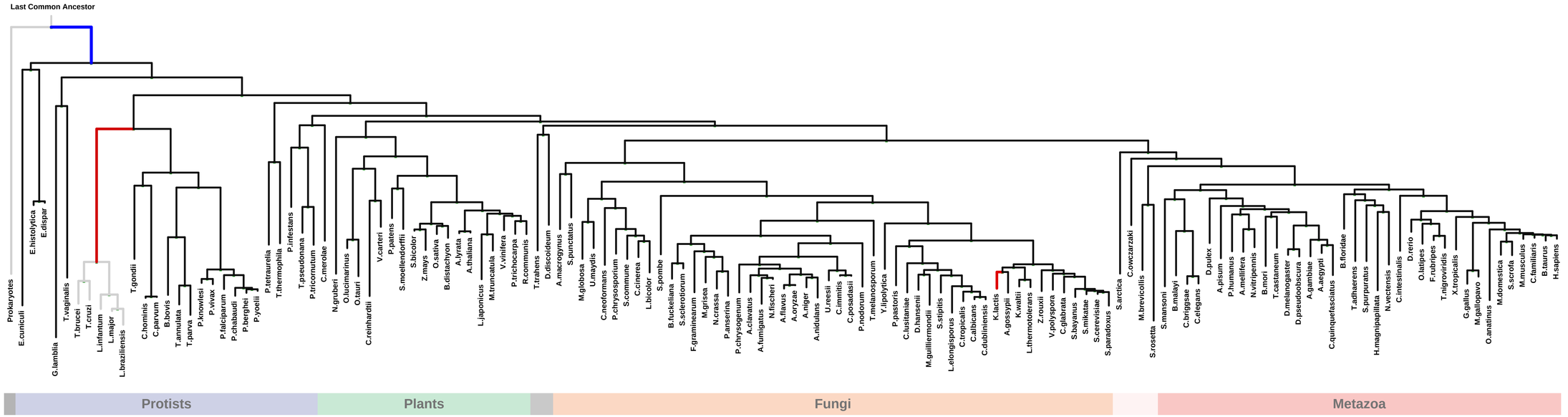


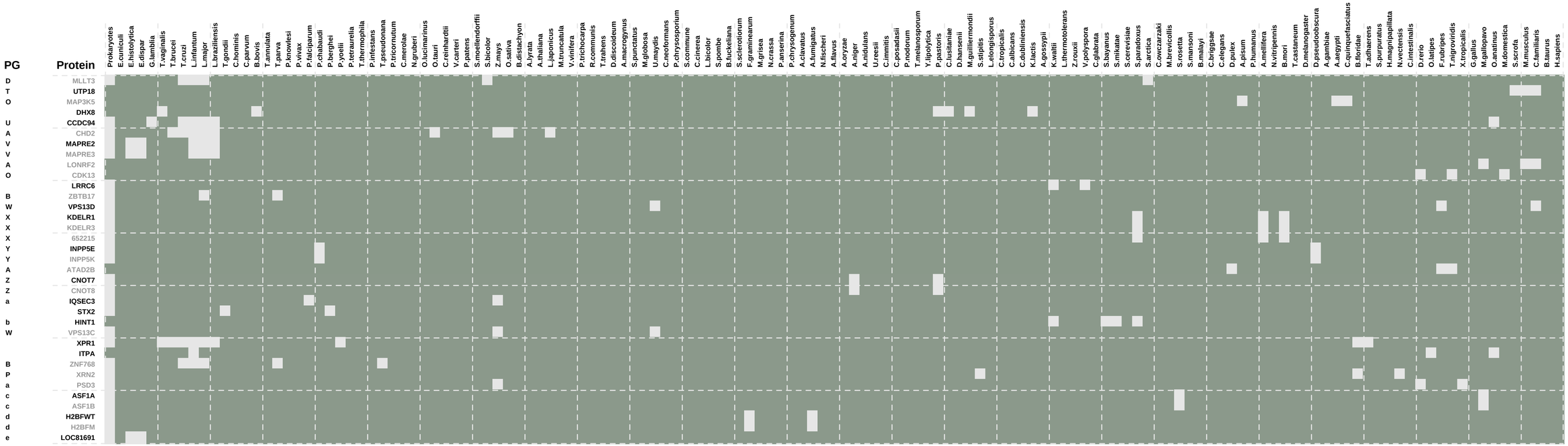
PG	Protein	LLR	Notes
L	DRAP1	9.1	
D	MLLT1	9.0	
A	TAF1L	8.7	1
M	TADA2B	8.6	2 / 3
A	SETDB2	8.6	4
J	UBD	8.3	5
A	TRIM60	8.2	
A	TRIM25	8.1	
	RFWD3	8.1	6
	WRNIP1	8.0	
	RAD23A	7.9	7
	ORC4	7.8	8 / 9
M	TADA2A	7.7	4 / 10
	RSL24D1P11	7.7	
N	SLC25A25	7.6	
	ASCC3	7.5	
O	CDKL2	7.5	
	NFKBIB	7.5	
H	ARHGAP22	7.4	
	ZC3H4	7.4	
	TBC1D9	7.4	
L	POLE4	7.3	11 / 12
	PRPF8	7.3	13 / 14 / 15
A	CHD1	7.3	
	AKTIP	7.2	16 / 17
P	XRN1	7.2	18
A	RNF135	7.2	
B	ZBTB41	7.1	
Q	UBTD2	7.1	
Q	UBTD1	7.1	
R	TAF3	7.0	1
	ATP6V1H	7.0	19
S	PUS7L	6.9	
S	PUS7	6.9	
	TMEM30A	6.9	

1: transcription factor TFIID complex || 2: SAGA-type complex || 3: STAGA complex || 4: chromosome || 5: aggresome || 6: PML body || 7: proteasome complex || 8: nuclear origin of replication recognition complex || 9: origin recognition complex || 10: PCAF complex || 11: Ada2/Gcn5/Ada3 transcription activator complex || 12: epsilon DNA polymerase complex || 13: catalytic step 2 spliceosome || 14: nuclear speck || 15: U5 snRNP || 16: FHF complex || 17: HOPS complex || 18: intermediate filament cytoskeleton || 19: vacuolar proton-transporting V-type ATPase, V1 domain

ECM 31, Gene set "nuclear speck", Page 3

Num of ECM Genes: 1. Num of Predicted Genes: 453

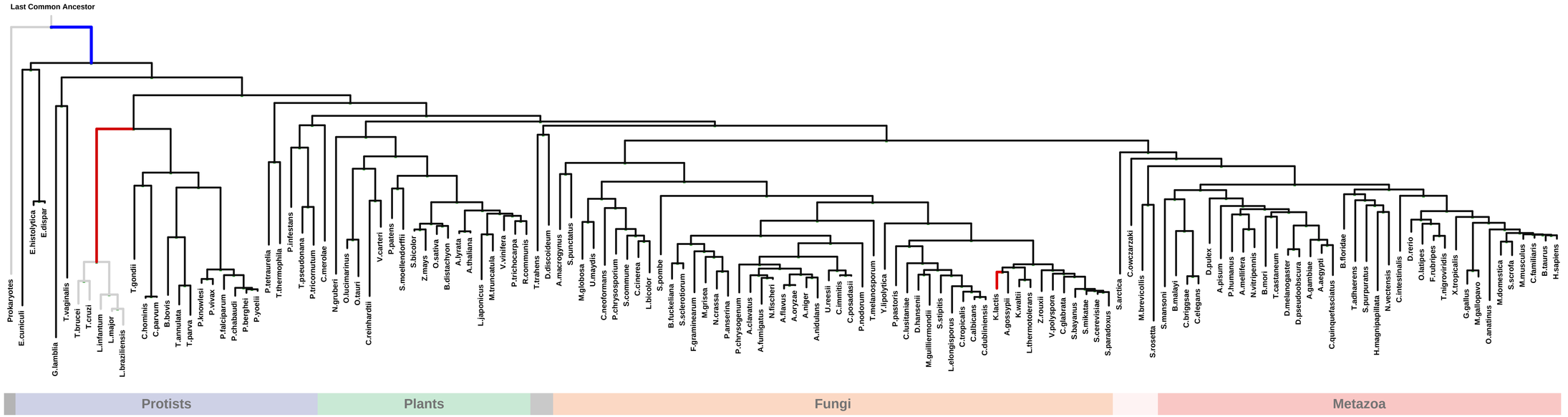




1: catalytic step 2 spliceosome || 2: spliceosomal complex || 3: microtubule cytoskeleton || 4: cytoplasmic microtubule || 5: midbody || 6: nuclear cyclin-dependent protein kinase holoenzyme complex || 7: nuclear speck || 8: cilium ||
9: cis-Golgi network || 10: endoplasmic reticulum-Golgi intermediate compartment || 11: cilium axoneme || 12: Golgi cisterna membrane || 13: neuron projection || 14: ruffle || 15: ruffle membrane || 16: trans-Golgi network ||
17: CCR4-NOT complex || 18: cytoplasmic mRNA processing body || 19: inhibitory synapse || 20: postsynaptic membrane || 21: basolateral plasma membrane || 22: cell-cell junction || 23: membrane raft || 24: transport vesicle ||

ECM 31, Gene set "nuclear speck", Page 4

Num of ECM Genes: 1. Num of Predicted Genes: 453

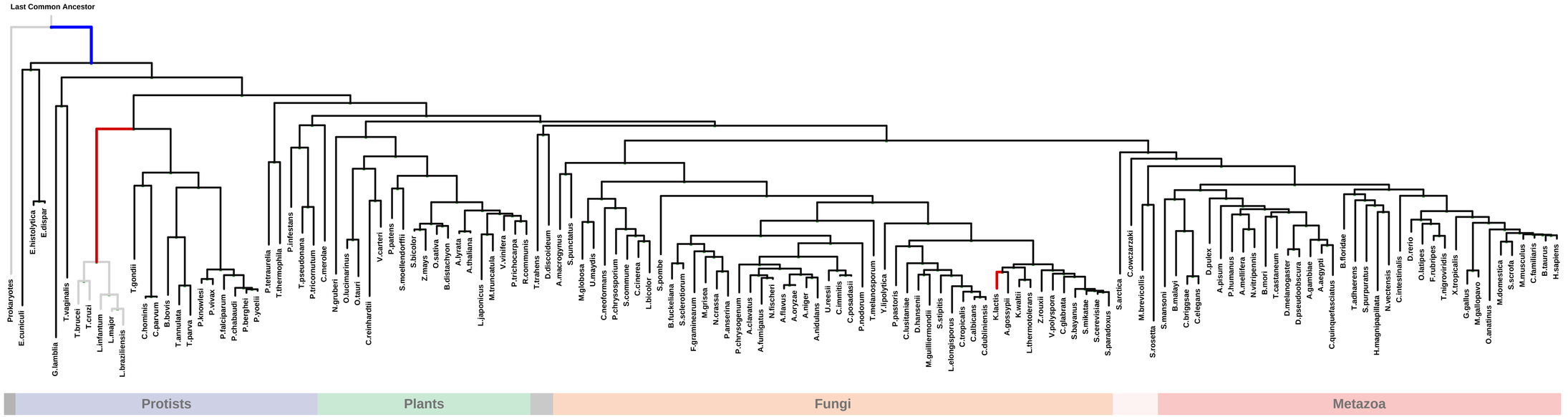


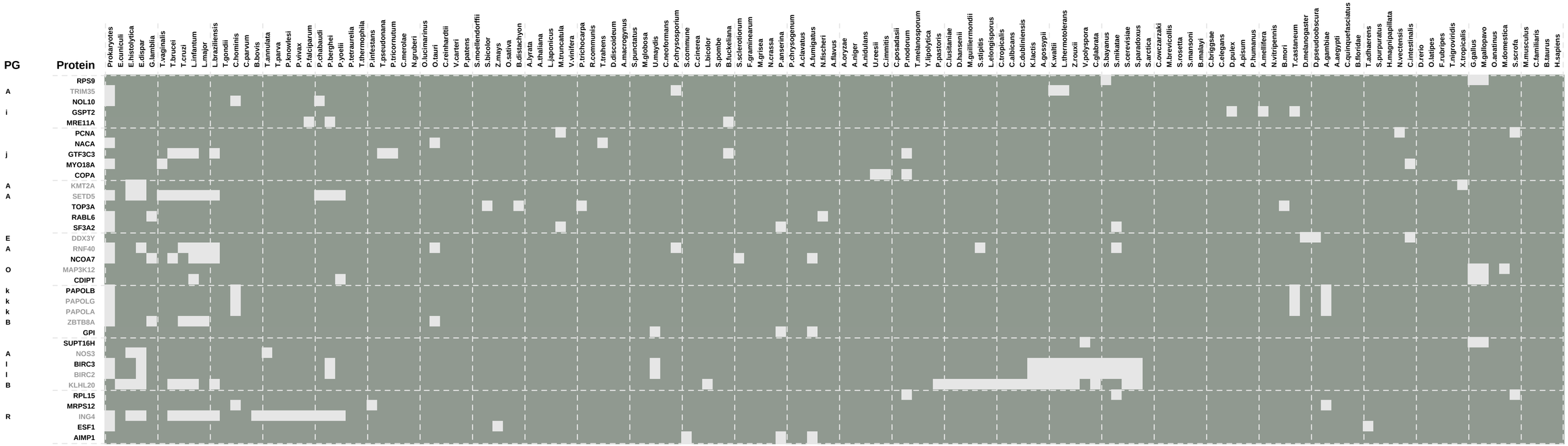
PG	Protein	LLR	Notes
	SPAG6	5.8	1 / 2 / 3 / 4
	WDR34	5.8	
e	ISG20L2	5.8	
A	KMT2D	5.8	5
	MCM6	5.8	6
A	RFPL4B	5.7	
	GTF2B	5.7	
A	TRIM5	5.6	7
	NAA50	5.5	
B	ZBTB11	5.5	
	EML4	5.5	
A	TRIM62	5.5	
f	ZSWIM2	5.5	
	RPS5	5.4	8 / 9
G	HCN2	5.4	10 / 11 / 12 / 13
A	SETD2	5.4	14
A	TRIM4	5.4	
A	PCGF1	5.4	15
	ATR	5.4	14 / 16 / 17
	HIPK2	5.4	
a	ARFGEF1	5.4	18 / 19 / 20
a	ARFGEF2	5.4	20 / 21 / 22 / 23 / 24 / 25 /
	SRD5A1	5.3	29 / 30
	PIK3C2B	5.3	31
	KRR1	5.2	9
	PSMD4	5.2	32 / 33
	ATP6V1C1	5.1	24 / 34 / 35 / 36
	POLR3F	5.0	37
g	KHDRBS3	4.9	
g	KHDRBS2	4.9	
	DUS3L	4.8	
	SF3A3	4.8	38 / 39 / 40
h	SMARCC2	4.8	41 / 42 / 43 / 44
A	TRIM11	4.7	
C	SENP7	4.7	

1: axoneme || 2: cilium || 3: flagellum || 4: microtubule cytoskeleton || 5: histone methyltransferase complex || 6: MCM complex || 7: cytoplasmic mRNA processing body || 8: cytosolic small ribosomal subunit || 9: ribonucleoprotein complex ||
10: axon || 11: dendritic shaft || 12: synapse || 13: voltage-gated potassium channel complex || 14: chromosome || 15: PcG protein complex || 16: PML body || 17: XY body || 18: nuclear matrix || 19: small nuclear ribonucleoprotein complex ||
20: trans-Golgi network || 21: asymmetric synapse || 22: axonemal microtubule || 23: cytoplasmic membrane-bounded vesicle || 24: cytoplasmic vesicle || 25: dendritic spine || 26: microtubule organizing center || 27: recycling endosome ||

ECM 31, Gene set "nuclear speck", Page 5

Num of ECM Genes: 1. Num of Predicted Genes: 453

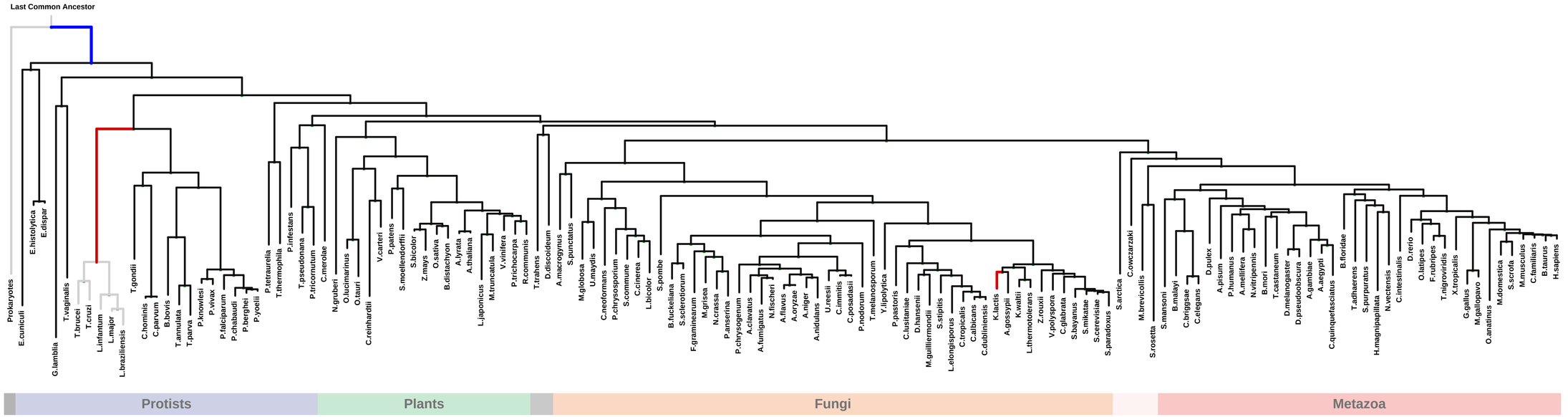




1: cytosolic small ribosomal subunit || 2: ribonucleoprotein complex || 3: ribosome || 4: chromosome, telomeric region || 5: condensed nuclear chromosome || 6: Mre11 complex || 7: nuclear chromatin || 8: DNA replication factor C complex ||
9: microtubule cytoskeleton || 10: nuclear replication fork || 11: PCNA-p21 complex || 12: transcription factor TFIIIC complex || 13: actomyosin || 14: endoplasmic reticulum-Golgi intermediate compartment || 15: myosin complex ||
16: COPI vesicle coat || 17: histone methyltransferase complex || 18: MLL1 complex || 19: chromosome || 20: PML body || 21: catalytic step 2 spliceosome || 22: small nuclear ribonucleoprotein complex || 23: spliceosomal complex ||

ECM 31, Gene set "nuclear speck", Page 6

Num of ECM Genes: 1. Num of Predicted Genes: 453

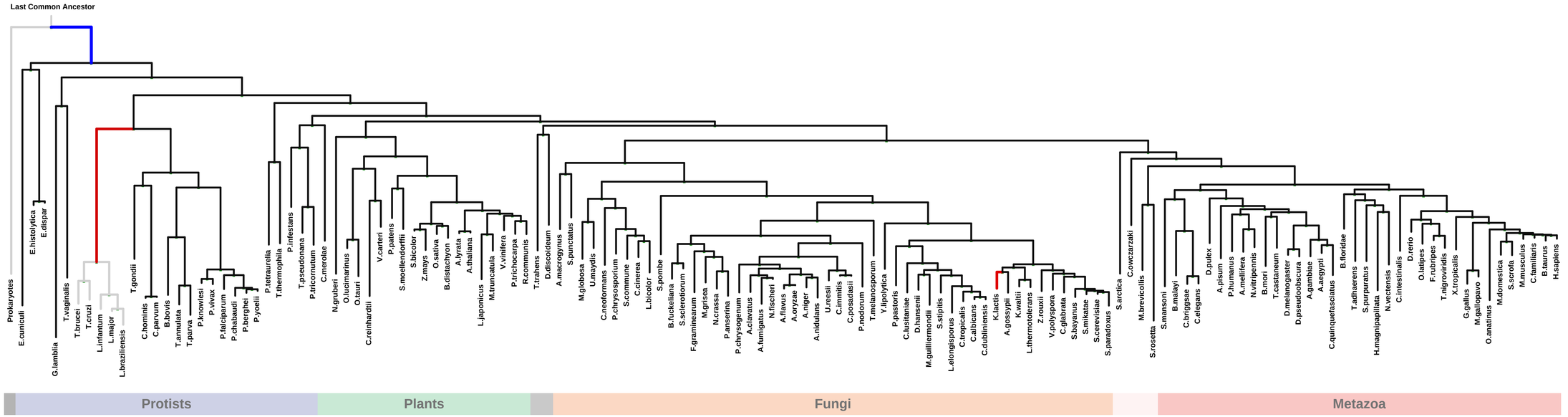


PG	Protein	LLR	Notes
m	PES1	3.8	1 / 2 / 3
m	GTF2H2D	3.8	
m	GTF2H2	3.8	4
m	GTF2H2C	3.8	
m	100510744	3.8	
	RPTOR	3.7	5 / 6 / 7
	HSDL1	3.7	
B	ANKRD13A	3.7	
	RPS18	3.6	8 / 9 / 10
n	TUBGCP2	3.6	11 / 12 / 13
	FBL	3.6	14 / 15 / 16
o	NME5	3.6	
C	SENP6	3.5	
	653881	3.5	
p	PUM2	3.5	17
p	PUM1	3.5	
	RPS20	3.5	8
	AGAP3	3.5	18
q	SSRP1	3.5	19
A	TRIM3	3.5	20
b	HINT2	3.5	
Y	INPP5J	3.4	21 / 22 / 23
	RNGTT	3.4	
A	EP300	3.3	24 / 25 / 26
G	HCN1	3.3	5 / 27
	IARS	3.3	
	TPI1	3.3	
	RPL13A	3.2	28 / 29 / 30
B	ZBTB7A	3.2	
W	VPS13A	3.2	
r	KCNAB2	3.2	31
	PPAN-P2RY11	3.2	
q	HMGB2	3.2	1
q	100508670	3.2	
q	HMGB3P27	3.2	19

1: condensed chromosome || 2: PeBoW complex || 3: preribosome, large subunit precursor || 4: holo TFIIH complex || 5: dendrite || 6: lysosome || 7: TORC1 complex || 8: cytosolic small ribosomal subunit || 9: ribosome ||
10: small ribosomal subunit || 11: cytoplasmic microtubule || 12: microtubule organizing center || 13: spindle pole || 14: box C/D snoRNP complex || 15: Cajal body || 16: granular component || 17: cytoplasmic stress granule ||
18: cell periphery || 19: chromosome || 20: early endosome || 21: dendritic shaft || 22: growth cone || 23: ruffle || 24: chromatin || 25: histone acetyltransferase complex || 26: protein-DNA complex || 27: axon ||

ECM 31, Gene set "nuclear speck", Page 7

Num of ECM Genes: 1. Num of Predicted Genes: 453

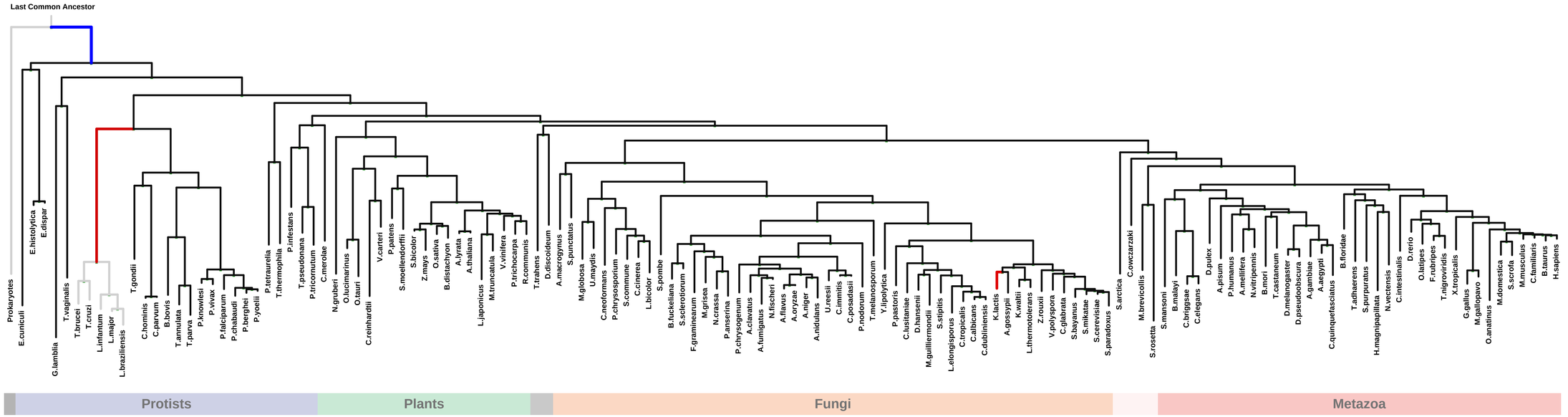


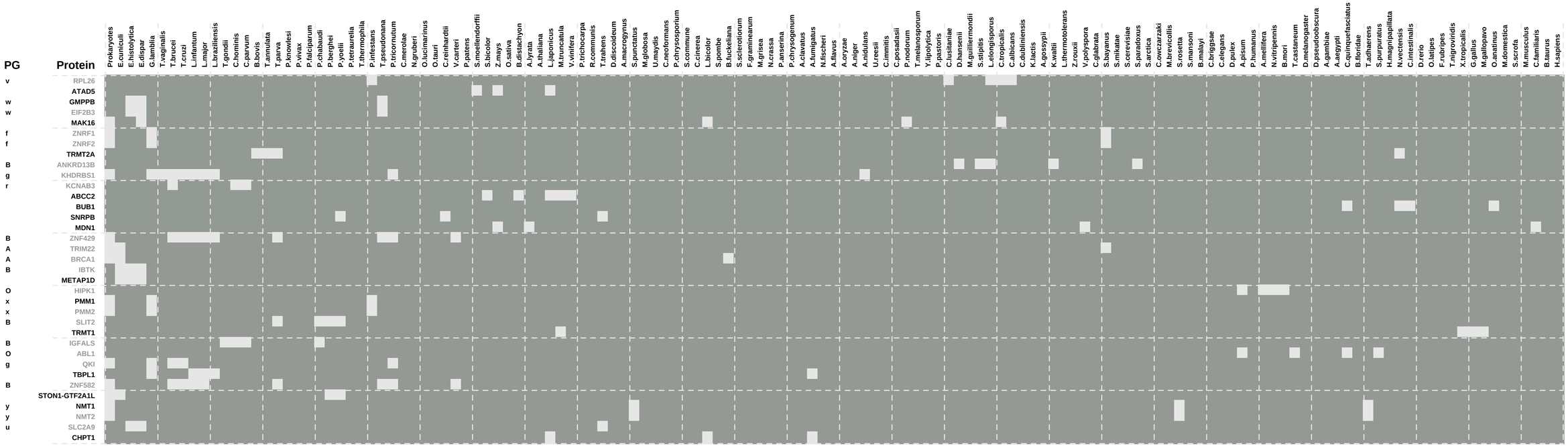
PG	Protein	LLR	Notes
	ABHD17A	3.1	
B	LRG1	3.1	
B	FEM1C	3.1	
	PSMC2	3.1	1 / 2
	RNF121	3.1	
	UFD1L	3.0	
	UBA1	3.0	
	REV3L	3.0	3 / 4
B	PHLPP2	3.0	
	DCP2	3.0	5 / 6
s	OSBP2	3.0	
	SLC36A4	3.0	
O	LATS1	3.0	7 / 8
B	LOC100289085	2.9	
t	EIF4E2	2.9	9
t	EIF4E	2.9	5 / 6 / 9 / 10 / 11
t	EIF4E1B	2.9	9
	PTRH2	2.9	
n	TUBGCP3	2.9	12 / 13 / 14
e	REXO1L11P	2.9	
e	REXO1L10P	2.9	
u	SLC2A6	2.9	
u	SLC2A8	2.9	15 / 16
e	REXO1L1	2.9	
e	LOC100288562	2.9	
	PIGA	2.8	17
B	MYNN	2.8	
L	CHRAC1	2.8	18 / 19
	RPL5	2.8	20 / 21
e	PAN2	2.7	
	CMTR2	2.7	
G	PRKAR2A	2.7	22 / 23
i	GSPT1	2.7	
	TBCE	2.6	
v	RPL26L1	2.5	24

1: proteasome accessory complex || 2: proteasome complex || 3: chromosome || 4: zeta DNA polymerase complex || 5: cytoplasmic mRNA processing body || 6: RNA-induced silencing complex || 7: microtubule organizing center ||
8: spindle pole || 9: mRNA cap binding complex || 10: cytoplasmic stress granule || 11: eukaryotic translation initiation factor 4F complex || 12: centriole || 13: polar microtubule || 14: spindle || 15: cytoplasmic vesicle membrane ||
16: synaptic vesicle || 17: glycosylphosphatidylinositol-N-acetylglucosaminyltransferase (GPI-GnT) complex || 18: chromatin accessibility complex || 19: epsilon DNA polymerase complex || 20: cytosolic large ribosomal subunit || 21: ribonucleoprotein complex ||

ECM 31, Gene set "nuclear speck", Page 8

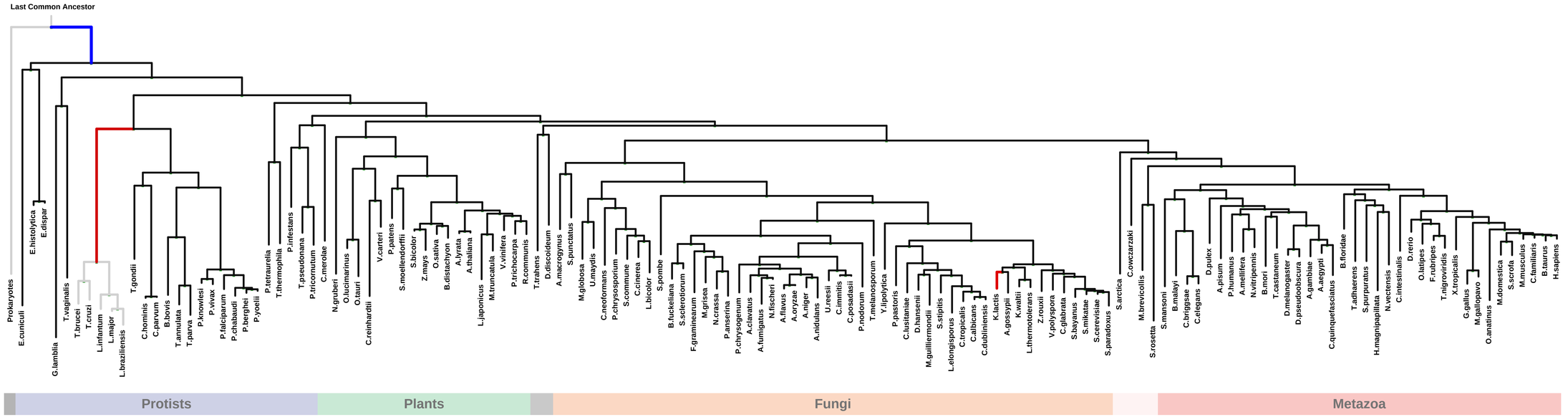
Num of ECM Genes: 1. Num of Predicted Genes: 453





ECM 31, Gene set "nuclear speck", Page 9

Num of ECM Genes: 1. Num of Predicted Genes: 453

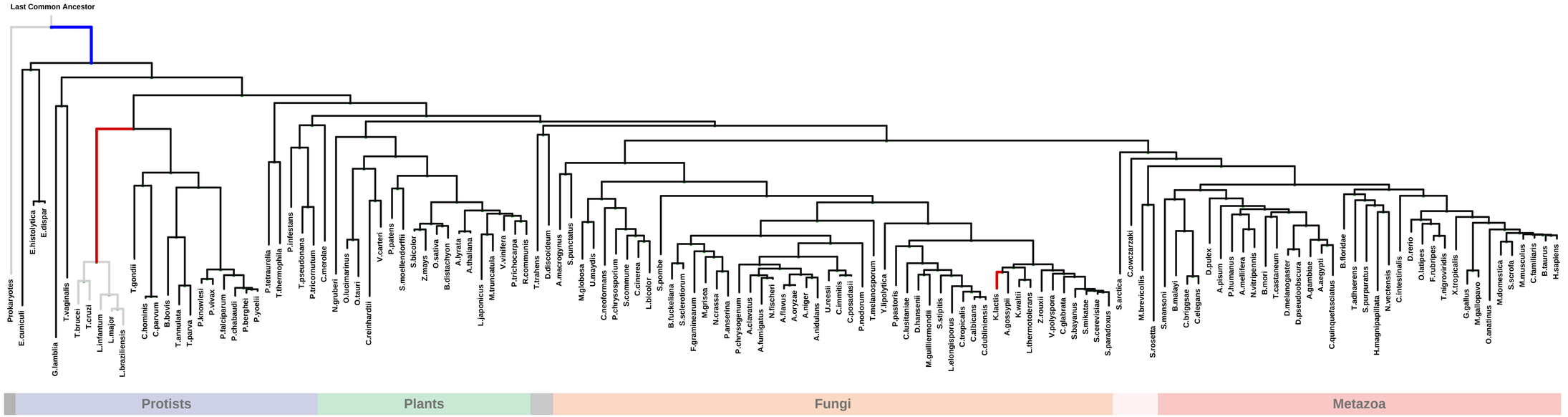


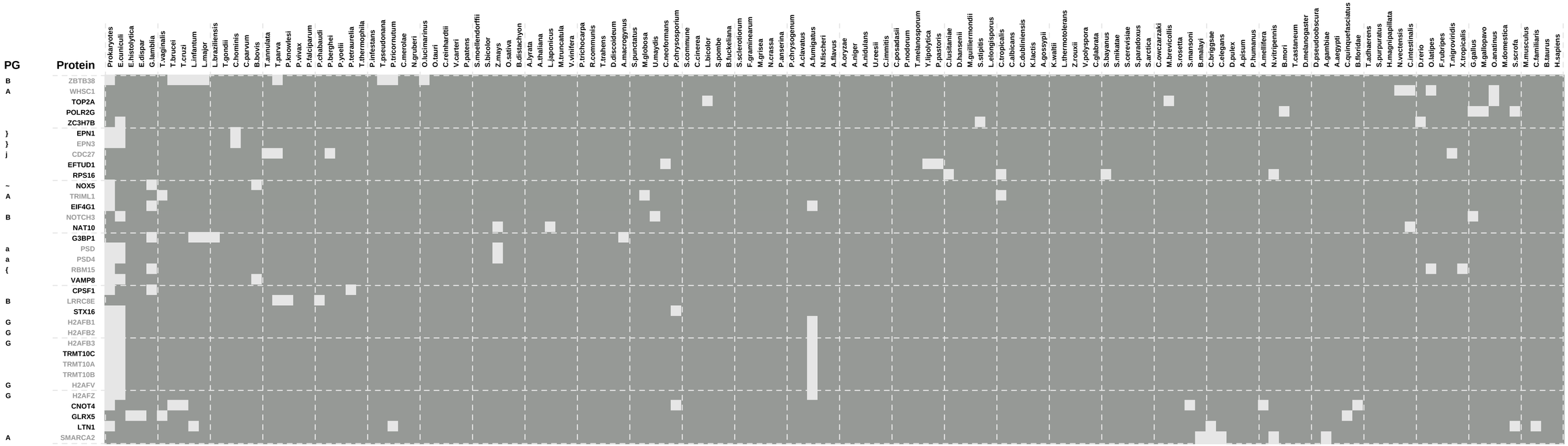
PG	Protein	LLR	Notes
j	TMTC1	2.1	
B	ZNF248	2.0	
B	ZNF180	2.0	
U	CCDC130	2.0	
L	NFYC	2.0	7
V	MAPRE1	2.0	8 / 9 / 10 / 11 / 12
A	NOS1	2.0	13 / 14 / 15 / 16
h	SMARCC1	2.0	17 / 18 / 19 / 20 / 21
z	DAAM1	1.9	22
z	INF2	1.9	
z	DIAPH1	1.9	23 / 24
z	DIAPH2	1.9	1
A	PHF21A	1.9	26
A	AIRE	1.9	27
q	100508832	1.9	
q	HMGB1P40	1.9	
l	RPL10	1.9	28
B	EGR3	1.9	
N	CAPS	1.8	
B	ZNF541	1.8	
B	LRRTM2	1.7	30
B	SHOC2	1.7	31
B	LRRTM4	1.7	30
B	LRRC8C	1.7	

1: early endosome || 2: integral to endoplasmic reticulum membrane || 3: late endosome || 4: catalytic step 2 spliceosome || 5: spliceosomal complex || 6: U12-type spliceosomal complex || 7: CCAAT-binding factor complex || 8: cell projection membrane || 9: cortical microtubule cytoskeleton || 10: cytoplasmic microtubule || 11: microtubule plus end || 12: spindle || 13: dendritic spine || 14: photoreceptor inner segment || 15: sarcolemma || 16: sarcoplasmic reticulum || 17: nBAF complex || 18: npBAF complex || 19: SWI/SNF complex || 20: WINAC complex || 21: XY body || 22: stress fiber || 23: mitotic spindle || 24: ruffle membrane || 25: transcriptional repressor complex || 26: histone deacetylase complex ||

ECM 31, Gene set "nuclear speck", Page 10

Num of ECM Genes: 1. Num of Predicted Genes: 453

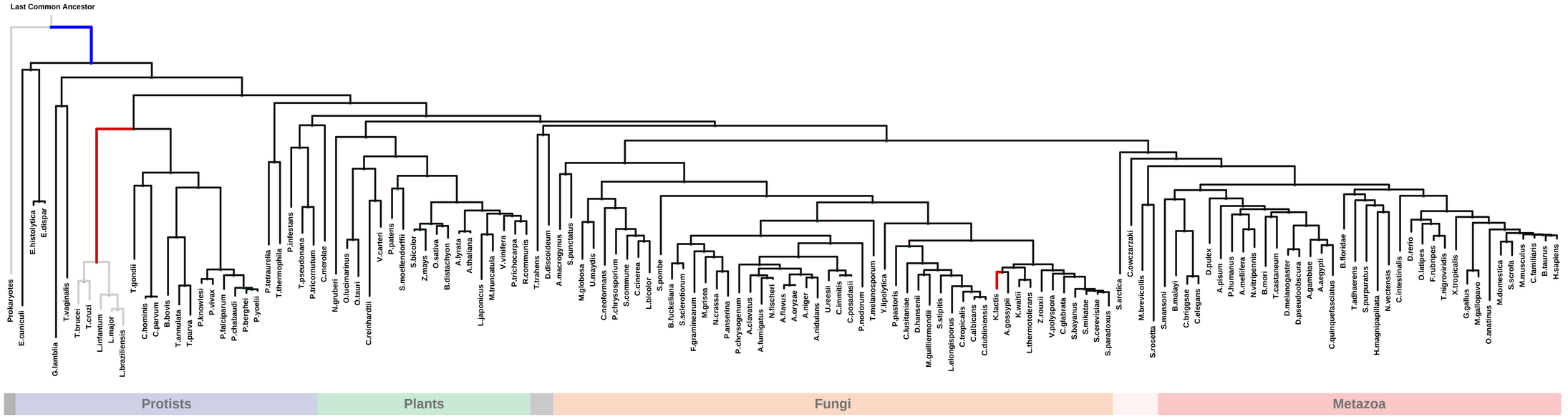




1: chromosome || 2: nuclear membrane || 3: centriole || 4: nuclear chromosome || 5: nucleoid || 6: synaptonemal complex || 7: DNA-directed RNA polymerase II, core complex || 8: coated pit || 9: clathrin-coated vesicle ||
10: anaphase-promoting complex || 11: spindle || 12: spindle microtubule || 13: cytosolic small ribosomal subunit || 14: small ribosomal subunit || 15: eukaryotic translation initiation factor 4F complex || 16: ruffle || 17: trans-Golgi network ||
18: early endosome || 19: late endosome membrane || 20: lysosomal membrane || 21: recycling endosome || 22: secretory granule membrane || 23: SNARE complex || 24: mRNA cleavage and polyadenylation specificity factor complex ||

ECM 31, Gene set "nuclear speck", Page 11

Num of ECM Genes: 1. Num of Predicted Genes: 453

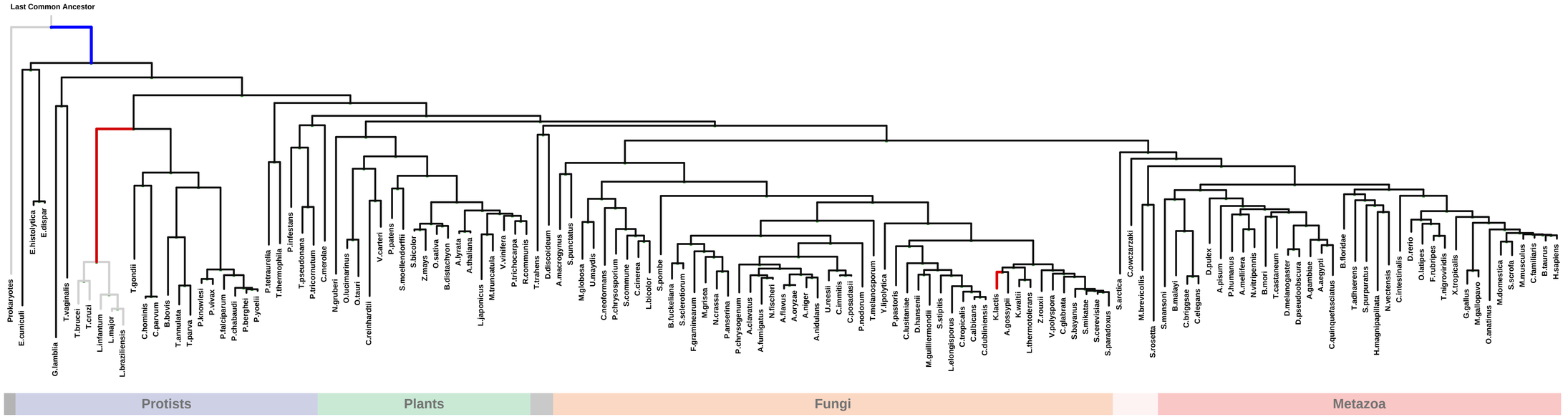


PG	Protein	LLR	Notes
A	CHD6	1.3	
	TMED4	1.3	
	TMED9	1.3	1 / 2 / 3
	TMED2	1.3	1 / 2 / 4 / 5 / 6 / 7
	DNAL1	1.3	
	XRCC3	1.3	
X	KDELR2	1.2	8
o	NME7	1.2	
A	RNF4	1.2	9 / 10
O	TRIO	1.1	
G	HCN3	1.1	
	EXOSC2	1.0	11
s	OSBPL8	1.0	
s	OSBPL5	1.0	
	TMX4	1.0	
	COQ3	1.0	
A	NSD1	1.0	12
	PRIM1	1.0	13
B	CPN2	1.0	
	PSMD13	1.0	14 / 15 / 16
	SEC22B	1.0	1 / 2 / 17
h	MYSM1	0.9	18
	DUT	0.9	
	LSM1	0.9	19
	TMX2	0.9	
	FUS	0.9	
A	TRIM43B	0.9	
A	TRIM43	0.9	
	JADE3	0.9	20
	DHPS	0.9	
	RNASEH2A	0.9	21
A	PDZRN3	0.8	22
	GNAI3	0.8	23 / 24 / 25 / 26 / 27
	GNAI2	0.8	23 / 24 / 25 / 26
	RPL27A	0.7	28

1: endoplasmic reticulum-Golgi intermediate compartment || 2: endoplasmic reticulum-Golgi intermediate compartment membrane || 3: trans-Golgi network transport vesicle || 4: COPI-coated vesicle || 5: COPI-coated vesicle membrane || 6: Golgi cisterna membrane ||
7: zymogen granule membrane || 8: cis-Golgi network || 9: microtubule cytoskeleton || 10: PML body || 11: exosome (RNase complex) || 12: chromosome || 13: alpha DNA polymerase:primase complex || 14: proteasome accessory complex ||
15: proteasome complex || 16: proteasome regulatory particle || 17: melanosome || 18: chromatin remodeling complex || 19: ribonucleoprotein complex || 20: histone acetyltransferase complex || 21: ribonuclease H2 complex ||

ECM 31, Gene set "nuclear speck", Page 12

Num of ECM Genes: 1. Num of Predicted Genes: 453

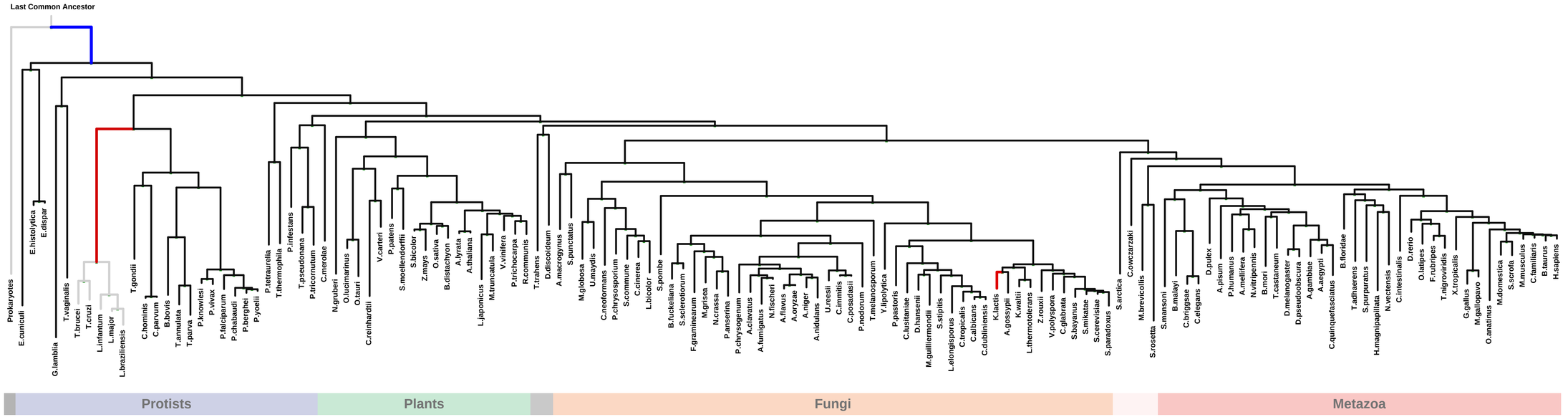


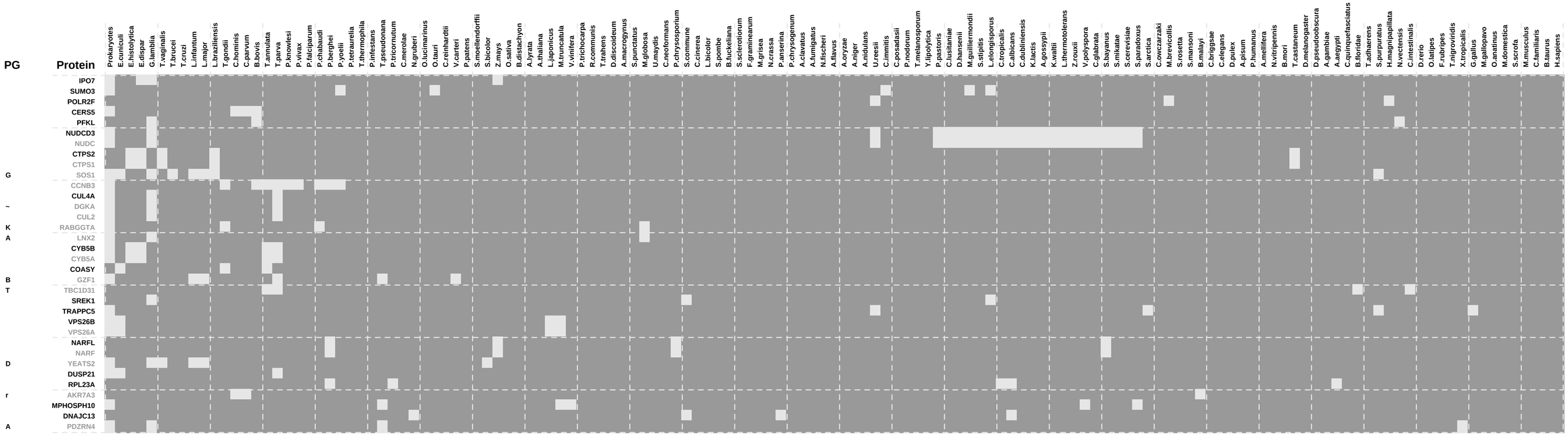
PG	Protein	LLR	Notes
	CCNH	0.7	1 / 2
A	SH3RF2	0.7	
B	ABTB2	0.7	
	TRNT1	0.7	
	SEC11C	0.6	
	SEC11A	0.6	
	RPS13	0.6	3 / 4
	UBE4A	0.6	5
	EPHX4	0.6	
f	RNF43	0.6	6
	WDR74	0.6	
	COPG2	0.6	7
	COPG1	0.6	7
B	LRRIQ4	0.6	
	DTYMK	0.5	
	TAF9	0.5	8 / 9 / 10 / 11 / 12 / 13 / 14
	UBQLN3	0.5	
B	HIC2	0.5	15
B	LUM	0.5	16 / 17 / 18 / 19 / 20
B	ANKRD62	0.5	
	TSR3	0.5	
	HSD11B1L	0.5	
B	TLR5	0.5	
B	652022	0.4	
	CCNB2	0.4	21
	CCND1	0.4	22
	CCND2	0.4	22 / 23 / 24
	CCNE1	0.4	22
	CCNE2	0.4	
	CCNA1	0.4	21
	CCNI	0.4	
	CCNO	0.4	
	CCNA2	0.4	25 / 26
	CCNB1	0.4	27 / 28
	CNTD2	0.4	

1: cyclin-dependent protein kinase activating kinase holoenzyme complex || 2: holo TFIIH complex || 3: cytosolic small ribosomal subunit || 4: ribosome || 5: ubiquitin ligase complex || 6: nuclear envelope || 7: COPI vesicle coat ||
8: Cajal body || 9: MLL1 complex || 10: PCAF complex || 11: pre-snoRNP complex || 12: STAGA complex || 13: transcription factor TFIID complex || 14: transcription factor TFTC complex || 15: focal adhesion || 16: extracellular matrix ||
17: fibrillar collagen || 18: Golgi lumen || 19: lysosomal lumen || 20: proteinaceous extracellular matrix || 21: microtubule cytoskeleton || 22: cyclin-dependent protein kinase holoenzyme complex || 23: chromatin || 24: nuclear membrane ||

ECM 31, Gene set "nuclear speck", Page 13

Num of ECM Genes: 1. Num of Predicted Genes: 453

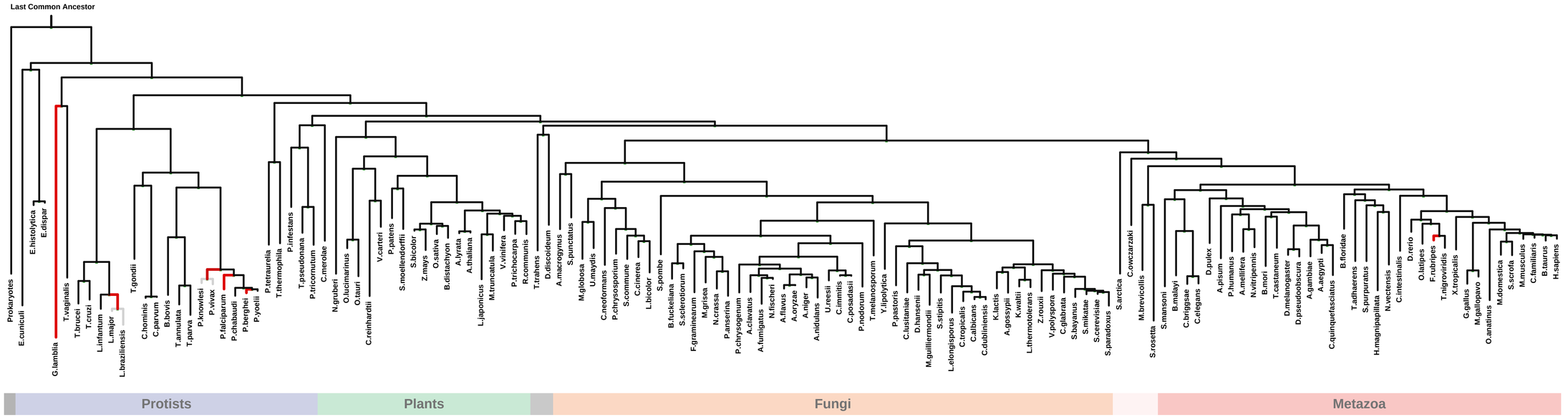




1: nuclear pore || 2: kinetochore || 3: DNA-directed RNA polymerase II, core complex || 4: nuclear membrane || 5: 6-phosphofructokinase complex || 6: Cul4A-RING ubiquitin ligase complex || 7: Cul4-RING ubiquitin ligase complex ||
8: Cul2-RING ubiquitin ligase complex || 9: mitochondrial outer membrane || 10: spliceosomal complex || 11: TRAPP complex || 12: retromer complex || 13: endosome || 14: endosome membrane || 15: vesicle || 16: CIA complex ||
17: lamin filament || 18: nuclear lamina || 19: nuclear lumen || 20: Ada2/Gcn5/Ada3 transcription activator complex || 21: cytosolic large ribosomal subunit || 22: TORC2 complex || 23: chromosome || 24: small nucleolar ribonucleoprotein complex

ECM 32, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 42

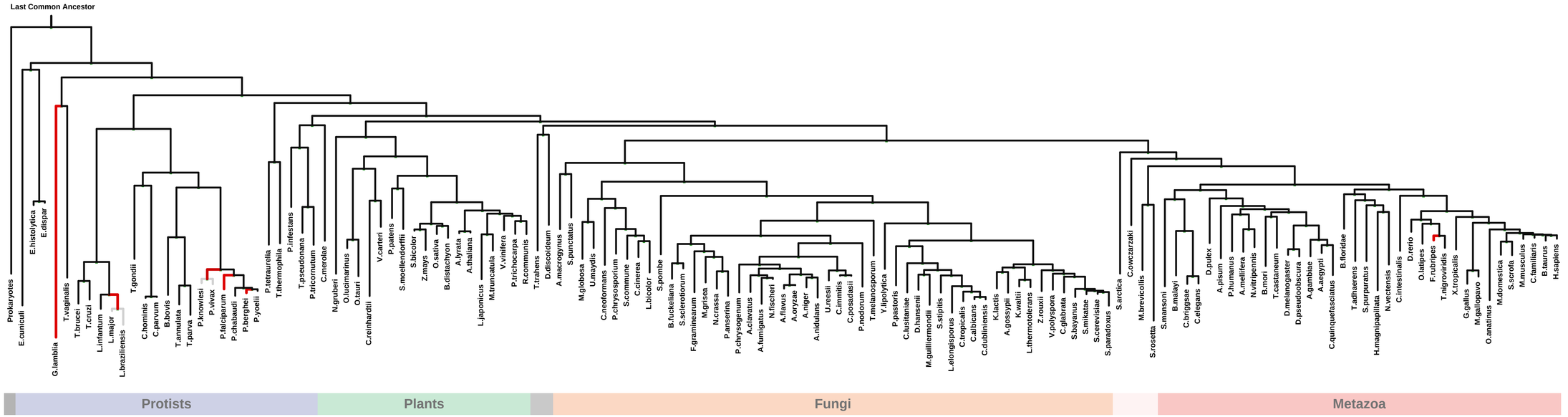


PG	Protein	LLR	Notes
	CTR9		1 / 2 / 3
	FBXW9	18.8	
	MRE11A	13.6	4 / 5 / 6 / 7
A	LRCH3	11.0	
	PSMD13	10.0	8 / 9 / 10
	RHOBTB1	9.1	
	CSE1L	8.2	11
	VAMP3	6.9	12 / 13 / 14 / 15 / 16 / 17
	YEATS4	6.8	18 / 19
	TMTC1	5.8	
	PGLS	5.4	
	CLIP4	5.3	
A	LRRC2	5.2	
	WRNIP1	4.9	
	ESYT1	4.9	
	PGM5	4.8	20 / 21 / 22 / 23 / 24 / 25 /
	NAA16	4.6	
A	LRCH2	4.2	
A	LRRC40	4.1	
	VPS13D	3.2	
	UBD	3.1	29
	IQSEC3	3.1	30 / 31 / 32
	STX2	3.0	33 / 34 / 35 / 36 / 37
	PCGF6	2.8	38 / 39
	ZBTB11	2.7	
	SH3RF2	2.7	
	ALG2	2.5	
	NAA50	2.0	
B	UBTD2	1.8	
B	UBTD1	1.8	
	RABL6	1.2	
	PANK1	0.9	40
	MTCH1	0.8	
A	LRRC58	0.7	
	PES1	0.7	41 / 42 / 43

1: Cdc73/Paf1 complex || 2: nuclear speck || 3: transcriptionally active chromatin || 4: chromosome, telomeric region || 5: condensed nuclear chromosome || 6: Mre11 complex || 7: nuclear chromatin || 8: proteasome accessory complex ||
9: proteasome complex || 10: proteasome regulatory particle || 11: nuclear pore || 12: clathrin-coated vesicle || 13: clathrin-coated vesicle membrane || 14: neuron projection || 15: recycling endosome || 16: SNARE complex ||
17: synapse || 18: NuA4 histone acetyltransferase complex || 19: nuclear matrix || 20: cell-cell adherens junction || 21: costamere || 22: dystrophin-associated glycoprotein complex || 23: focal adhesion || 24: intercalated disc ||

ECM 32, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 42

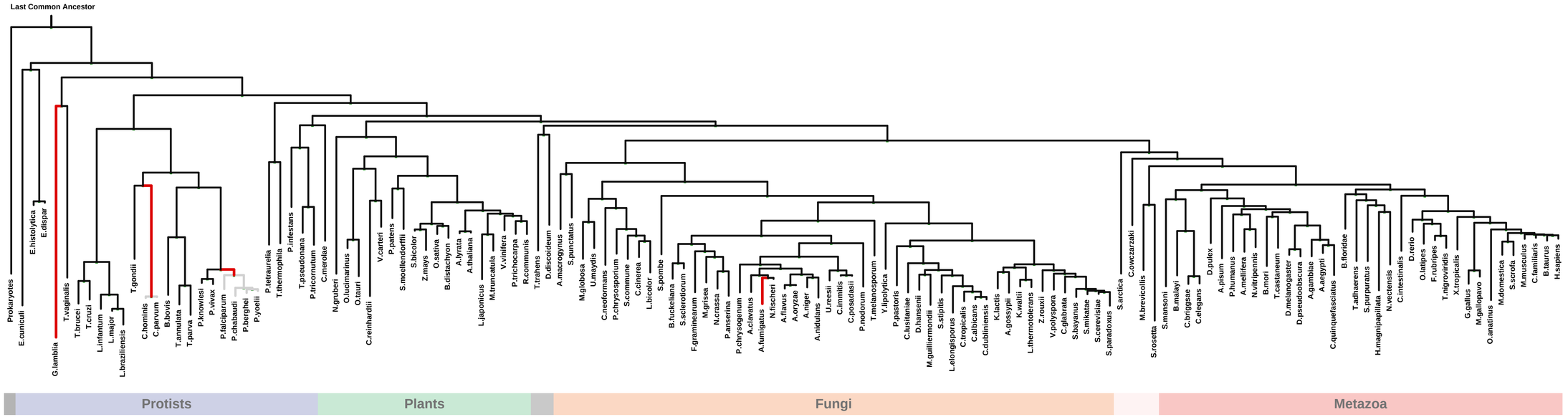


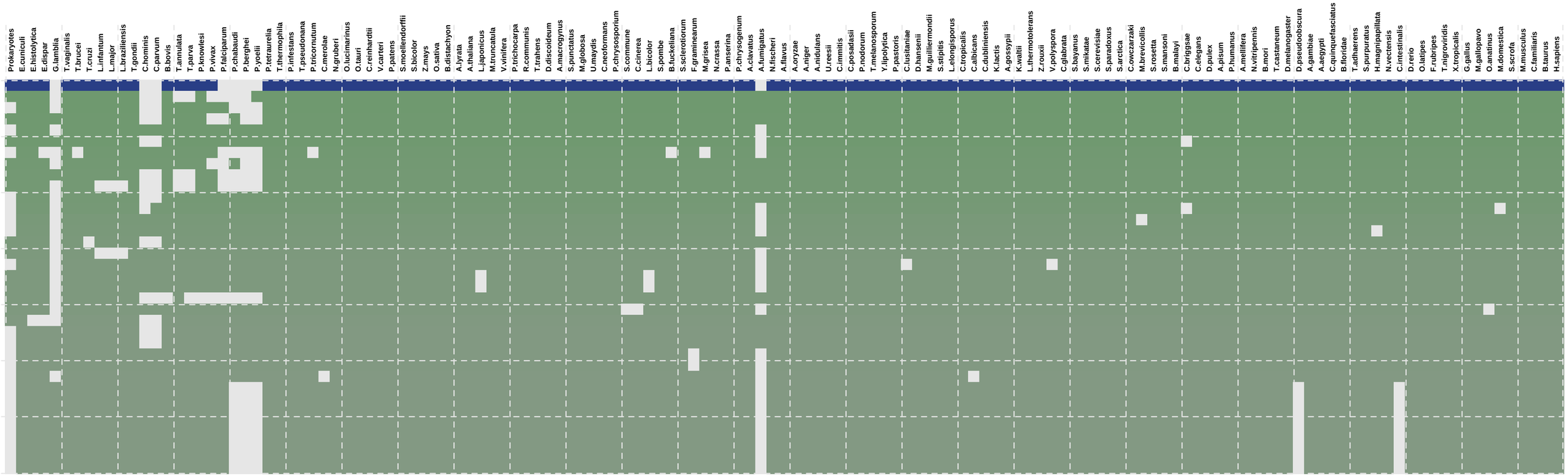
PG	Protein	LLR	Notes
	PLCH2	0.5	
	SSRP1	0.4	1
	TBC1D21	0.4	
A	OMG	0.3	2
C	CRYZ	0.2	
C	TP53I3	0.2	
	LSM1	0.1	3
A	LRG1	0.0	

1: chromosome || 2: anchored to membrane || 3: ribonucleoprotein complex

ECM 33, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 398

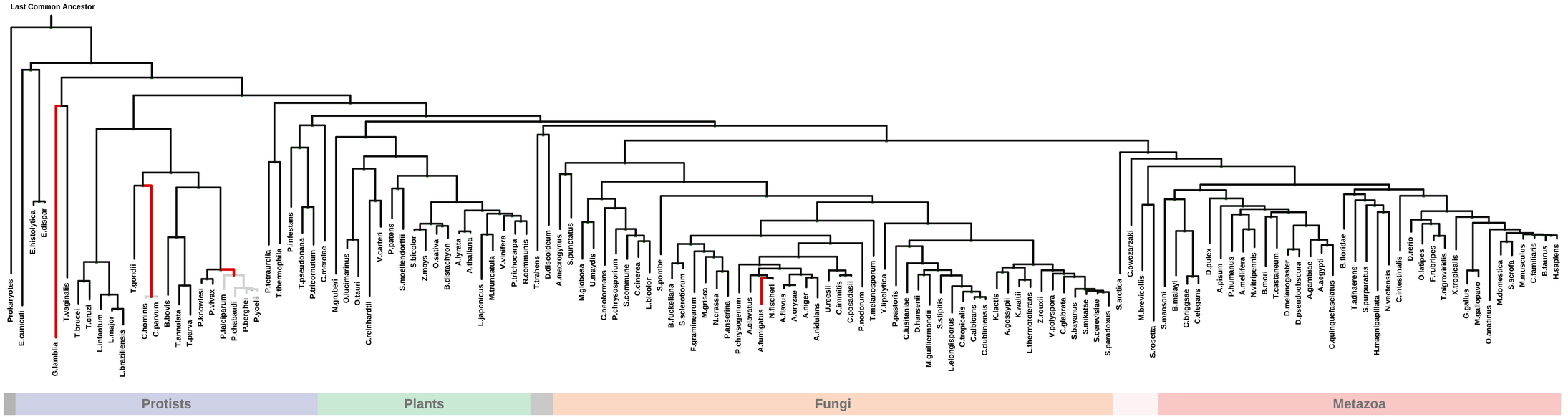


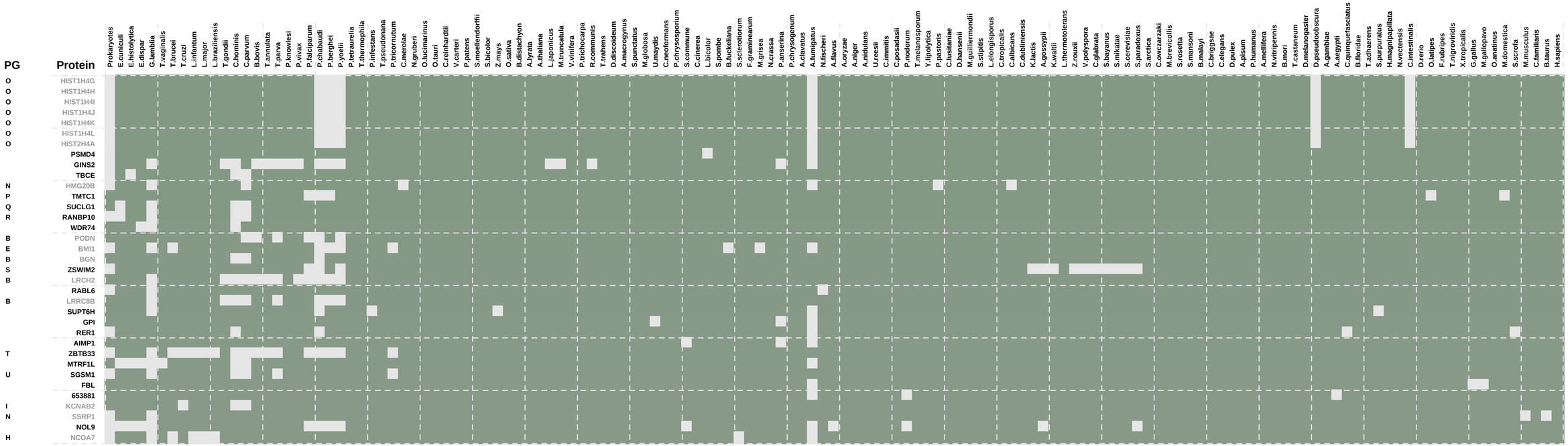


1: midbody || 2: nuclear speck || 3: signalosome || 4: eukaryotic translation initiation factor 4F complex || 5: PML body || 6: condensed chromosome || 7: condensin complex || 8: nuclear chromosome || 9: pronucleus ||
10: transcription factor TFIIA complex || 11: proteasome accessory complex || 12: proteasome complex || 13: nuclear membrane || 14: exosome (RNase complex) || 15: nuclear exosome (RNase complex) || 16: transcriptionally active chromatin ||
17: cytoplasmic stress granule || 18: nucleosome || 19: actin cytoskeleton

ECM 33, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 398

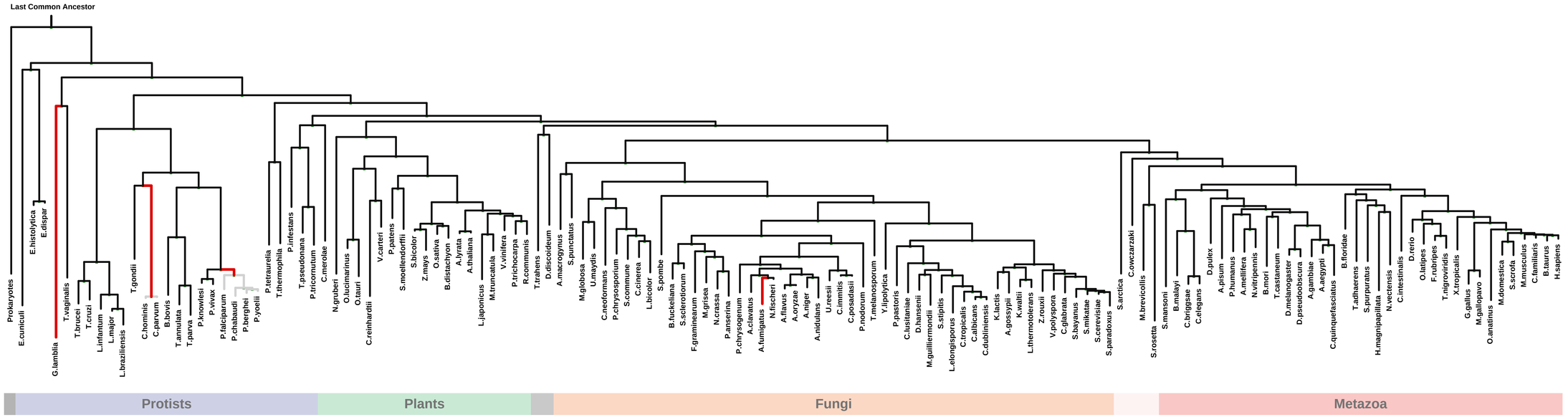


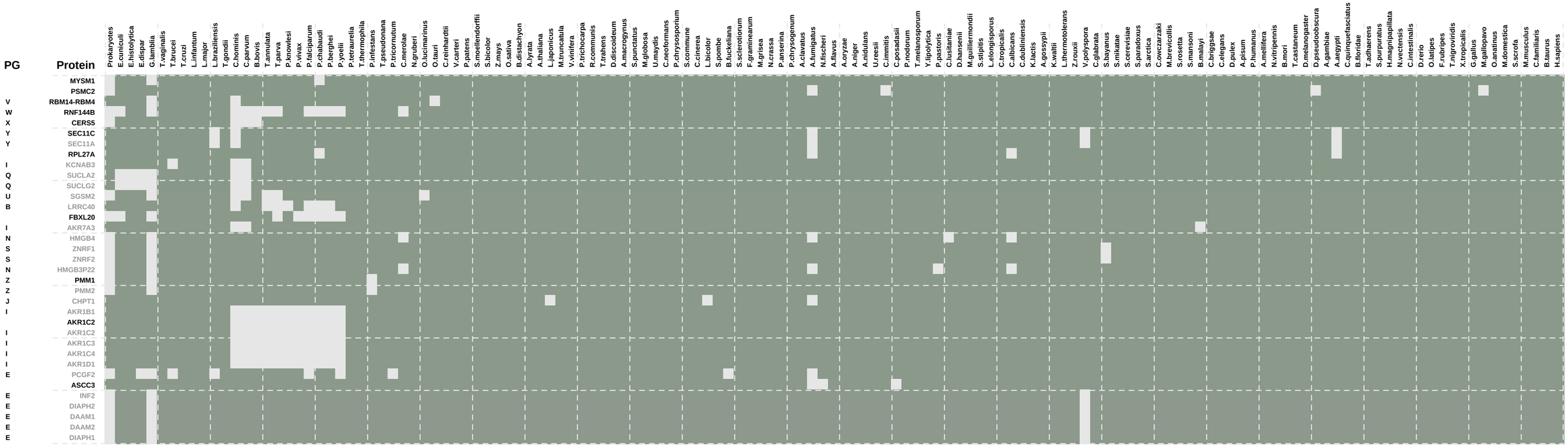


1: actin cytoskeleton || 2: nucleosome || 3: proteasome accessory complex || 4: proteasome complex || 5: chromosome || 6: cytoplasmic microtubule || 7: proteinaceous extracellular matrix || 8: nuclear body || 9: PcG protein complex ||
10: PRC1 complex || 11: ubiquitin ligase complex || 12: extracellular matrix || 13: Golgi lumen || 14: lysosomal lumen || 15: sarcolemma || 16: transport vesicle || 17: integral to Golgi membrane || 18: aminoacyl-tRNA synthetase multienzyme complex ||
19: box C/D snoRNP complex || 20: Cajal body || 21: granular component || 22: juxtaparanode region of axon

ECM 33, Gene set "nuclear speck", Page 3

Num of ECM Genes: 1. Num of Predicted Genes: 398

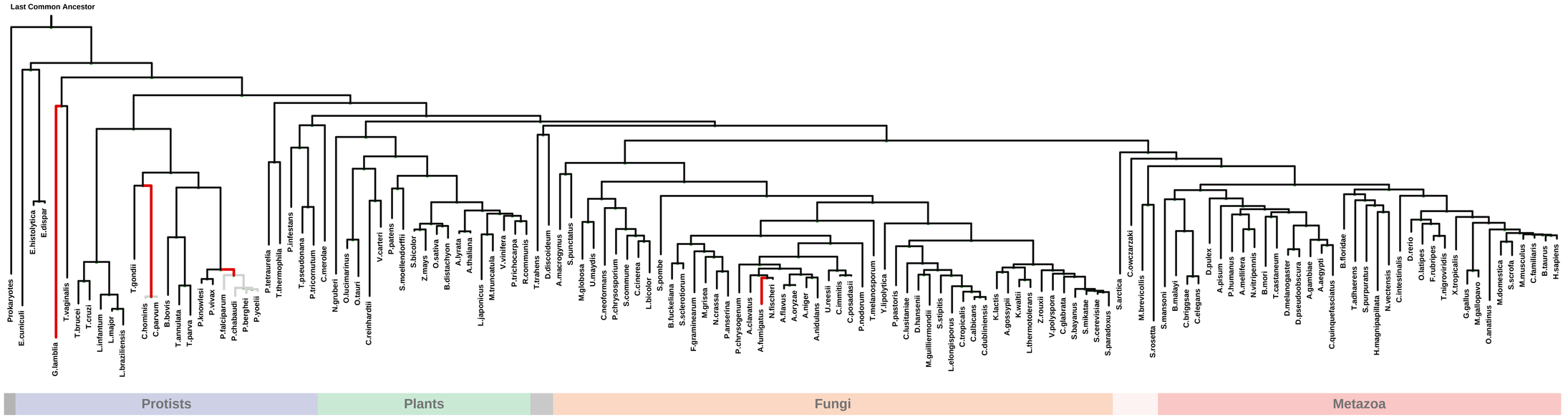




1: chromatin remodeling complex || 2: proteasome accessory complex || 3: proteasome complex || 4: mitochondrial membrane || 5: ubiquitin ligase complex || 6: nuclear membrane || 7: cytosolic large ribosomal subunit || 8: chromosome ||
9: endosome || 10: lysosome || 11: synaptic vesicle membrane || 12: endosome membrane || 13: lysosomal membrane || 14: presynaptic membrane || 15: nuclear body || 16: nuclear chromatin || 17: PcG protein complex ||
18: PRC1 complex || 19: sex chromatin || 20: early endosome || 21: stress fiber || 22: mitotic spindle || 23: ruffle membrane

ECM 33, Gene set "nuclear speck", Page 4

Num of ECM Genes: 1. Num of Predicted Genes: 398

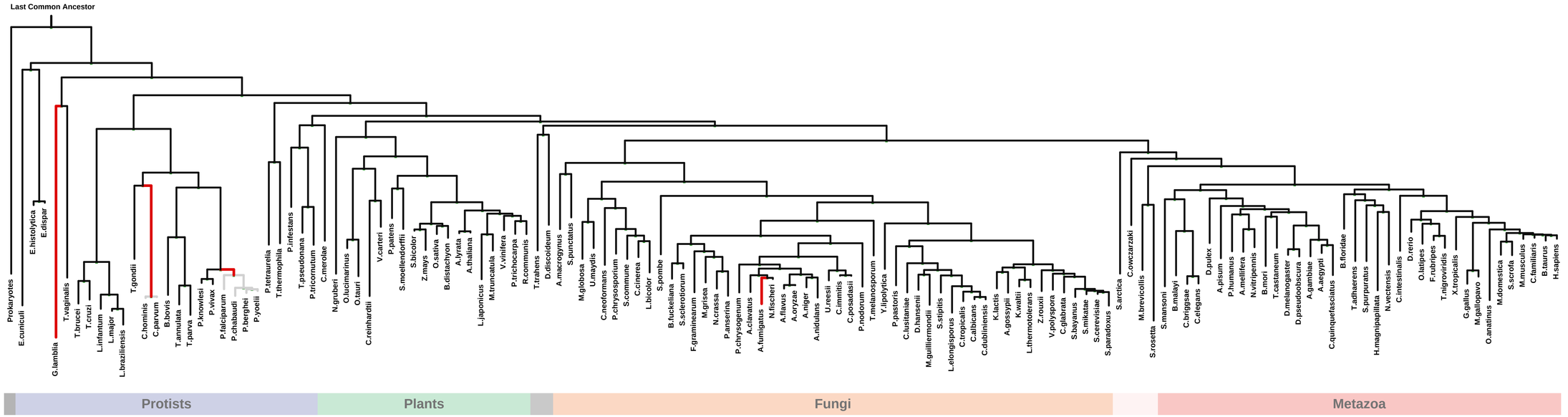


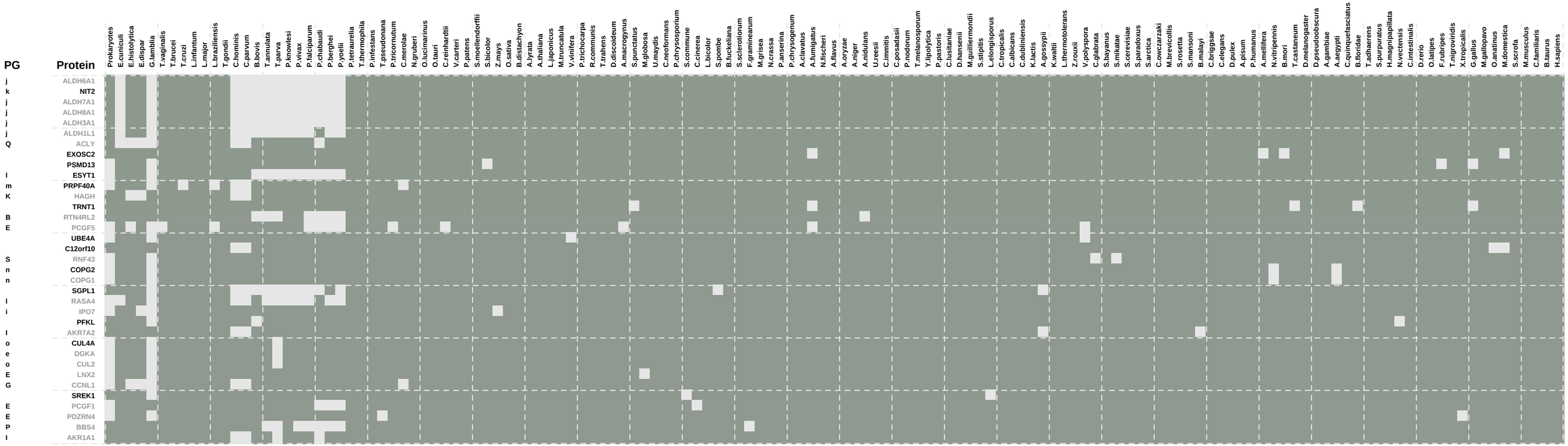
PG	Protein	LLR	Notes
C	H6PD	5.8	1
a	SPEN	5.7	2
b	RPL10L	5.7	3
b	RPL10	5.7	3
l	AKR1C1	5.7	
	IDH3A	5.7	
c	IP6K1	5.7	
c	IP6K2	5.7	4
	TRMT5	5.7	
D	EIF4G2	5.6	5
d	TXNL4A	5.5	6
d	TXNL4B	5.5	6
e	NOX5	5.4	
l	AKR1E2	5.4	
B	LRRC28	5.4	
l	AKR1B15	5.3	
a	RBM15	5.3	
f	CPSF1	5.2	7
g	H2AFB2	5.2	8 / 9
g	H2AFB3	5.2	
h	TRMT10C	5.2	
h	TRMT10A	5.2	
h	TRMT10B	5.2	
g	H2AFV	5.2	10
g	H2AFZ	5.2	10 / 11
g	H2AFB1	5.2	8 / 9
i	CSE1L	5.0	12
E	RNF4	5.0	13 / 14
X	CERS3	5.0	15
j	ALDH3A2	5.0	16
j	ALDH3B2	5.0	
j	ALDH4A1	5.0	
j	ALDH5A1	5.0	
	CBS	5.0	
	CTH	5.0	

1: endoplasmic reticulum lumen || 2: transcriptional repressor complex || 3: cytosolic large ribosomal subunit || 4: intermediate filament cytoskeleton || 5: eukaryotic translation initiation factor 4F complex || 6: spliceosomal complex ||
7: mRNA cleavage and polyadenylation specificity factor complex || 8: nuclear nucleosome || 9: transcriptionally active chromatin || 10: nucleosome || 11: Barr body || 12: nuclear pore || 13: microtubule cytoskeleton || 14: PML body ||
15: nuclear membrane || 16: peroxisome

ECM 33, Gene set "nuclear speck", Page 5

Num of ECM Genes: 1. Num of Predicted Genes: 398

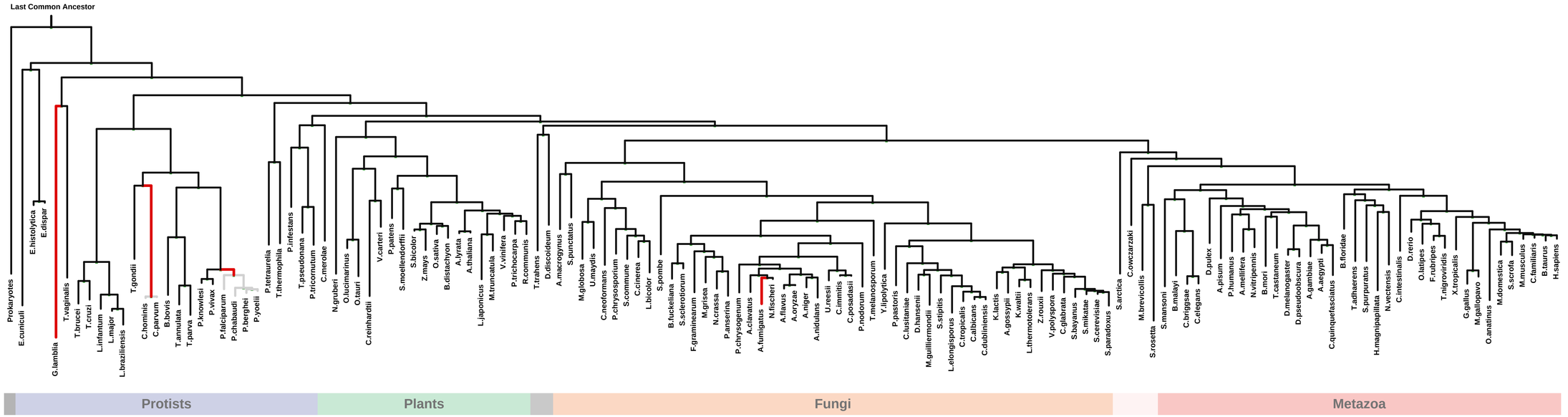


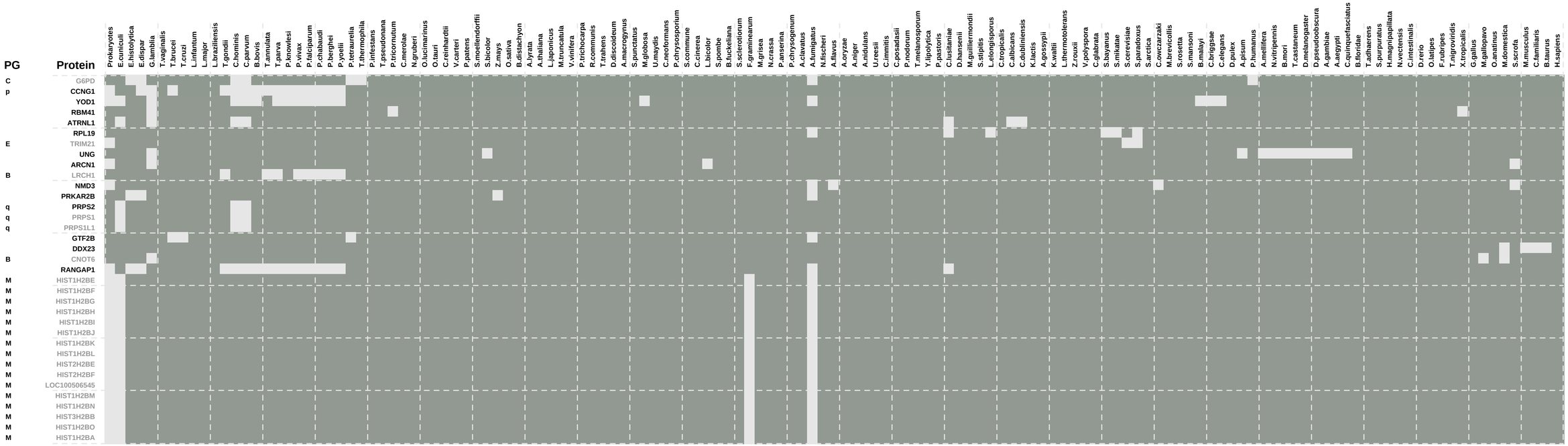


1: citrate lyase complex || 2: exosome (RNase complex) || 3: proteasome accessory complex || 4: proteasome complex || 5: proteasome regulatory particle || 6: nuclear matrix || 7: nuclear speck || 8: anchored to plasma membrane ||
9: external side of plasma membrane || 10: membrane raft || 11: PcG protein complex || 12: ubiquitin ligase complex || 13: nuclear envelope || 14: COPI vesicle coat || 15: integral to endoplasmic reticulum membrane || 16: intrinsic to internal side of plasma membrane ||
17: nuclear pore || 18: 6-phosphofructokinase complex || 19: Cul4A-RING ubiquitin ligase complex || 20: Cul4-RING ubiquitin ligase complex || 21: Cul2-RING ubiquitin ligase complex || 22: spliceosomal complex || 23: BBSome ||

ECM 33, Gene set "nuclear speck", Page 6

Num of ECM Genes: 1. Num of Predicted Genes: 398

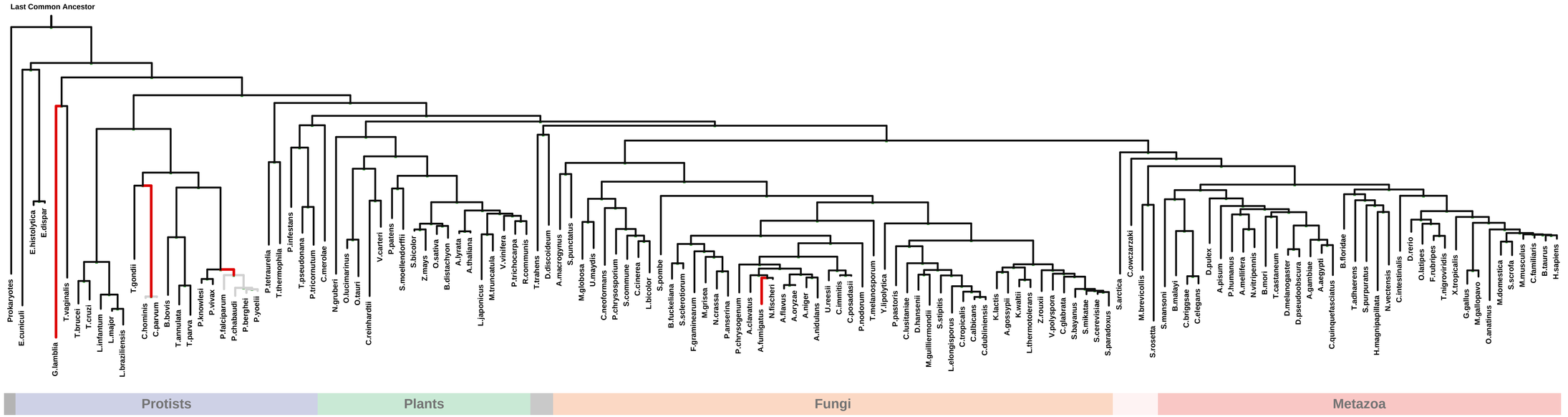




1: internal side of plasma membrane || 2: dendrite || 3: cytosolic large ribosomal subunit || 4: cytoplasmic mRNA processing body || 5: ribonucleoprotein complex || 6: SCF ubiquitin ligase complex || 7: clathrin adaptor complex ||
8: COPI vesicle coat || 9: cAMP-dependent protein kinase complex || 10: membrane raft || 11: catalytic step 2 spliceosome || 12: U5 snRNP || 13: condensed chromosome kinetochore || 14: kinetochore || 15: nuclear membrane ||
16: nuclear pore || 17: spindle pole || 18: nucleosome || 19: extrinsic to plasma membrane

ECM 33, Gene set "nuclear speck", Page 7

Num of ECM Genes: 1. Num of Predicted Genes: 398

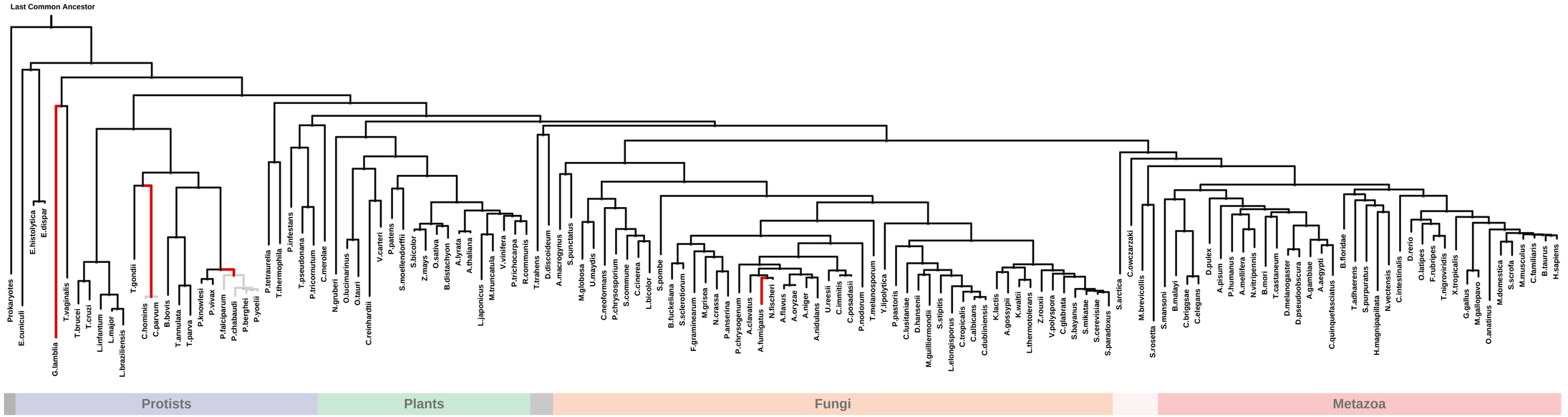


PG	Protein	LLR	Notes
M	HIST1H2BB	3.0	1
M	HIST1H2BC	3.0	1
M	HIST1H2BD	3.0	1
M	100507927	3.0	
	MIPEP	**2.9**	
B	IGFALS	2.9	
B	LRRN2	2.9	
T	ZBTB11	2.9	
	CTR9	**2.8**	**2 / 3 / 4**
	DAZ2	**2.7**	
	ERCC4	**2.7**	**5 / 6 / 7**
	VPS35	**2.7**	**8**
	XPO5	**2.7**	**9**
	METTL21A	**2.6**	
B	FLII	2.6	
	NOL10	**2.6**	
r	**NAPB**	**2.6**	**10**
r	NAPA	2.6	**10**
H	OXR1	2.6	
	LSM1	**2.6**	**11**
	SF1	**2.4**	**12 / 13**
N	HMGB1	2.4	**14 / 15 / 16**
s	**MYO10**	**2.4**	**15 / 17 / 18 / 19 / 20 / 21 /**
s	MYO7B	2.4	**21**
	TRRAP	**2.4**	**23 / 24 / 25 / 26**
	ATP6V1C2	**2.4**	**27**
t	**SPTLC2**	**2.4**	**28**
t	SPTLC3	2.4	**28**
t	ALAS1	2.4	
t	ALAS2	2.4	
t	GCAT	2.4	
t	SPTLC1	2.4	**28 / 29**
k	NIT1	2.4	
	ICMT	**2.3**	
	NIP7	**2.3**	

1: nucleosome || 2: Cdc73/Paf1 complex || 3: nuclear speck || 4: transcriptionally active chromatin || 5: chromosome, telomeric region || 6: nuclear chromosome, telomeric region || 7: nucleotide-excision repair complex || 8: endosome ||
9: nuclear pore || 10: synaptobrevin 2-SNAP-25-syntaxin-1a complex || 11: ribonucleoprotein complex || 12: ribosome || 13: spliceosomal complex || 14: condensed chromosome || 15: neuron projection || 16: transcriptional repressor complex ||
17: cell cortex || 18: filopodium membrane || 19: filopodium tip || 20: lamellipodium || 21: myosin complex || 22: ruffle || 23: NuA4 histone acetyltransferase complex || 24: PCAF complex || 25: STAGA complex || 26: transcription factor TFTC complex ||

ECM 33, Gene set "nuclear speck", Page 8

Num of ECM Genes: 1. Num of Predicted Genes: 398

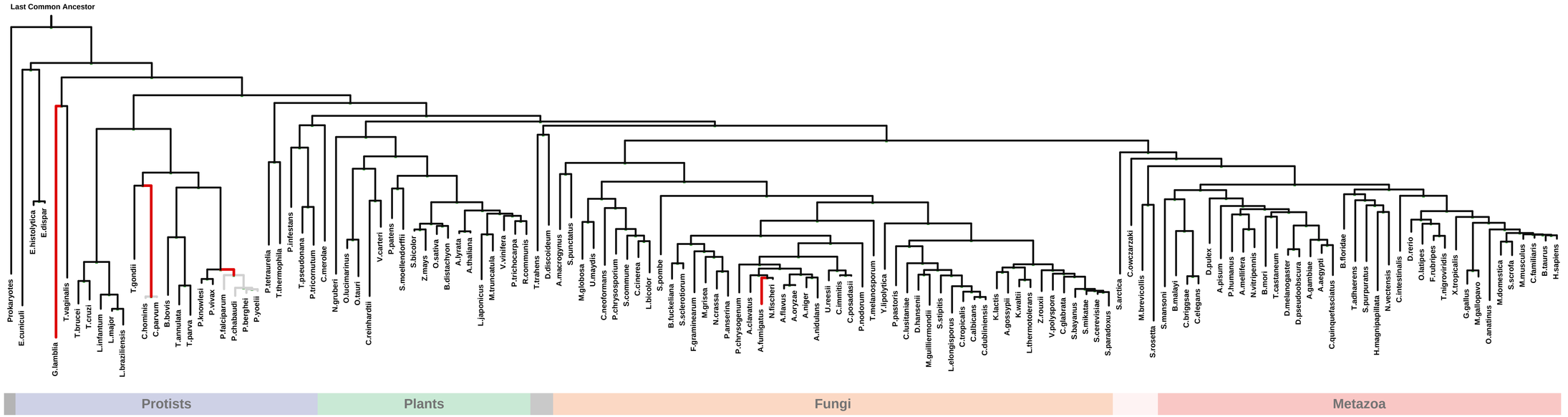


PG	Protein	LLR	Notes
	RAVER2	2.2	
E	RNF41	2.2	
u	PPAPDC1A	2.2	
	NSA2	2.2	1
v	GCA	2.2	
X	CERS2	2.2	2
	RQCD1	2.2	3
	RPS11	2.2	4 / 5
w	PDHB	2.1	6
w	BCKDHB	2.1	7
x	BCKDHA	2.1	7
x	PDHA1	2.1	
x	PDHA2	2.1	
	CLP1	2.1	8
	MYCBP2	2.1	9 / 10
y	WDR45	2.0	
X	CERS6	2.0	2
	TMED10	2.0	11 / 12 / 13 / 14 / 15 / 16 /
c	IPMK	2.0	
B	CCRN4L	2.0	
A	WWOX	2.0	21
B	ANGEL1	2.0	
B	PDE12	2.0	
B	ANGEL2	2.0	
	RBM5	1.9	22
z	SLC25A38	1.9	
z	SLC25A39	1.9	
z	SLC25A4	1.9	23
z	SLC25A40	1.9	
z	SLC25A41	1.9	
z	SLC25A42	1.9	
z	SLC25A43	1.9	
z	SLC25A44	1.9	
z	SLC25A45	1.9	
z	SLC25A48	1.9	

1: ribonucleoprotein complex || 2: nuclear membrane || 3: cytoplasmic mRNA processing body || 4: cytosolic small ribosomal subunit || 5: ribosome || 6: pyruvate dehydrogenase complex || 7: mitochondrial alpha-ketoglutarate dehydrogenase complex ||
8: tRNA-intron endonuclease complex || 9: axon || 10: microtubule cytoskeleton || 11: cis-Golgi network || 12: COPI-coated vesicle || 13: endoplasmic reticulum-Golgi intermediate compartment || 14: endoplasmic reticulum-Golgi intermediate compartment membrane ||
15: gamma-secretase complex || 16: melanosome || 17: secretory granule membrane || 18: trans-Golgi network transport vesicle || 19: transport vesicle membrane || 20: zymogen granule membrane || 21: microvillus || 22: spliceosomal complex ||

ECM 33, Gene set "nuclear speck", Page 9

Num of ECM Genes: 1. Num of Predicted Genes: 398

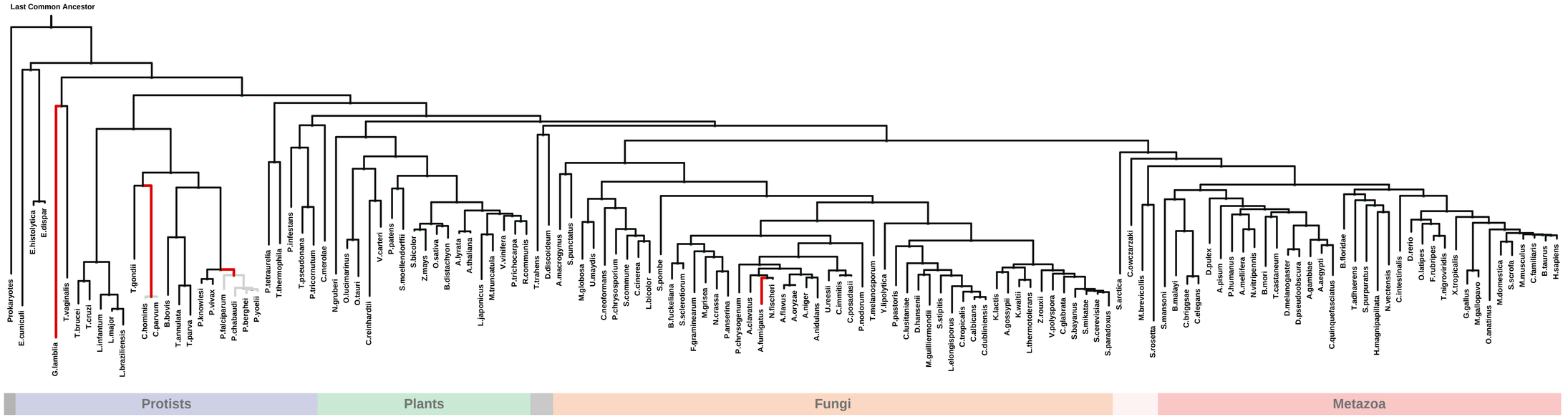


PG	Protein	LLR	Notes
z	SLC25A5	1.9	1 / 2
z	SLC25A6	1.9	3
l	ITSN2	1.9	
{	**EIF3B**	**1.9**	4
	CHMP2A	**1.9**	5
	CHKA	**1.9**	
	PRMT8	**1.9**	
f	SF3B3	1.9	6 / 7 / 8 / 9
A	DECR2	1.9	10
{	EIF2A	1.9	11
a	RBM15B	1.9	
z	SLC25A1	1.9	
z	SLC25A10	1.9	
z	SLC25A11	1.9	
z	SLC25A12	1.9	
z	SLC25A13	1.9	
l	**TNPO1**	**1.9**	12
l	TNPO2	1.9	12
z	SLC25A14	1.9	
z	SLC25A15	1.9	
z	SLC25A16	1.9	
z	SLC25A17	1.9	10 / 13 / 14
z	SLC25A18	1.9	
z	SLC25A19	1.9	
z	SLC25A2	1.9	
z	UCP1	1.9	
z	UCP2	1.9	
z	UCP3	1.9	
z	SLC25A20	1.9	
z	SLC25A21	1.9	
z	SLC25A22	1.9	
z	SLC25A26	1.9	
z	SLC25A28	1.9	
z	SLC25A29	1.9	
z	SLC25A3	1.9	

1: mitochondrial nucleoid || 2: MMXD complex || 3: mitochondrial inner membrane presequence translocase complex || 4: eukaryotic translation initiation factor 3 complex || 5: late endosome membrane || 6: catalytic step 2 spliceosome || 7: small nuclear ribonucleoprotein complex || 8: spliceosomal complex || 9: U12-type spliceosomal complex || 10: peroxisome || 11: eukaryotic translation initiation factor 2 complex || 12: nuclear pore || 13: integral to peroxisomal membrane || 14: peroxisomal membrane

ECM 33, Gene set "nuclear speck", Page 10

Num of ECM Genes: 1. Num of Predicted Genes: 398

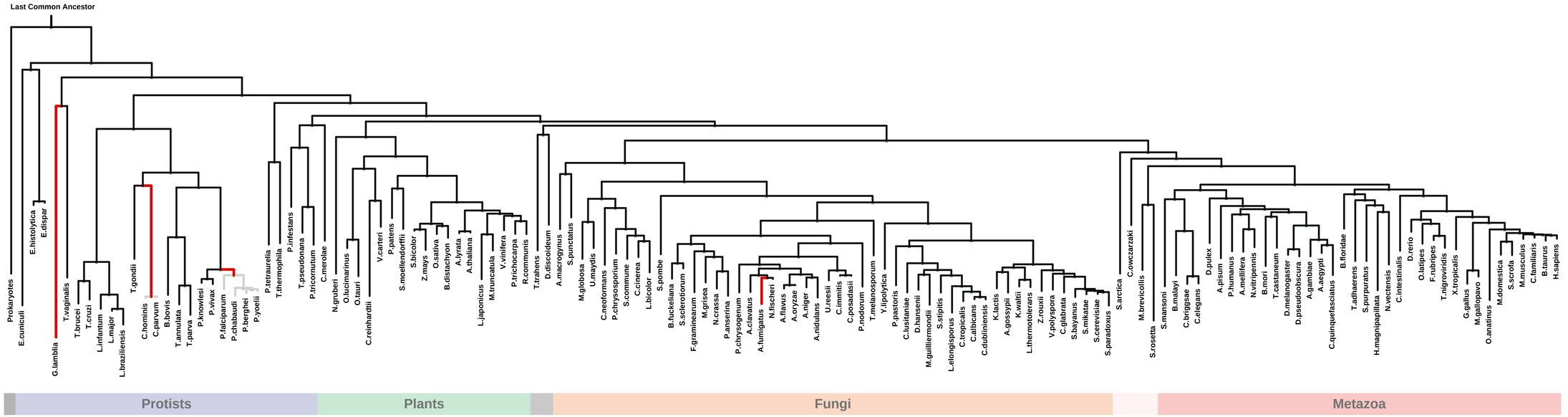


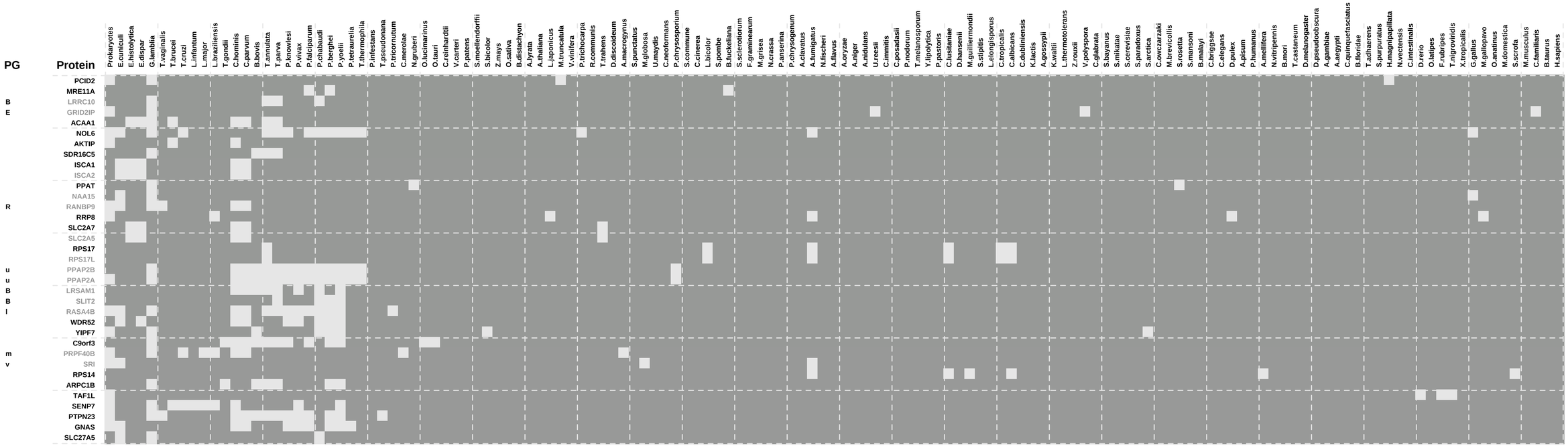
PG	Protein	LLR	Notes
z	SLC25A30	1.9	
z	SLC25A31	1.9	1 / 2
z	SLC25A32	1.9	
z	SLC25A33	1.9	
z	SLC25A34	1.9	
z	SLC25A36	1.9	
z	SLC25A37	1.9	
z	100508457	1.9	
z	100510457	1.9	
z	SLC25A51	1.9	
	SIRT1	1.7	3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 /
}	SERINC1	1.7	
}	SERINC3	1.7	
~	PHGDH	1.7	
~	CTBP2	1.7	12 / 13
~	CTBP1	1.7	13
~	GRHPR	1.7	14
b	100293539	1.7	
	CYCS	1.6	15 / 16 / 17
	PPAN-P2RY11	1.6	
y	WIPI1	1.6	18 / 19 / 20 / 21 / 22 / 23
	SDR42E1	1.5	
	NAA16	1.5	
	NAA50	1.5	
V	IGF2BP3	1.4	
p	CCNG2	1.4	
	REXO1	1.4	
A	DECR1	1.4	
E	FHOD3	1.4	
F	SEL1L2	1.3	
W	ARIH1	1.3	24
	CHRAC1	1.3	25 / 26
B	LRRC70	1.3	
	ZC3H6	1.3	
B	LRG1	1.3	

1: cilium || 2: flagellum || 3: chromatin silencing complex || 4: ESC/E(Z) complex || 5: nuclear chromatin || 6: nuclear envelope || 7: nuclear euchromatin || 8: nuclear heterochromatin || 9: nuclear inner membrane || 10: PML body ||
11: rDNA heterochromatin || 12: synapse || 13: transcriptional repressor complex || 14: peroxisomal matrix || 15: mitochondrial intermembrane space || 16: protein phosphatase type 2A complex || 17: respiratory chain || 18: autophagic vacuole membrane ||
19: clathrin-coated vesicle || 20: endosome membrane || 21: pre-autophagosomal structure || 22: pre-autophagosomal structure membrane || 23: trans-Golgi network || 24: ubiquitin ligase complex || 25: chromatin accessibility complex ||

ECM 33, Gene set "nuclear speck", Page 11

Num of ECM Genes: 1. Num of Predicted Genes: 398

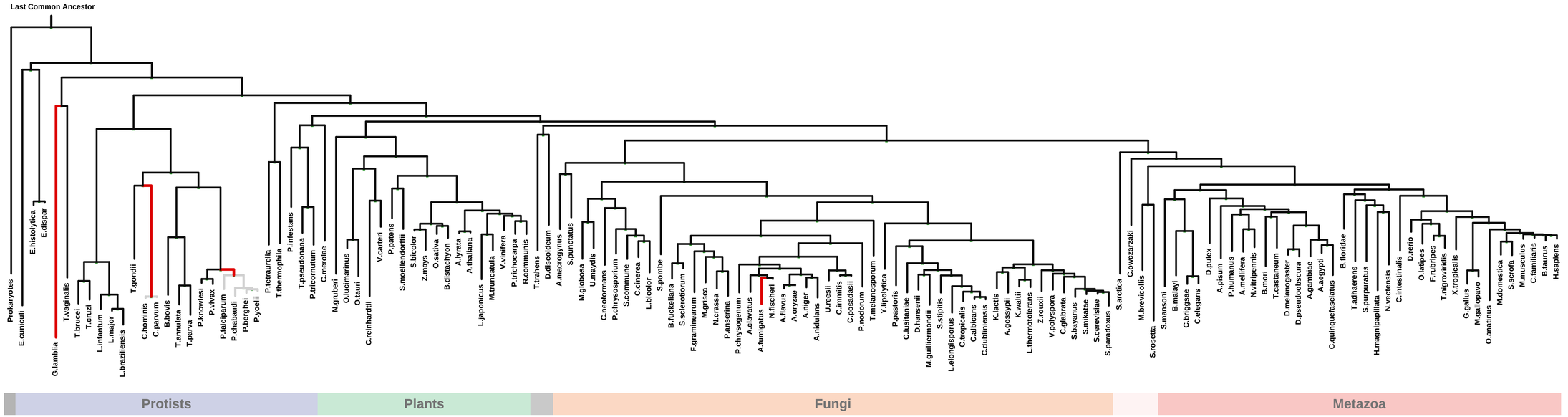


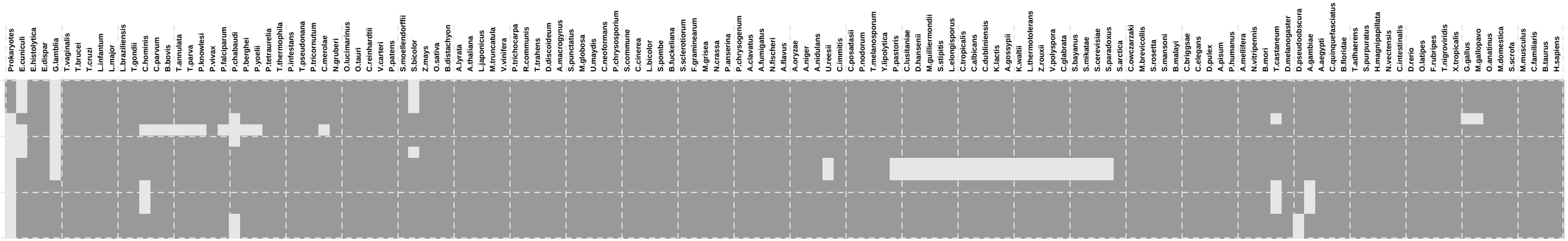


1: chromosome, telomeric region || 2: condensed nuclear chromosome || 3: Mre11 complex || 4: nuclear chromatin || 5: myofibril || 6: postsynaptic membrane || 7: peroxisomal matrix || 8: peroxisome || 9: FHF complex ||
10: HOPS complex || 11: microtubule associated complex || 12: chromatin silencing complex || 13: rDNA heterochromatin || 14: cytosolic small ribosomal subunit || 15: ribosome || 16: adherens junction || 17: membrane part ||
18: nuclear speck || 19: sarcoplasmic reticulum membrane || 20: vesicle || 21: Z disc || 22: actin cytoskeleton || 23: Arp2/3 protein complex || 24: transcription factor TFIID complex || 25: cilium || 26: cytoplasmic membrane-bounded vesicle ||

ECM 33, Gene set "nuclear speck", Page 12

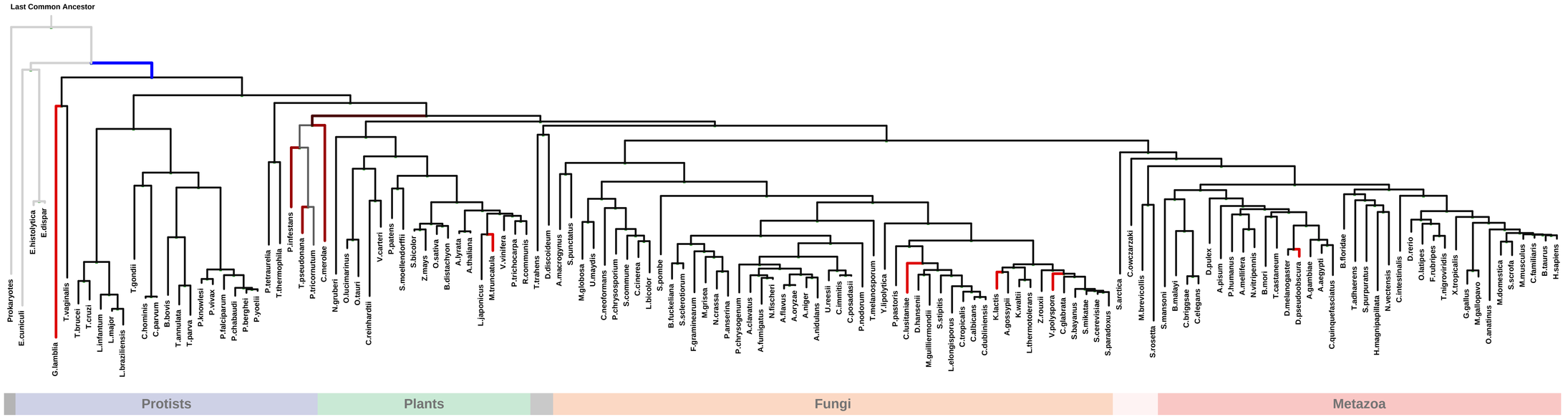
Num of ECM Genes: 1. Num of Predicted Genes: 398

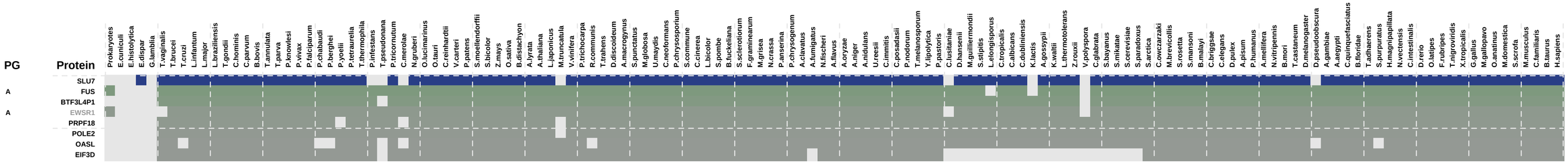




ECM 34, Gene set "nuclear speck", Page 1

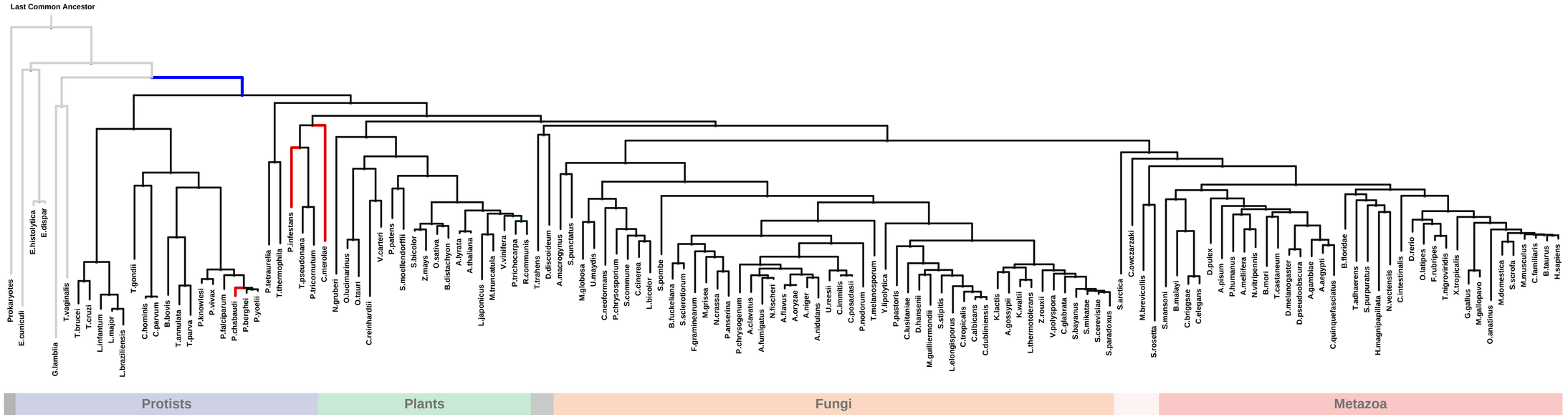
Num of ECM Genes: 1. Num of Predicted Genes: 7

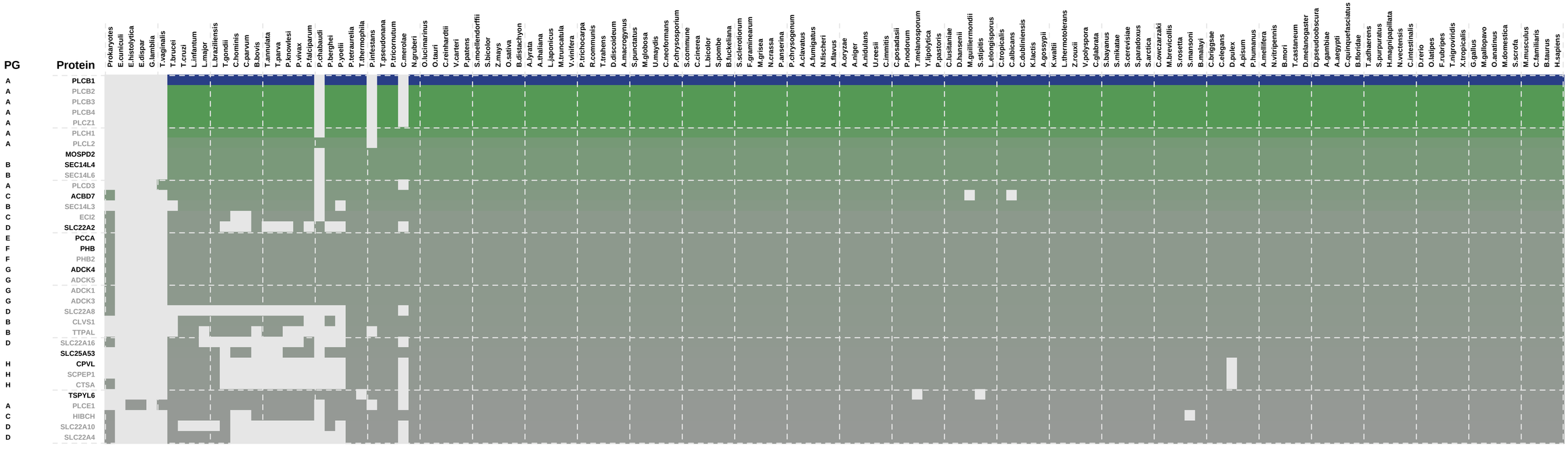




ECM 35, Gene set "nuclear speck", Page 1

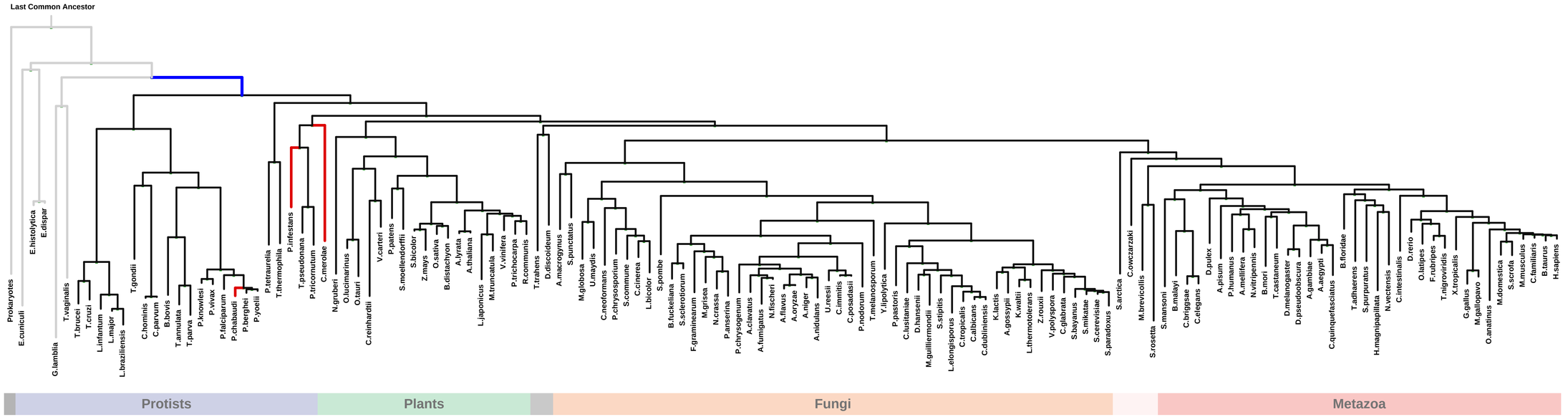
Num of ECM Genes: 1. Num of Predicted Genes: 46

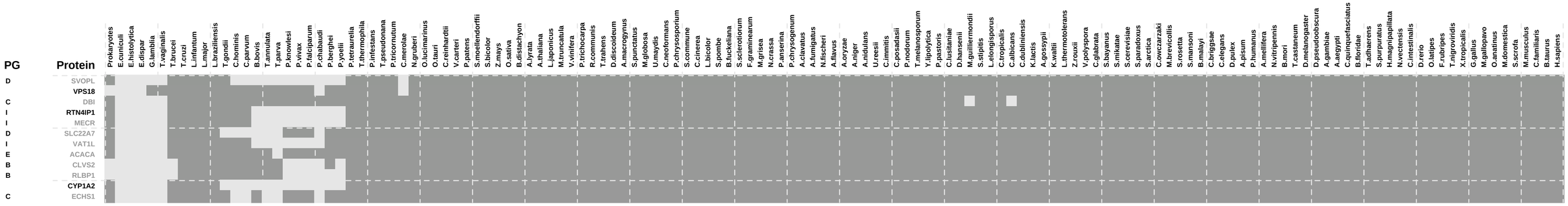




ECM 35, Gene set "nuclear speck", Page 2

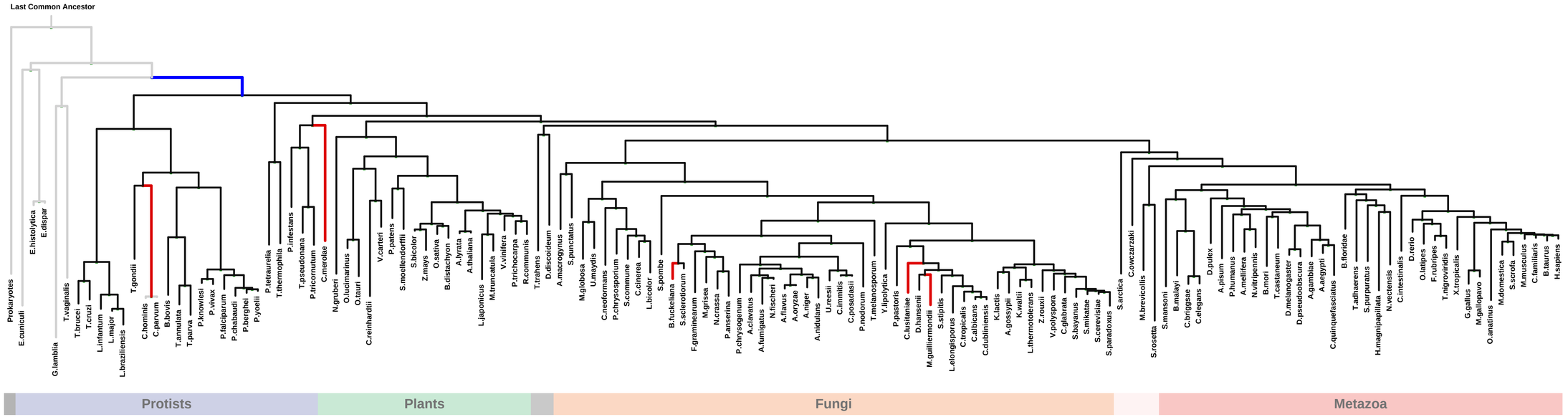
Num of ECM Genes: 1. Num of Predicted Genes: 46

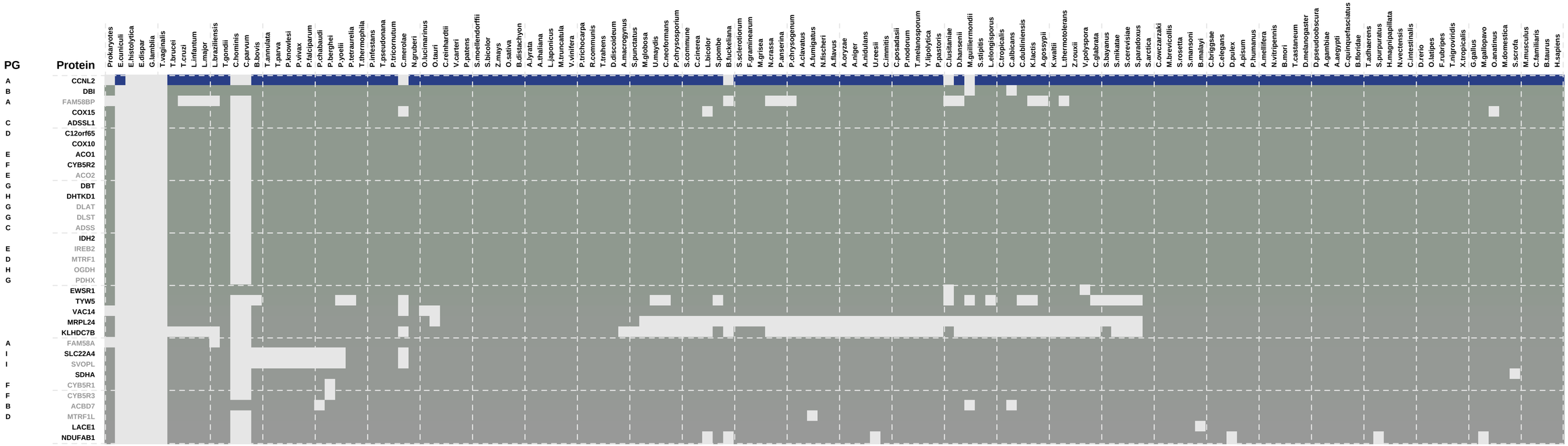




ECM 36, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 35

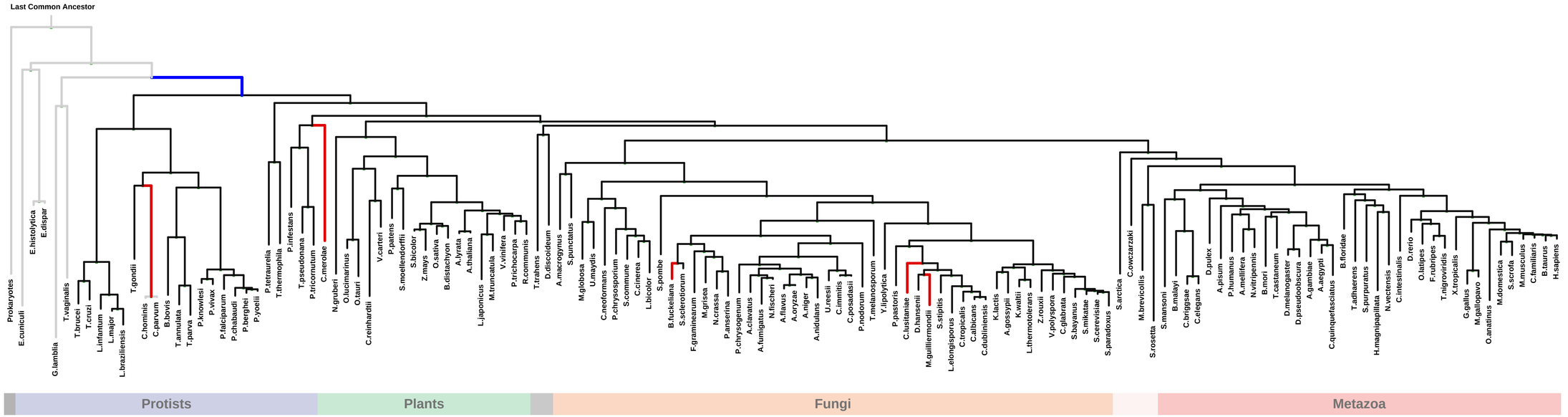




1: nuclear speck || 2: mitochondrial part || 3: mitochondrial respiratory chain || 4: mitochondrial membrane || 5: microtubule cytoskeleton || 6: mitochondrial alpha-ketoglutarate dehydrogenase complex || 7: mitochondrial nucleoid ||
8: oxoglutarate dehydrogenase complex || 9: early endosome membrane || 10: endosome membrane || 11: late endosome membrane || 12: ribosome || 13: mitochondrial respiratory chain complex II || 14: hemoglobin complex ||
15: lipid particle || 16: mitochondrial outer membrane || 17: mitochondrial respiratory chain complex I

ECM 36, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 35

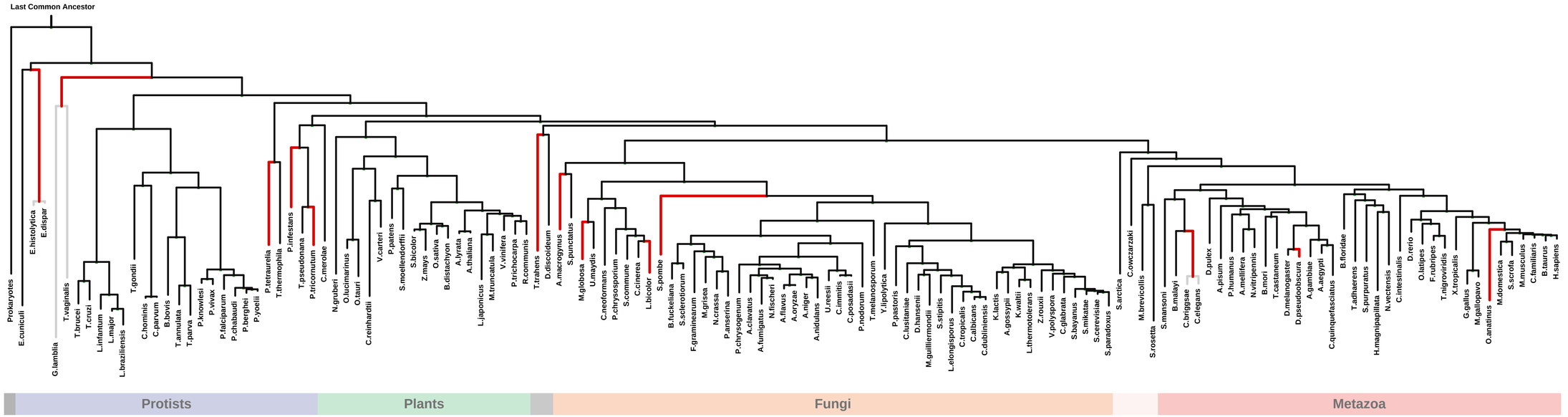


PG	Protein	LLR	Notes
B	ECI2	0.3	1

1: peroxisomal matrix

ECM 37, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

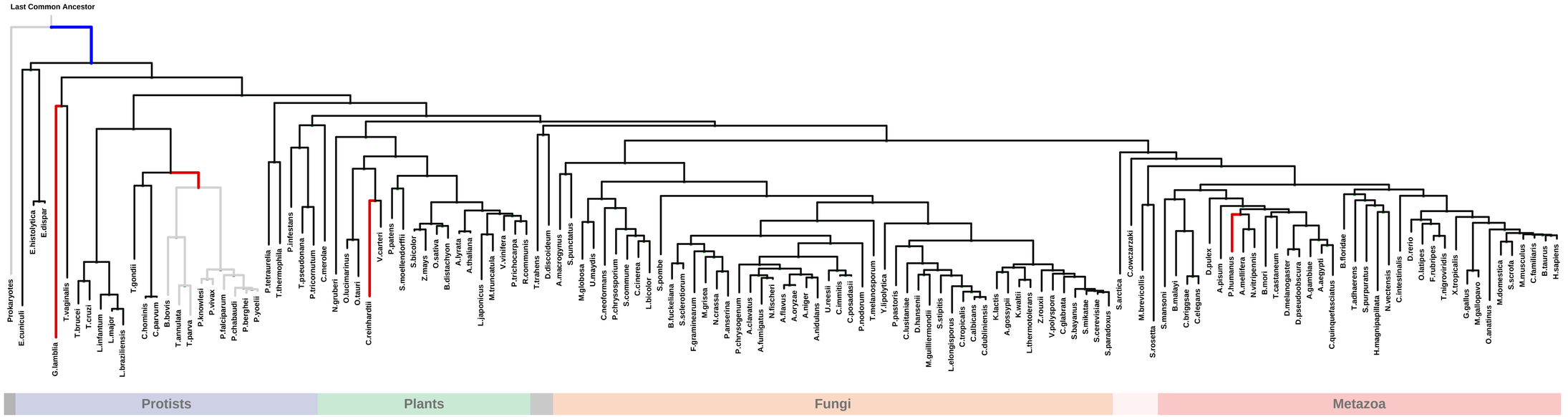


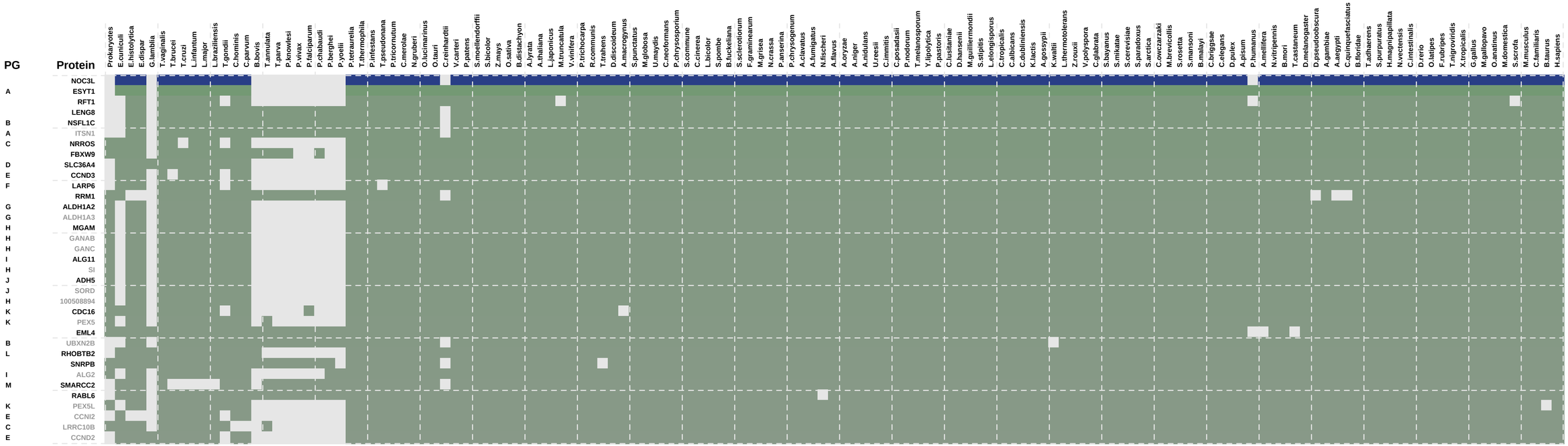
PG	Protein	LLR	Notes
OGG1			1 / 2

1: nuclear matrix || 2: nuclear speck

ECM 38, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 279

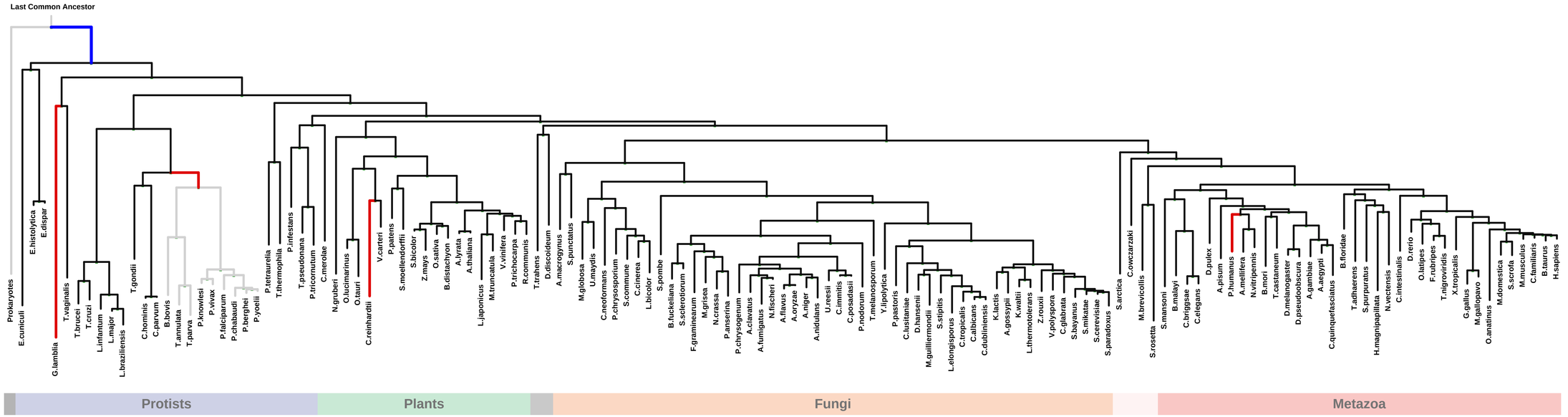




1: nuclear speck || 2: chromosome || 3: Golgi stack || 4: coated pit || 5: endocytic vesicle || 6: lamellipodium || 7: neuron projection || 8: synapse || 9: cyclin-dependent protein kinase holoenzyme complex || 10: ribonucleoprotein complex ||
11: ribonucleoside-diphosphate reductase complex || 12: endoplasmic reticulum lumen || 13: melanosome || 14: brush border || 15: membrane raft || 16: cilium || 17: flagellum || 18: mitochondrial membrane || 19: anaphase-promoting complex ||
20: spindle || 21: spindle microtubule || 22: peroxisomal matrix || 23: peroxisomal membrane || 24: peroxisome || 25: catalytic step 2 spliceosome || 26: histone pre-mRNA 3'end processing complex || 27: small nuclear ribonucleoprotein complex ||

ECM 38, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 279

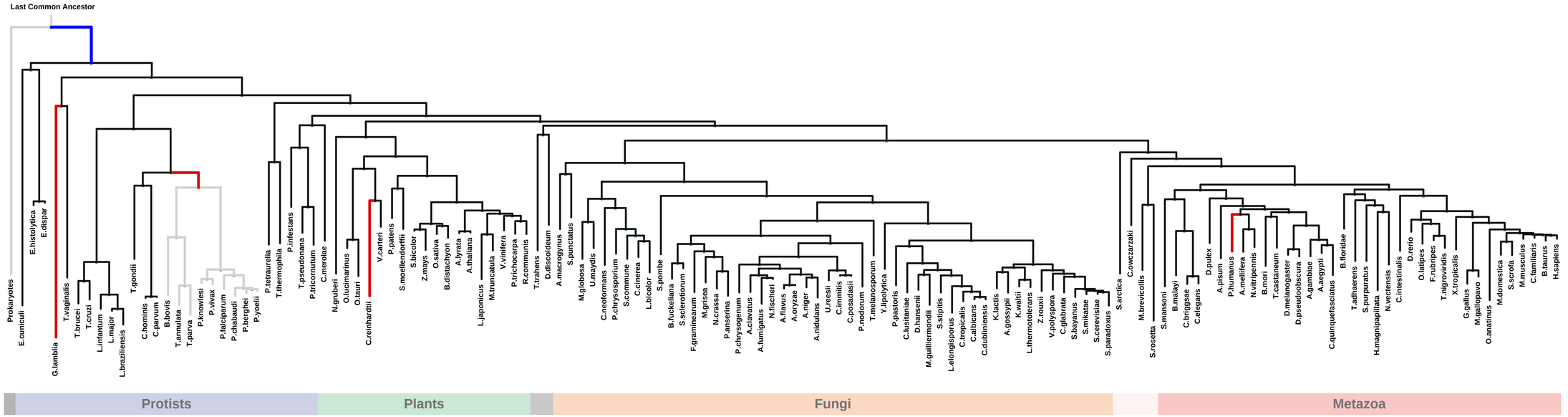


PG	Protein	LLR	Notes
E	CCNA1	7.4	1
E	CCNE1	7.4	2
E	CCNE2	7.4	
E	CCNI	7.4	
E	CCNA2	7.4	3 / 4
E	CCNO	7.4	
E	CCNB1	7.4	5 / 6
E	CNTD2	7.4	
E	CCNB2	7.4	1
E	CCND1	7.4	2
	NRD1	**7.3**	
E	CCNB3	7.3	
N	**NOX5**	**7.2**	
A	EPS15L1	7.1	7
O	**SSRP1**	**7.0**	8
	UNG	**6.9**	
M	MYSM1	6.6	9
P	**ERGIC2**	**6.4**	10
P	ERGIC3	6.4	10
P	ERGIC1	6.4	10 / 11
Q	**ZNRF2**	**6.0**	12 / 13 / 14
Q	ZNRF1	6.0	15 / 16 / 17
R	**PFKL**	**6.0**	18
S	**CUL2**	**5.9**	19
S	CUL4A	5.9	20 / 21
N	DGKA	5.9	
J	TP53I3	5.8	
J	CRYZ	5.8	
T	**PMM2**	**5.8**	
T	PMM1	5.8	
	PGM1	**5.7**	22
J	ADH1C	5.7	
J	ADH4	5.7	1
J	ADH1A	5.7	
J	ADH7	5.7	

1: microtubule cytoskeleton || 2: cyclin-dependent protein kinase holoenzyme complex || 3: female pronucleus || 4: male pronucleus || 5: condensed nuclear chromosome outer kinetochore || 6: spindle pole || 7: coated pit || 8: chromosome || 9: chromatin remodeling complex || 10: endoplasmic reticulum-Golgi intermediate compartment membrane || 11: endoplasmic reticulum-Golgi intermediate compartment || 12: endosome membrane || 13: lysosomal membrane || 14: presynaptic membrane || 15: endosome || 16: lysosome || 17: synaptic vesicle membrane || 18: 6-phosphofructokinase complex || 19: Cul2-RING ubiquitin ligase complex || 20: Cul4A-RING ubiquitin ligase complex || 21: Cul4-RING ubiquitin ligase complex ||

ECM 38, Gene set "nuclear speck", Page 3

Num of ECM Genes: 1. Num of Predicted Genes: 279

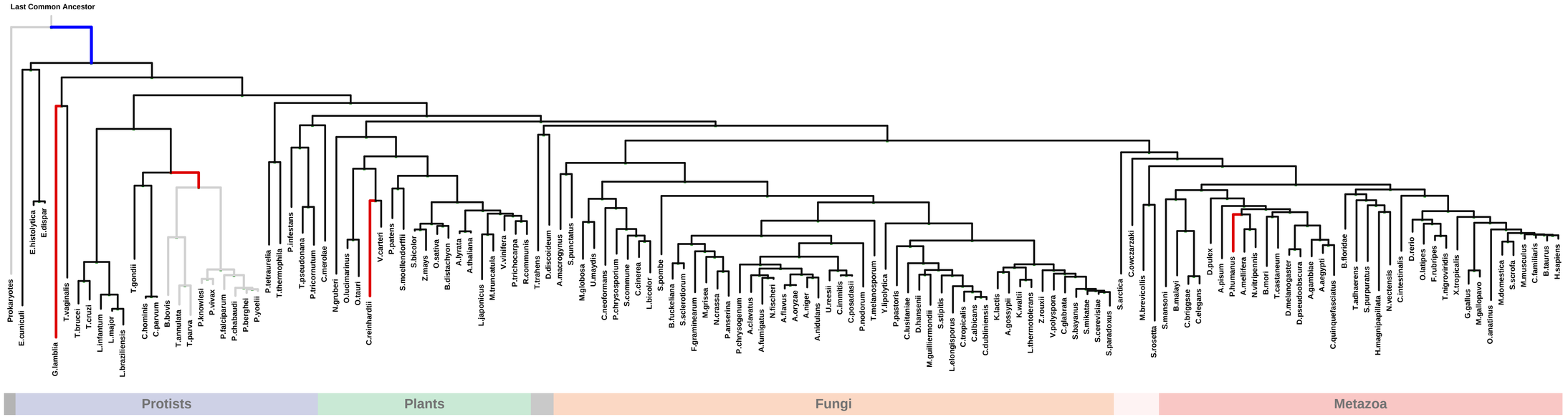


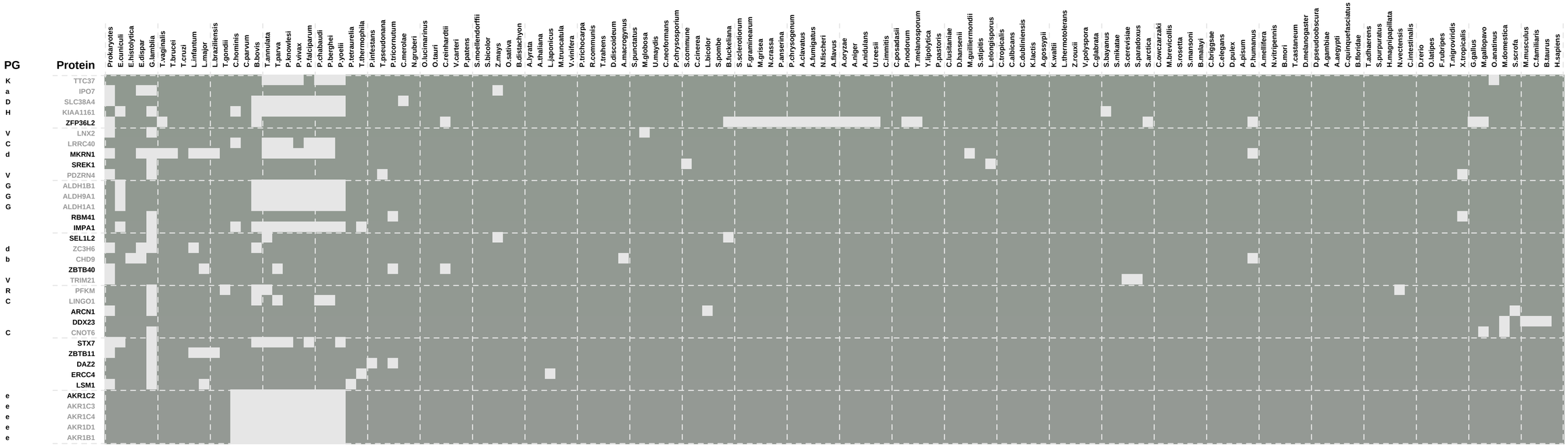
PG	Protein	LLR	Notes
J	ADH1B	5.7	
U	UTP14C	5.6	1
C	LRCH2	5.5	
V	DAAM2	5.4	
V	INF2	5.4	
V	DAAM1	5.4	2
V	DIAPH1	5.4	3 / 4
V	DIAPH2	5.4	5
W	SPEN	5.4	6
H	GAA	5.4	7 / 8
	651921	5.4	
K	CTR9	5.4	9 / 10 / 11
	NAA50	5.4	
X	SDR16C5	5.3	
	POMT2	5.3	
C	LRRC10	5.1	12
	BBS4	5.1	13 / 14 / 15 / 16 / 17 / 18 /
M	SMARCC1	5.0	21 / 22 / 23 / 24 / 25
Y	EIF4G1	5.0	26
W	RBM15	4.9	
Z	CPSF1	4.9	27
a	CSE1L	4.7	28
V	RNF4	4.7	29 / 30
C	LRRC2	4.7	
C	LRCH1	4.6	
	ARPC1B	4.6	31 / 32
	PSMD13	4.4	33 / 34 / 35
b	CHD6	4.4	
F	LARP1	4.3	
	CLIP3	4.3	36 / 37 / 38 / 39 / 40 / 41
	UBE4A	4.2	42
Q	RNF43	4.1	43
	WDR74	4.1	
c	COPG1	4.1	44
c	COPG2	4.1	44

1: small-subunit processome || 2: stress fiber || 3: mitotic spindle || 4: ruffle membrane || 5: early endosome || 6: transcriptional repressor complex || 7: lysosomal membrane || 8: lysosome || 9: Cdc73/Paf1 complex ||
10: nuclear speck || 11: transcriptionally active chromatin || 12: myofibril || 13: BBSome || 14: centriolar satellite || 15: centriole || 16: cilium membrane || 17: microtubule basal body || 18: motile cilium || 19: nonmotile primary cilium ||
20: pericentriolar material || 21: nBAF complex || 22: npBAF complex || 23: SWI/SNF complex || 24: WINAC complex || 25: XY body || 26: eukaryotic translation initiation factor 4F complex || 27: mRNA cleavage and polyadenylation specificity factor complex ||

ECM 38, Gene set "nuclear speck", Page 4

Num of ECM Genes: 1. Num of Predicted Genes: 279

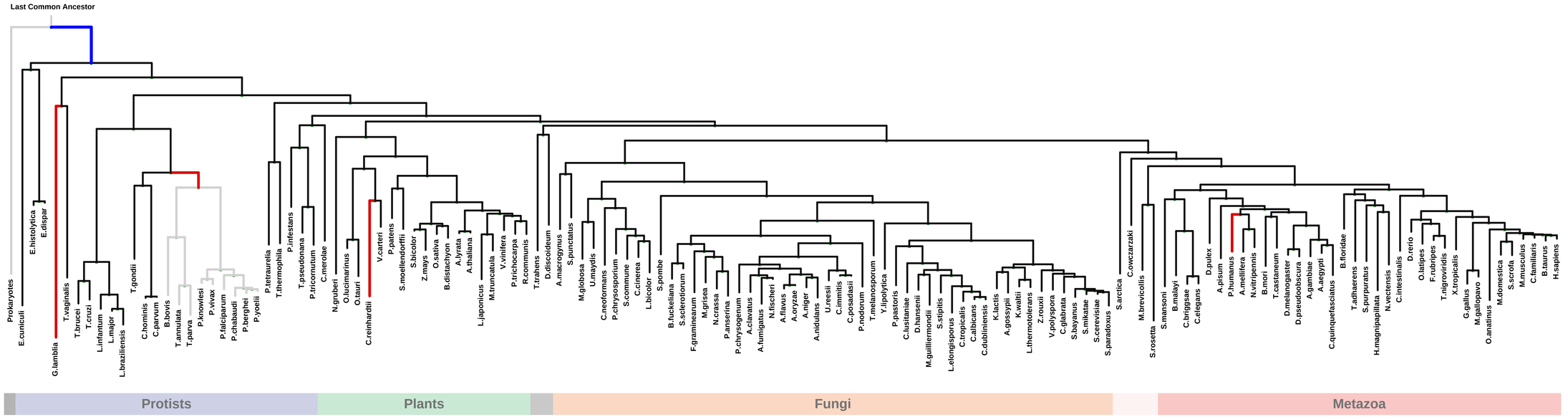




1: Ski complex || 2: transcriptionally active chromatin || 3: nuclear pore || 4: nuclear membrane || 5: spliceosomal complex || 6: axon || 7: cytoplasmic mRNA processing body || 8: ribonucleoprotein complex || 9: SCF ubiquitin ligase complex ||
10: 6-phosphofructokinase complex || 11: clathrin adaptor complex || 12: COPI vesicle coat || 13: catalytic step 2 spliceosome || 14: U5 snRNP || 15: early endosome membrane || 16: late endosome membrane || 17: lysosomal membrane ||
18: SNARE complex || 19: chromosome, telomeric region || 20: nuclear chromosome, telomeric region || 21: nucleotide-excision repair complex

ECM 38, Gene set "nuclear speck", Page 5

Num of ECM Genes: 1. Num of Predicted Genes: 279

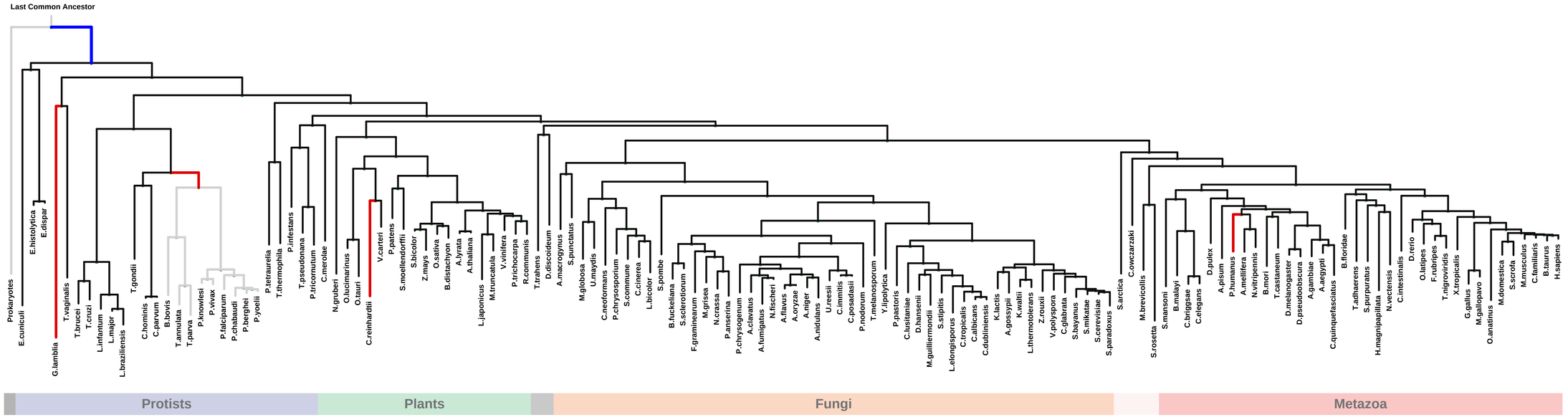


PG	Protein	LLR	Notes
	AKR1C2	2.2	
	RBM14-RBM4	2.1	
	SF1	2.1	1 / 2
C	RTN4R	2.1	3
	TRRAP	2.1	4 / 5 / 6 / 7
f	MYO10	2.1	8 / 9 / 10 / 11 / 12 / 13 / 14
f	MYO7B	2.1	12
O	HMGB1	2.1	13 / 15 / 16
	ATP6V1C2	2.1	17
g	PCGF6	1.9	18 / 19
	RAVER2	1.9	
C	LRCH3	1.9	
	RQCD1	1.8	20
h	ZMIZ1	1.8	21
h	ZMIZ2	1.8	22
h	PIAS3	1.8	23 / 24
h	PIAS4	1.8	25 / 26
h	PIAS1	1.8	21
h	PIAS2	1.8	21 / 26
e	AKR1C1	1.8	
	CLP1	1.8	27
	FLNC	1.7	28 / 29 / 30
	MYCBP2	1.7	31 / 32
C	CCRN4L	1.6	
C	PDE12	1.6	
C	ANGEL1	1.6	
C	ANGEL2	1.6	
X	WWOX	1.6	33
	RBM5	1.6	2
i	SLC25A32	1.6	
i	SLC25A33	1.6	
i	SLC25A34	1.6	
i	SLC25A36	1.6	
i	SLC25A37	1.6	
i	SLC25A38	1.6	

1: ribosome || 2: spliceosomal complex || 3: anchored to membrane || 4: NuA4 histone acetyltransferase complex || 5: PCAF complex || 6: STAGA complex || 7: transcription factor TFTC complex || 8: cell cortex || 9: filopodium membrane ||
10: filopodium tip || 11: lamellipodium || 12: myosin complex || 13: neuron projection || 14: ruffle || 15: condensed chromosome || 16: transcriptional repressor complex || 17: proton-transporting V-type ATPase, V1 domain ||
18: PcG protein complex || 19: PRC1 complex || 20: cytoplasmic mRNA processing body || 21: nuclear speck || 22: nuclear replication fork || 23: dendrite || 24: synapse || 25: nuclear matrix || 26: PML body || 27: tRNA-intron endonuclease complex ||

ECM 38, Gene set "nuclear speck", Page 6

Num of ECM Genes: 1. Num of Predicted Genes: 279

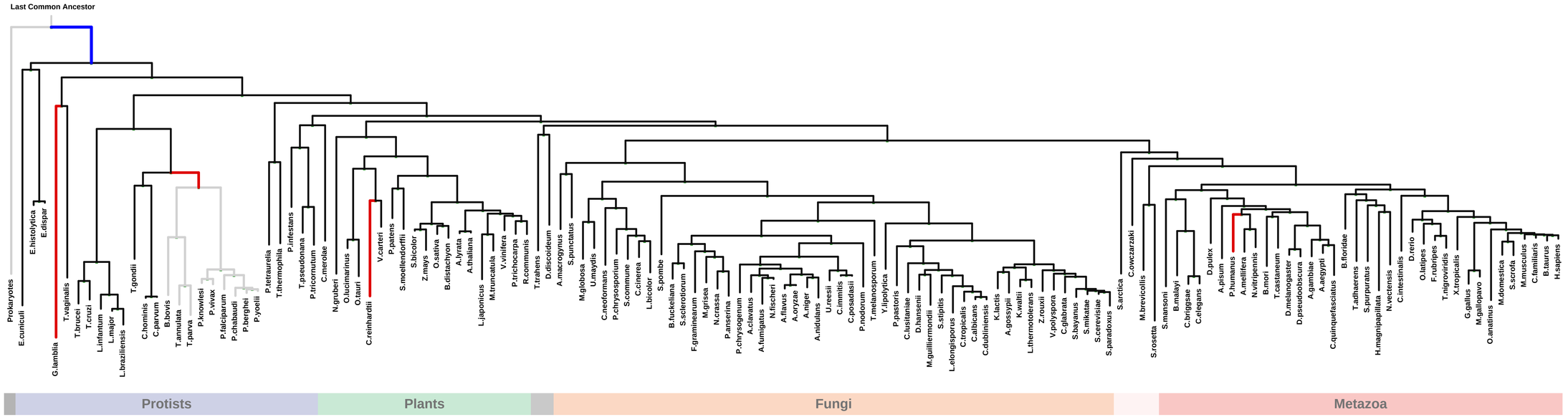


PG	Protein	LLR	Notes
i	SLC25A39	1.6	
i	SLC25A4	1.6	1
i	SLC25A40	1.6	
i	SLC25A41	1.6	
i	SLC25A42	1.6	
i	SLC25A43	1.6	
i	SLC25A44	1.6	
i	SLC25A45	1.6	
i	SLC25A48	1.6	
i	SLC25A5	1.6	2 / 3
i	SLC25A6	1.6	4
j	**EIF2A**	**1.6**	5
j	EIF3B	1.6	6
W	RBM15B	1.6	
	CHKA	**1.6**	
	CHMP2A	**1.6**	7
	PRMT8	**1.6**	
X	DECR2	1.6	8
Z	SF3B3	1.6	9 / 10 / 11 / 12
A	ITSN2	1.6	
i	SLC25A1	1.6	
k	**TNPO1**	**1.6**	13
k	TNPO2	1.6	13
i	SLC25A10	1.6	
i	SLC25A11	1.6	
i	SLC25A12	1.6	
i	SLC25A13	1.6	
i	SLC25A14	1.6	
i	SLC25A15	1.6	
i	UCP1	1.6	
i	UCP2	1.6	
i	UCP3	1.6	
i	SLC25A16	1.6	
i	SLC25A17	1.6	8 / 14 / 15
i	SLC25A18	1.6	

1: mitochondrial outer membrane || 2: mitochondrial nucleoid || 3: MMXD complex || 4: mitochondrial inner membrane presequence translocase complex || 5: eukaryotic translation initiation factor 2 complex || 6: eukaryotic translation initiation factor 3 complex || 7: late endosome membrane || 8: peroxisome || 9: catalytic step 2 spliceosome || 10: small nuclear ribonucleoprotein complex || 11: spliceosomal complex || 12: U12-type spliceosomal complex || 13: nuclear pore || 14: integral to peroxisomal membrane || 15: peroxisomal membrane

ECM 38, Gene set "nuclear speck", Page 7

Num of ECM Genes: 1. Num of Predicted Genes: 279

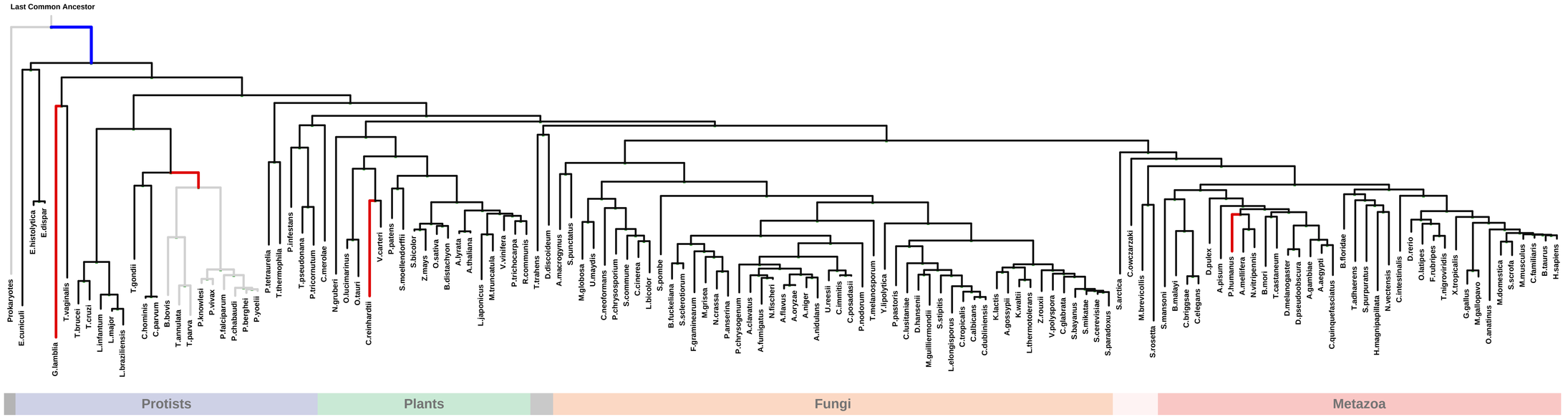


PG	Protein	LLR	Notes
i	SLC25A19	1.6	
i	SLC25A2	1.6	
i	SLC25A20	1.6	
i	SLC25A21	1.6	
i	SLC25A22	1.6	
i	SLC25A26	1.6	
i	SLC25A28	1.6	
i	SLC25A29	1.6	
i	SLC25A3	1.6	
i	SLC25A30	1.6	
i	100508457	1.6	
i	SLC25A31	1.6	1 / 2
i	100510457	1.6	
	TOPBP1	**1.5**	**3 / 4 / 5 / 6 / 7 / 8**
	ZNF324	**1.4**	
D	SLC36A1	1.3	9
I	**ALG1**	**1.2**	
I	ALG1L2	1.2	
K	NAA16	1.2	
G	ALDH7A1	1.1	
G	ALDH8A1	1.1	
G	ALDH3A1	1.1	
G	ALDH3A2	1.1	10
	NIT2	**1.1**	
G	ALDH3B2	1.1	
G	ALDH4A1	1.1	
	CBS	**1.1**	
G	ALDH5A1	1.1	
	CTH	**1.1**	
G	ALDH6A1	1.1	
G	ALDH1L1	1.1	
g	PCGF1	1.1	11
m	**FBXL13**	**1.1**	
Y	EIF4G3	1.1	12
J	ZADH2	1.0	10

1: cilium || 2: flagellum || 3: chromosome || 4: condensed nuclear chromosome || 5: male germ cell nucleus || 6: microtubule organizing center || 7: PML body || 8: spindle pole || 9: lysosomal membrane || 10: peroxisome ||
11: PcG protein complex || 12: eukaryotic translation initiation factor 4F complex

ECM 38, Gene set "nuclear speck", Page 8

Num of ECM Genes: 1. Num of Predicted Genes: 279

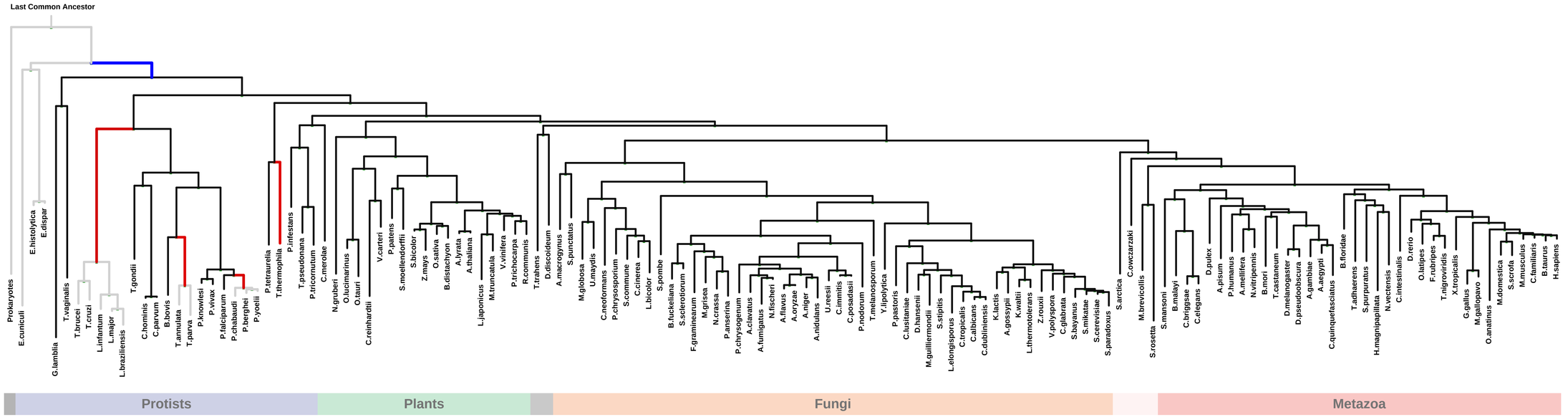


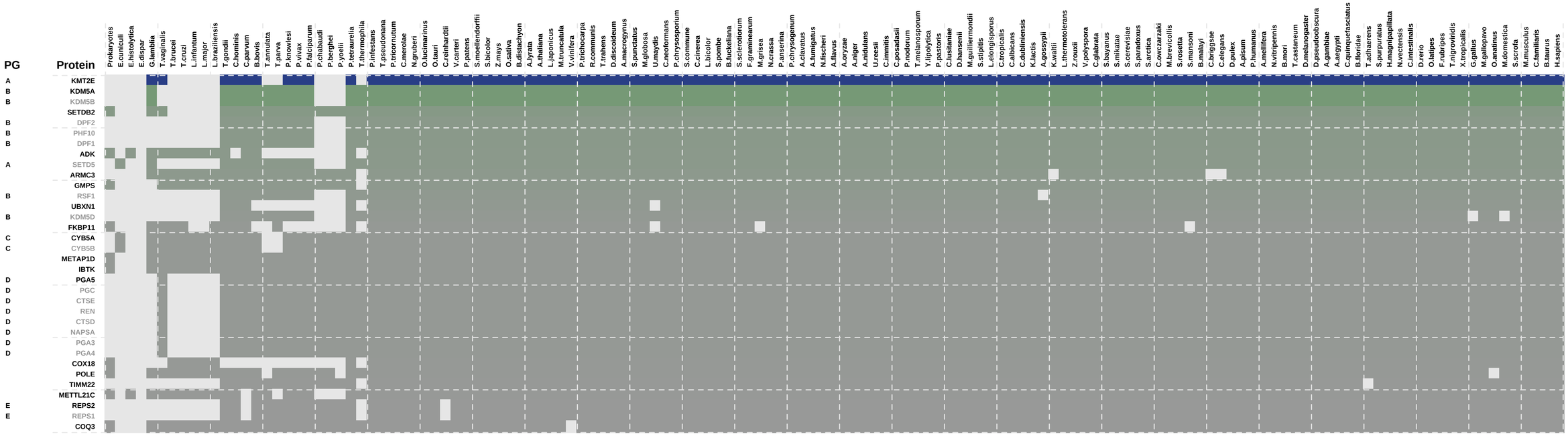
PG	Protein	LLR	Notes
n	SNX7	1.0	1
V	FHOD3	1.0	
E	CCNG1	1.0	2
D	SLC38A6	1.0	
	PCID2	1.0	
n	SNX30	0.9	
V	GRID2IP	0.8	3
	TLDC2	0.8	
	DCLRE1B	0.8	4
V	RAG1	0.8	
L	RHOBTB1	0.7	
C	PHLPP2	0.7	
C	LRRC8B	0.6	
	PPAT	0.6	
	CCNK	0.5	
K	NAA15	0.5	
X	HSD17B14	0.5	
X	HPGD	0.5	
	SGPL1	0.5	5
	COPS4	0.5	6
A	SYT1	0.5	7 / 8 / 9 / 10 / 11 / 12 / 13
m	FBXL20	0.4	
e	AKR1E2	0.4	
C	LRRC28	0.4	
e	AKR1B15	0.4	
U	UTP14A	0.3	18
	TMEM30A	0.3	
X	HSD11B1L	0.3	
	RRAGC	0.1	19
	YIPF7	0.1	
	UCHL3	0.1	
X	HSD17B8	0.1	20
C	SLIT2	0.1	
	MRE11A	0.1	4 / 21 / 22 / 23
	UCKL1	0.0	

1: cytoplasmic vesicle membrane || 2: dendrite || 3: postsynaptic membrane || 4: chromosome, telomeric region || 5: integral to endoplasmic reticulum membrane || 6: signalosome || 7: chromaffin granule membrane || 8: clathrin-sculpted acetylcholine transport vesicle membrane || 9: clathrin-sculpted gamma-aminobutyric acid transport vesicle membrane || 10: clathrin-sculpted glutamate transport vesicle membrane || 11: clathrin-sculpted monoamine transport vesicle membrane || 12: dense core granule || 13: endocytic vesicle membrane || 14: neuron projection || 15: presynaptic membrane || 16: synaptic vesicle || 17: synaptic vesicle membrane || 18: small-subunit processome || 19: lysosome || 20: mitochondrial envelope || 21: condensed nuclear chromosome ||

ECM 39, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 33

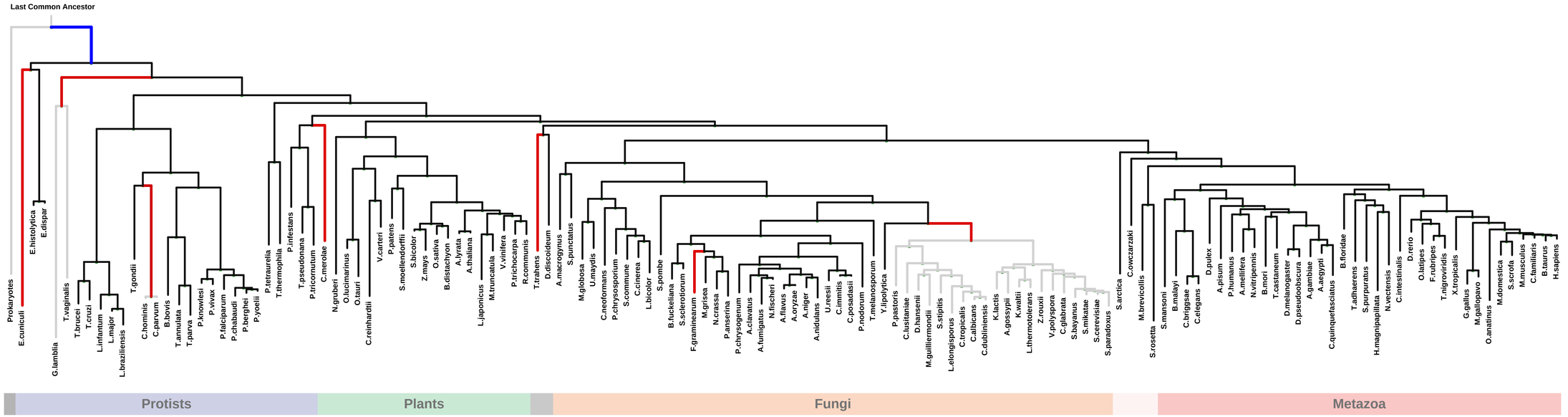


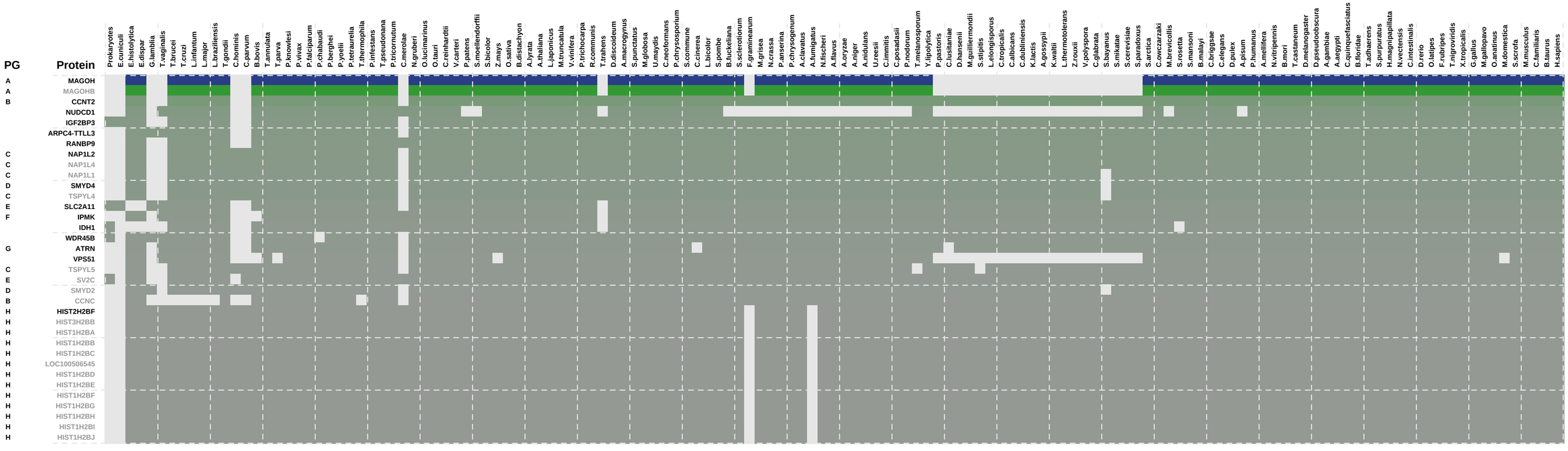


1: MLL5-L complex || 2: nuclear speck || 3: cyclin-dependent protein kinase activating kinase holoenzyme complex || 4: chromosome || 5: npBAF complex || 6: nBAF complex || 7: RSF complex || 8: Cdc48p-Npl4p-Ufd1p AAA ATPase complex ||
9: dendrite || 10: proteasome complex || 11: mitochondrial outer membrane || 12: endosome || 13: cytoplasmic part || 14: extracellular matrix || 15: lysosomal lumen || 16: lysosome || 17: melanosome || 18: alveolar lamellar body ||
19: integral to mitochondrial inner membrane || 20: epsilon DNA polymerase complex || 21: coated pit

ECM 40, Gene set "nuclear speck", Page 1

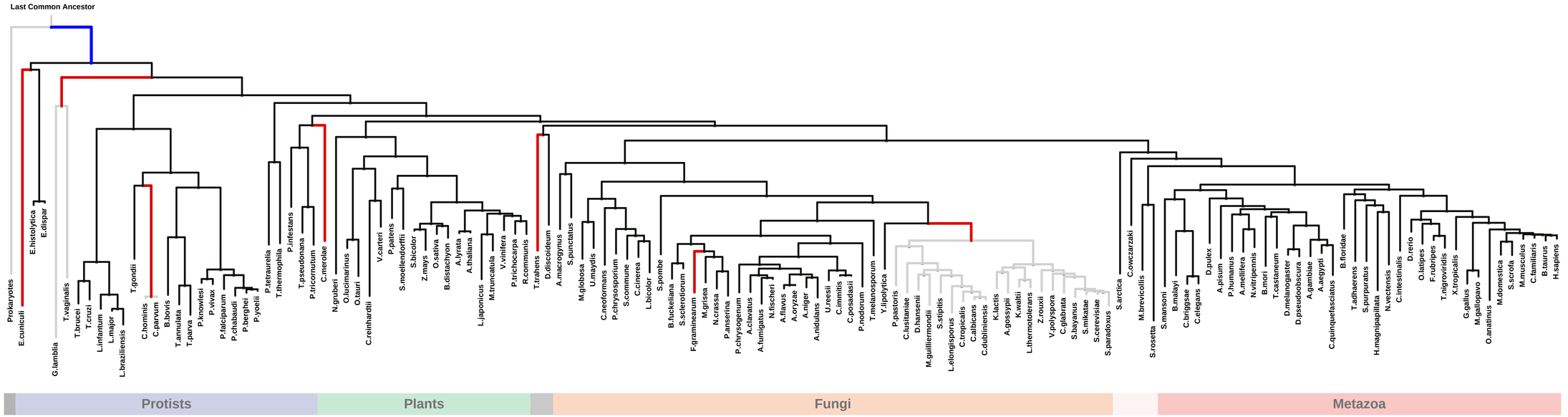
Num of ECM Genes: 1. Num of Predicted Genes: 91





ECM 40, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 91

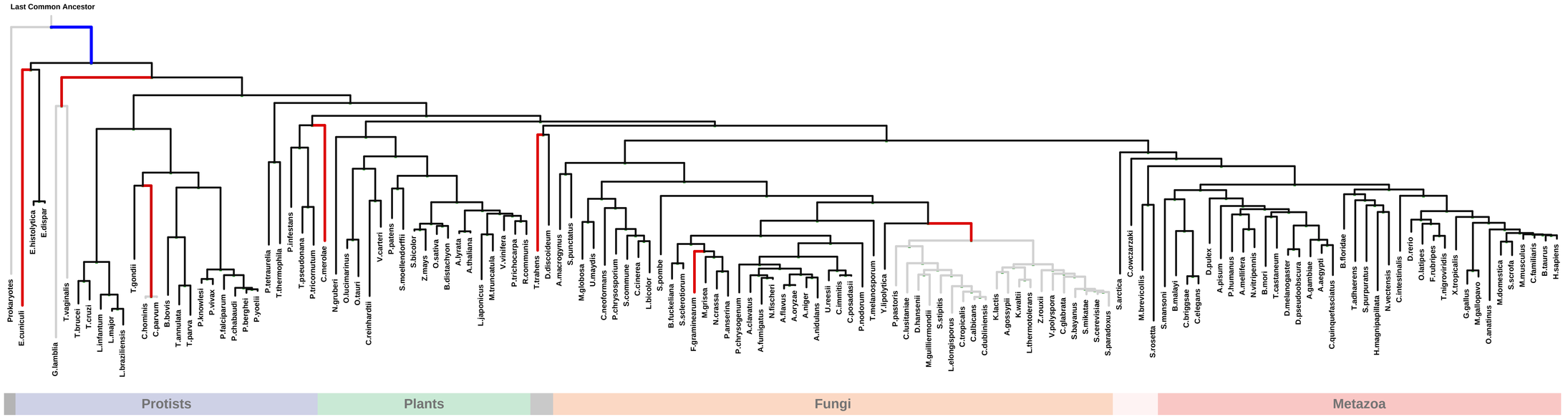


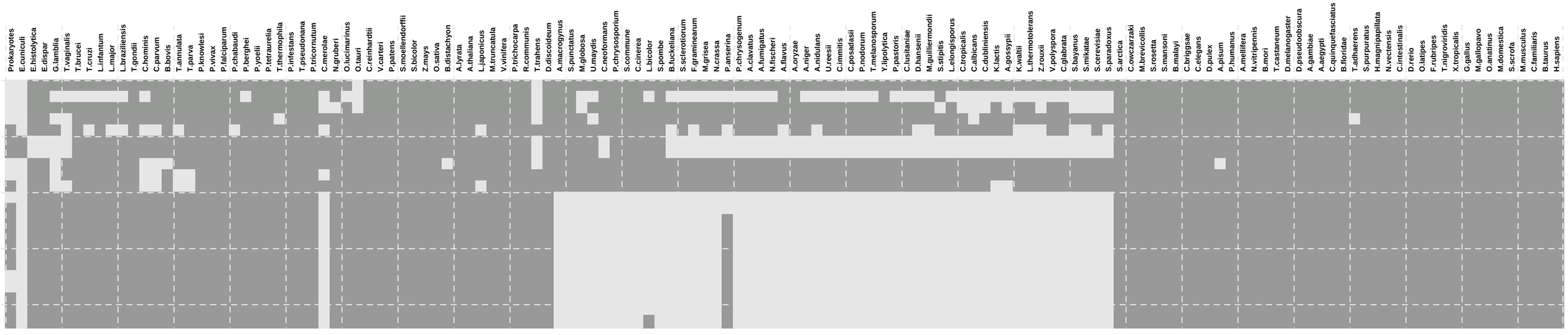
PG	Protein	LLR	Notes
H	HIST1H2BK	2.3	1
H	HIST1H2BL	2.3	1
H	HIST1H2BM	2.3	1
H	HIST1H2BN	2.3	1
H	HIST1H2BO	2.3	1
H	HIST2H2BE	2.3	1
H	100507927	2.3	
I	**PRPS1**	**2.0**	
I	PRPS1L1	2.0	
I	PRPS2	2.0	
	MFAP1	**1.9**	2
J	**MYO5B**	**1.8**	3 / 4 / 5
	HIF1AN	**1.7**	
	CAPN14	**1.6**	
J	MYO1A	1.6	5 / 6 / 7 / 8 / 9 / 10 / 11 / 1
J	MYO1C	1.6	6 / 8 / 10 / 11 / 12 / 13 / 14
J	MYO1G	1.6	5
J	MYO1H	1.6	5
J	MYO15A	1.6	5 / 17
J	MYO18B	1.6	16 / 18
J	MYO19	1.6	5 / 19
J	MYH13	1.5	20 / 21 / 22
C	SET	1.5	
D	UNC45B	1.5	
I	PRPSAP2	1.4	
I	PRPSAP1	1.4	
K	**SEC14L1**	**1.1**	
K	SEC14L5	1.1	
	IPO4	**1.1**	13
	MCCC1	**1.1**	
E	SLC2A13	1.1	
G	ATRNL1	0.9	
L	**RPL22L1**	**0.9**	23
L	RPL22	0.9	24 / 25
M	**NACAD**	**0.8**	

1: nucleosome || 2: microfibril || 3: cytoplasmic vesicle membrane || 4: dendritic spine || 5: myosin complex || 6: basal plasma membrane || 7: basolateral plasma membrane || 8: brush border || 9: cortical actin cytoskeleton ||
10: filamentous actin || 11: lateral plasma membrane || 12: microvillus || 13: nuclear pore || 14: stereocilium membrane || 15: stress fiber || 16: unconventional myosin complex || 17: stereocilium || 18: sarcomere || 19: mitochondrial outer membrane ||
20: muscle myosin complex || 21: myofibril || 22: myosin filament || 23: ribosome || 24: cytosolic large ribosomal subunit || 25: ribonucleoprotein complex

ECM 40, Gene set "nuclear speck", Page 3

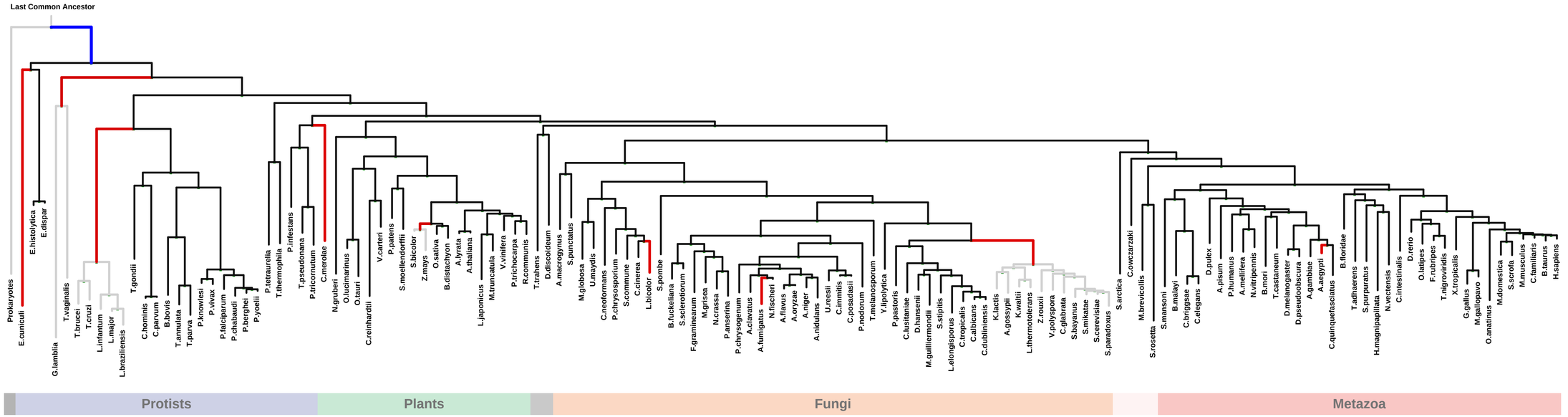
Num of ECM Genes: 1. Num of Predicted Genes: 91

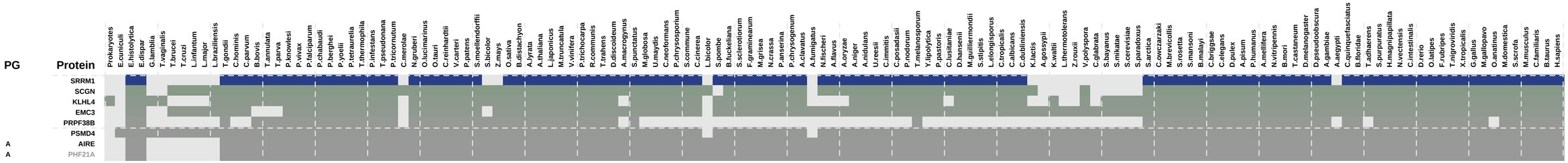




ECM 41, Gene set "nuclear speck", Page 1

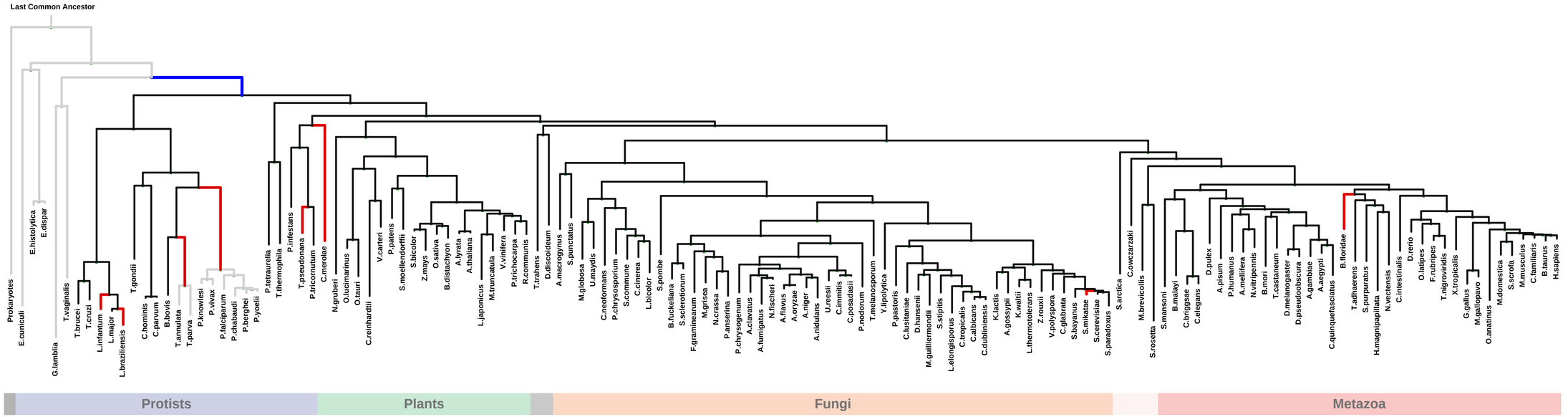
Num of ECM Genes: 1. Num of Predicted Genes: 7

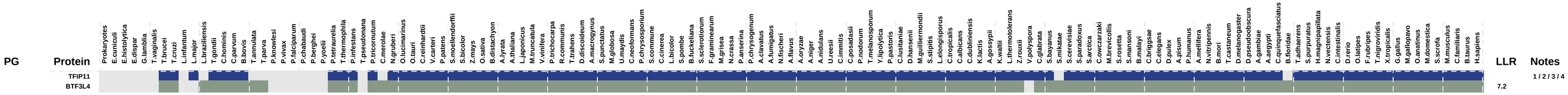




ECM 42, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 1

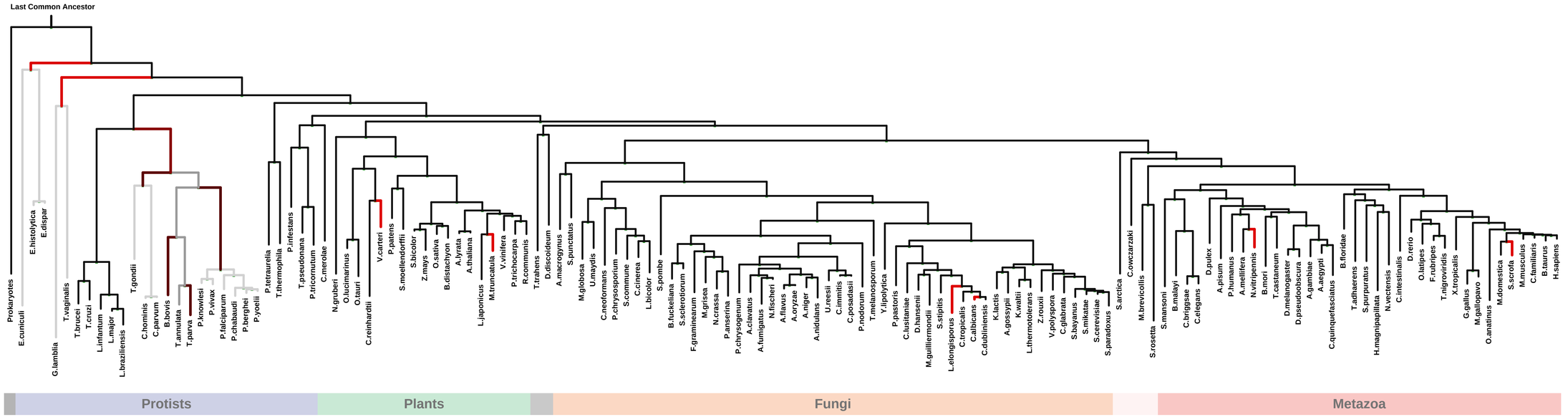


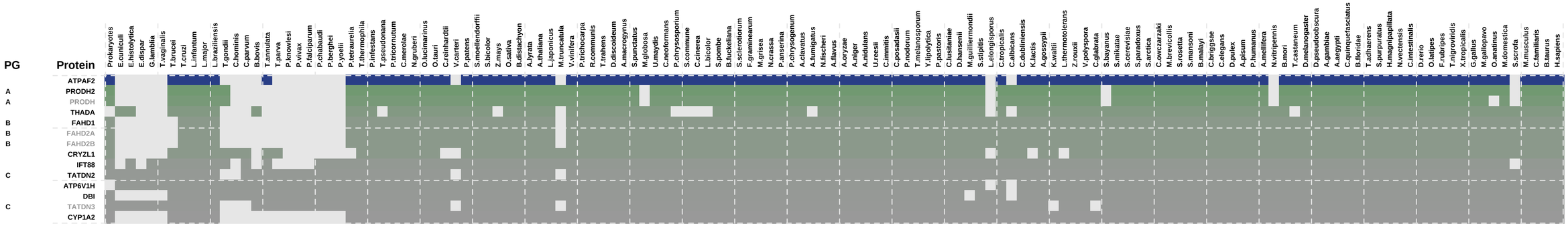


1: catalytic step 2 spliceosome || 2: nuclear speck || 3: proteinaceous extracellular matrix || 4: spliceosomal complex

ECM 43, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 13

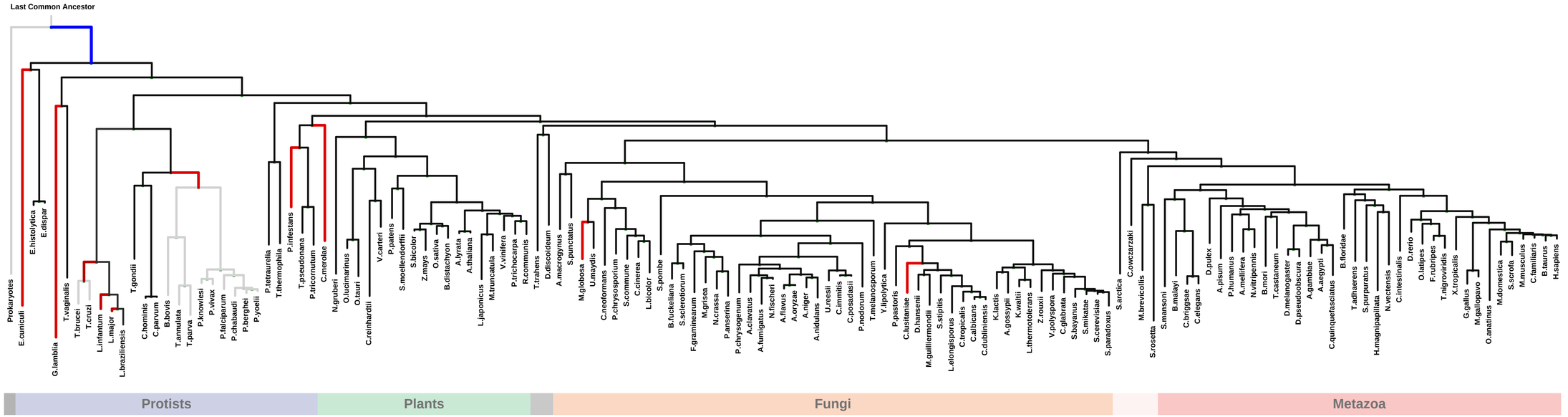




1: nuclear speck || 2: apical part of cell || 3: centriole || 4: cilium || 5: cilium axoneme || 6: intraflagellar transport particle B || 7: microtubule basal body || 8: microtubule-based flagellum || 9: motile primary cilium || 10: photoreceptor connecting cilium ||
11: vacuolar proton-transporting V-type ATPase, V1 domain

ECM 44, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 61

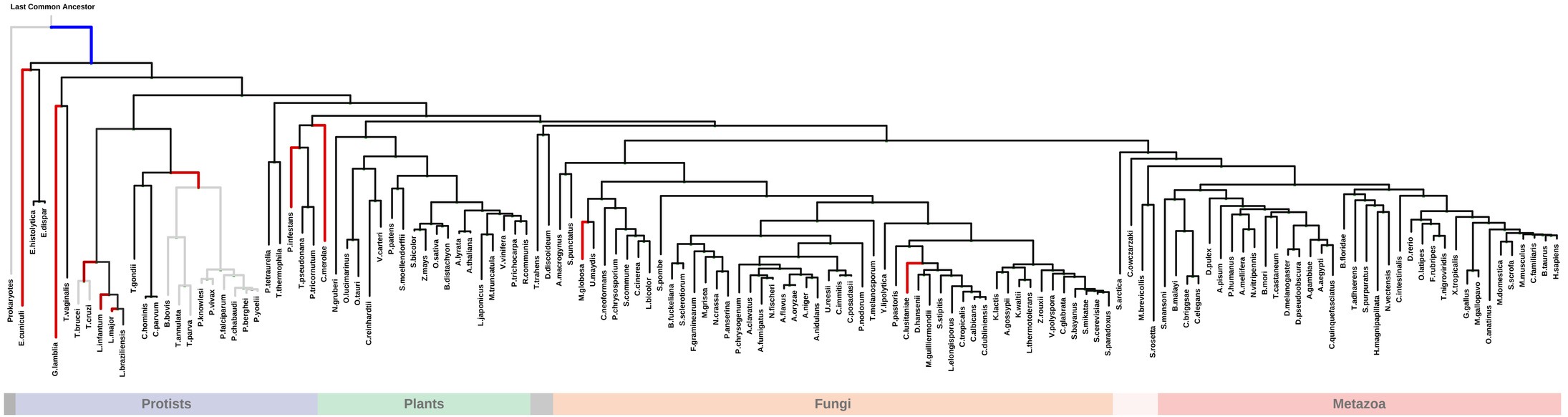


PG	Protein	LLR	Notes
A	SRY		1
A	SOX7	32.7	
A	SOX17	32.6	
A	SOX14	19.7	
A	SOX1	17.8	
A	SOX8	16.9	
A	SOX2	16.5	
A	SOX18	13.7	
A	SOX3	13.4	
A	SOX9	13.1	2
A	SOX4	11.8	
A	SOX21	10.3	
B	ARHGAP25	9.6	
A	SOX10	8.9	3
C	PLCE1	7.5	
A	SOX11	7.5	
	ARPC4	7.3	4 / 5
A	SOX15	6.8	
	653889	6.6	
D	OTOF	5.9	6 / 7
E	ABTB1	5.1	
	HTATSF1	4.7	
D	DOC2B	4.0	8 / 9 / 10
C	PLCL1	4.0	
	TLE6	3.9	11
B	FAM13B	3.8	
A	SOX12	3.2	12
F	SERINC3	3.0	
F	SERINC1	3.0	
G	GABARAP	2.5	13 / 14 / 15 / 16 / 17 / 18 /
G	MAP1LC3C	2.5	14 / 15 / 16 / 20 / 21
G	GABARAPL1	2.5	14 / 22 / 23 / 24 / 25
G	GABARAPL2	2.5	14 / 15 / 16
	COPS3	2.3	26
	UCK1	2.2	

1: nuclear speck || 2: chromatin remodeling complex || 3: extrinsic to mitochondrial outer membrane || 4: Arp2/3 protein complex || 5: cell projection || 6: basolateral plasma membrane || 7: synaptic vesicle membrane || 8: microtubule cytoskeleton ||
9: SNARE complex || 10: synaptic vesicle || 11: cell cortex || 12: protein-DNA complex || 13: actin cytoskeleton || 14: autophagic vacuole || 15: autophagic vacuole membrane || 16: cytoplasmic vesicle || 17: lysosome ||
18: microtubule associated complex || 19: smooth endoplasmic reticulum || 20: endomembrane system || 21: organelle membrane || 22: cell body || 23: cytoplasmic vesicle membrane || 24: dendrite cytoplasm || 25: dendrite membrane ||

ECM 44, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 61

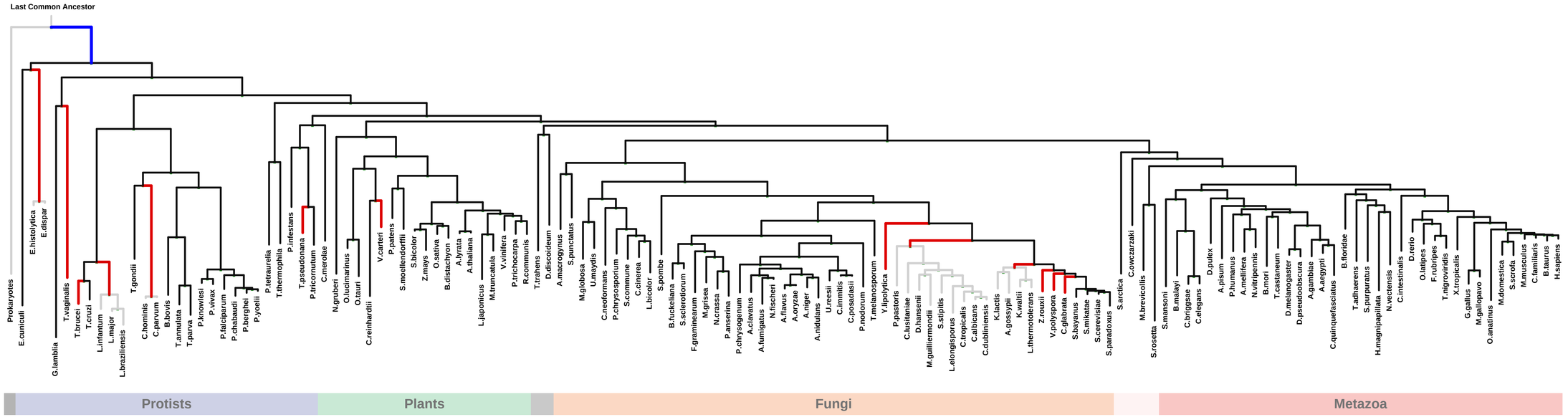


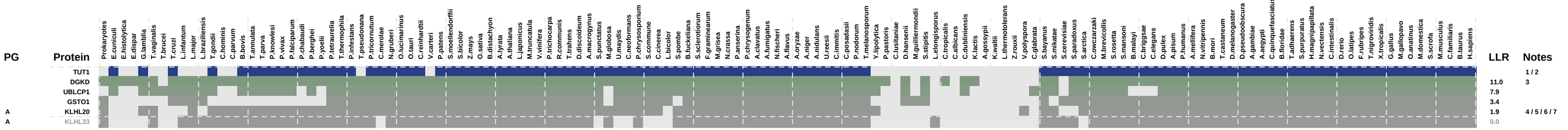
PG	Protein	LLR	Notes
	SNX33	1.8	
E	ZBTB8A	1.8	
H	ADH1B	1.8	
H	ADH1C	1.8	
H	ADH4	1.8	1
H	ADH7	1.8	
H	ADH1A	1.8	
	PGM1	1.8	2
	MOCOS	1.5	
	CWF19L1	1.1	
	TOX4	0.9	3 / 4
I	GANC	0.8	
J	ALDH1A2	0.8	
J	ALDH1A3	0.8	
I	MGAM	0.8	
I	SI	0.8	5 / 6
	ALG11	0.8	
H	SORD	0.8	7 / 8 / 9
H	ADH5	0.8	
I	GANAB	0.8	10 / 11
I	100508894	0.8	
D	RPH3A	0.6	12 / 13 / 14
D	SYT6	0.6	12 / 14 / 15
E	KLHL12	0.6	16 / 17
	PEX5	0.4	18 / 19 / 20
E	ZBTB8B	0.4	
E	KLHL4	0.3	1

1: microtubule cytoskeleton || 2: actin cytoskeleton || 3: chromatin || 4: PTW/PP1 phosphatase complex || 5: brush border || 6: membrane raft || 7: cilium || 8: flagellum || 9: mitochondrial membrane || 10: endoplasmic reticulum lumen || 11: melanosome || 12: extrinsic to membrane || 13: secretory granule || 14: synaptic vesicle membrane || 15: perinuclear endoplasmic reticulum || 16: Cul3-RING ubiquitin ligase complex || 17: ER to Golgi transport vesicle || 18: peroxisomal matrix || 19: peroxisomal membrane || 20: peroxisome

ECM 45, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 5

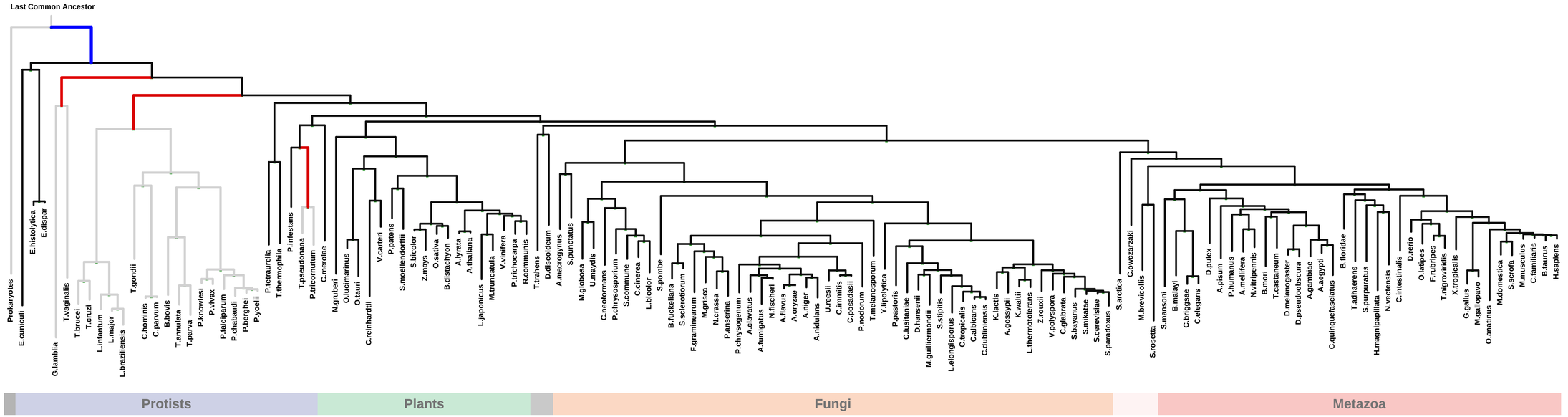


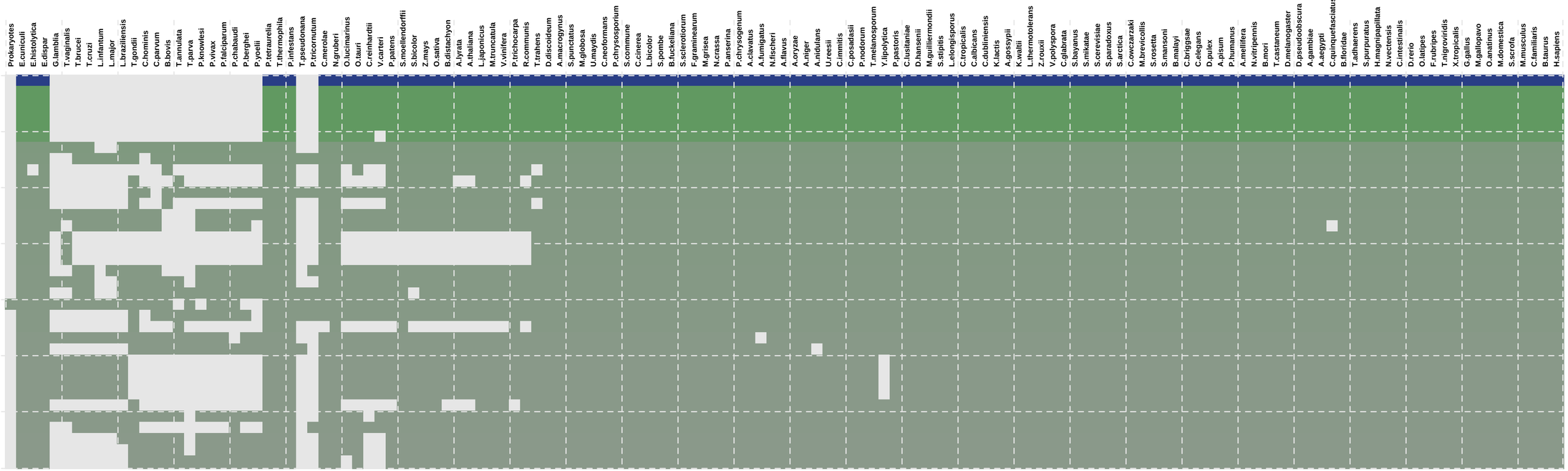


1: mRNA cleavage and polyadenylation specificity factor complex || 2: nuclear speck || 3: cytoplasmic membrane-bounded vesicle || 4: actin cytoskeleton || 5: Cul3-RING ubiquitin ligase complex || 6: cytoplasmic part || 7: PML body

ECM 46, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 500



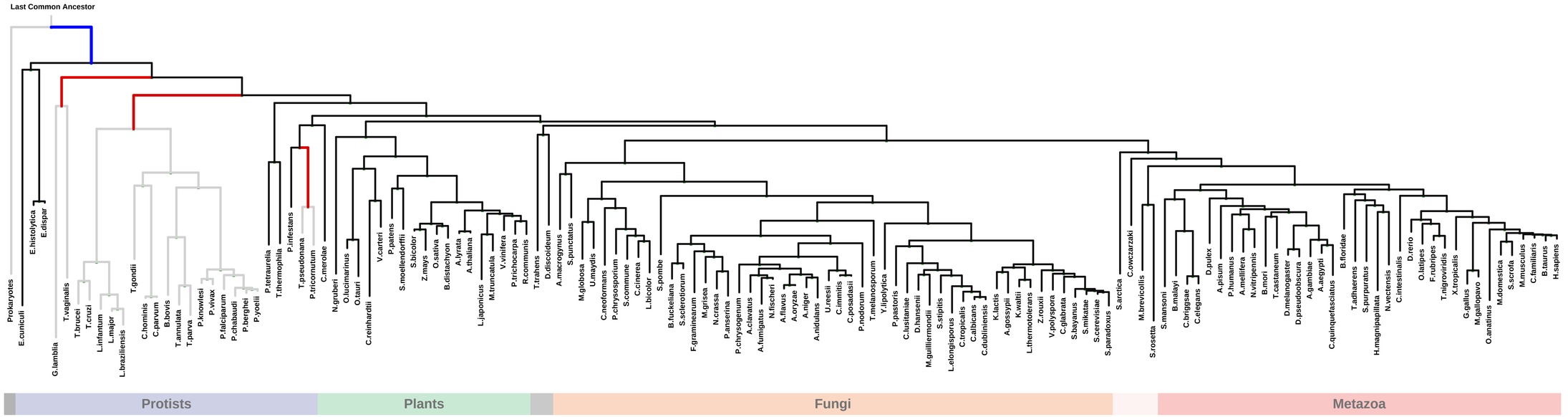


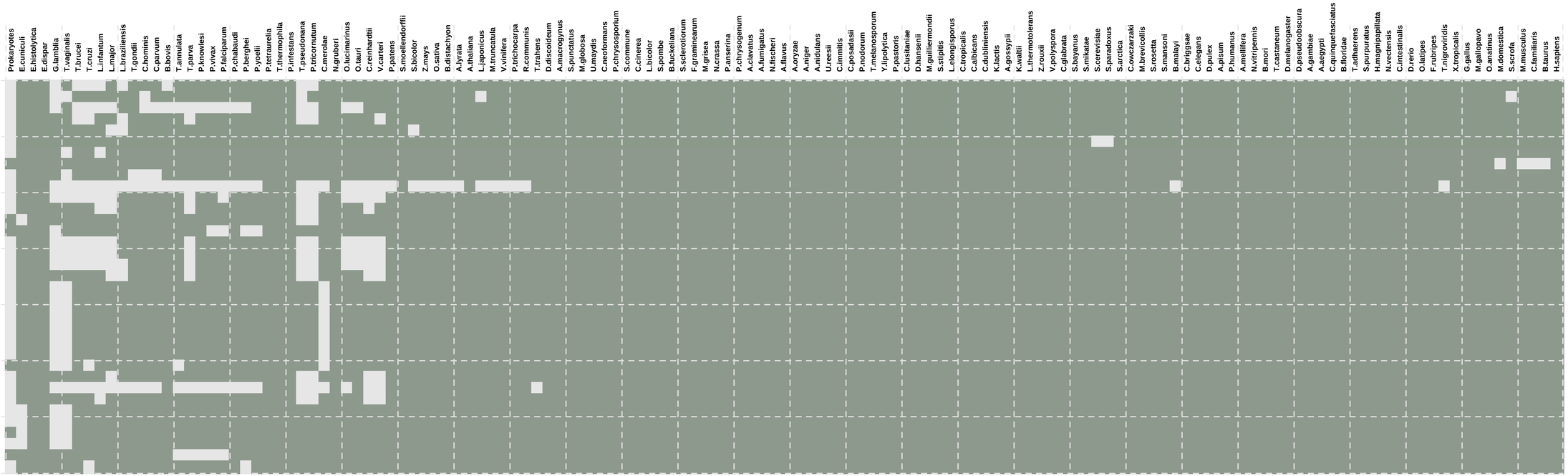
PG	Protein	LLR	Notes
A	MEF2C		1
A	MEF2A	24.2	2
A	MEF2B	24.2	
A	MEF2BNB-MEF2B	24.2	
A	MEF2D	24.2	
A	SRF	21.4	2
B	MYNN	11.0	
C	TMED10	10.7	3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 /
B	ZNF292	10.3	
B	ZNF219	10.1	
	TAF3	9.4	13
B	ZNF688	9.2	
	CIB4	9.1	
	AHSA1	8.8	
D	ARHGEF9	8.8	
D	TIAM2	8.8	14 / 15 / 16
D	ARHGEF3	8.8	
E	ZC3H8	8.8	
B	ZBTB48	8.6	
F	YEATS2	8.6	17
	NAA50	8.3	
G	SENP6	8.1	
B	BCL11A	8.1	18
H	RNF41	7.3	
I	KHDRBS1	7.2	
J	PPP2R2A	7.0	19
J	PPP2R2B	7.0	19 / 20
J	PPP2R2C	7.0	19
J	PPP2R2D	7.0	19
B	ZFPM1	6.9	21
B	ZNF324	6.7	
K	PTPN23	6.7	22 / 23 / 24 / 25
B	KLF9	6.6	
B	KLF10	6.5	
B	EGR2	6.3	

1: nuclear speck || 2: nuclear chromatin || 3: cis-Golgi network || 4: COPI-coated vesicle || 5: endoplasmic reticulum-Golgi intermediate compartment || 6: endoplasmic reticulum-Golgi intermediate compartment membrane || 7: gamma-secretase complex || 8: melanosome || 9: secretory granule membrane || 10: trans-Golgi network transport vesicle || 11: transport vesicle membrane || 12: zymogen granule membrane || 13: transcription factor TFIID complex || 14: filopodium || 15: growth cone || 16: lamellipodium || 17: Ada2/Gcn5/Ada3 transcription activator complex || 18: nuclear body || 19: protein phosphatase type 2A complex || 20: mitochondrial outer membrane || 21: transcriptional repressor complex || 22: cilium ||

ECM 46, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 500



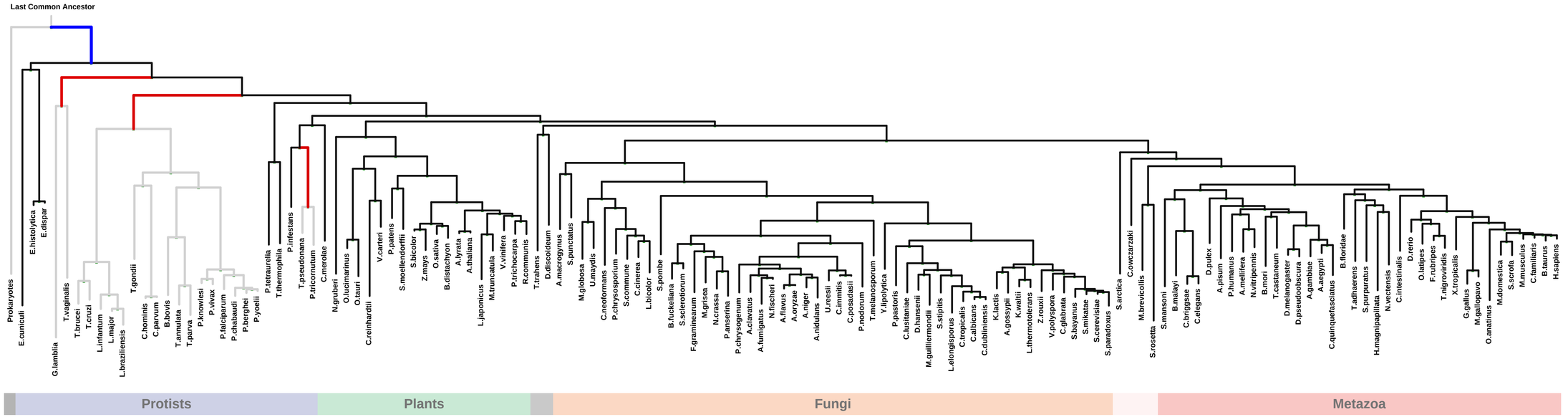


PG	Protein	LLR	Notes
L	PRR5-ARHGAP8	6.3	
	NOC2L	6.3	1
B	ZBTB5	6.2	
B	ZNF470	6.0	
F	YEATS4	6.0	2 / 3
H	TRIM21	6.0	4 / 5 / 6
E	ZC3H4	5.7	
	DDX23	5.7	7 / 8
M	CHRAC1	5.6	9 / 10
N	IQGAP2	5.6	11 / 12
B	SP2	5.6	
B	ZBTB49	5.6	
	ANKRD33	5.5	
	FBXW9	5.4	
B	SALL4	5.4	13
B	SP7	5.4	
B	EGR4	5.4	
B	CTCFL	5.3	
N	MYO1A	5.3	12 / 14 / 15 / 16 / 17 / 18 /
N	MYO1C	5.3	12 / 14 / 16 / 18 / 19 / 21 /
N	MYO1G	5.3	20
N	MYO1H	5.3	20
N	MYO15A	5.3	20 / 25
N	MYO18B	5.3	24 / 26
N	MYO19	5.3	20 / 27
O	IGF2BP2	5.2	28
B	ZNF648	5.2	
B	AEBP2	5.0	29
B	ZNF362	4.9	
P	SEC14L5	4.8	
	IPO4	4.8	21
Q	MCCC1	4.8	
P	SEC14L1	4.8	
R	LRCH3	4.8	
S	UBD	4.7	30

1: chromatin assembly complex || 2: NuA4 histone acetyltransferase complex || 3: nuclear matrix || 4: cytoplasmic mRNA processing body || 5: ribonucleoprotein complex || 6: SCF ubiquitin ligase complex || 7: catalytic step 2 spliceosome ||
8: U5 snRNP || 9: chromatin accessibility complex || 10: epsilon DNA polymerase complex || 11: actin cytoskeleton || 12: microvillus || 13: heterochromatin || 14: basal plasma membrane || 15: basolateral plasma membrane ||
16: brush border || 17: cortical actin cytoskeleton || 18: filamentous actin || 19: lateral plasma membrane || 20: myosin complex || 21: nuclear pore || 22: stereocilium membrane || 23: stress fiber || 24: unconventional myosin complex ||

ECM 46, Gene set "nuclear speck", Page 3

Num of ECM Genes: 1. Num of Predicted Genes: 500

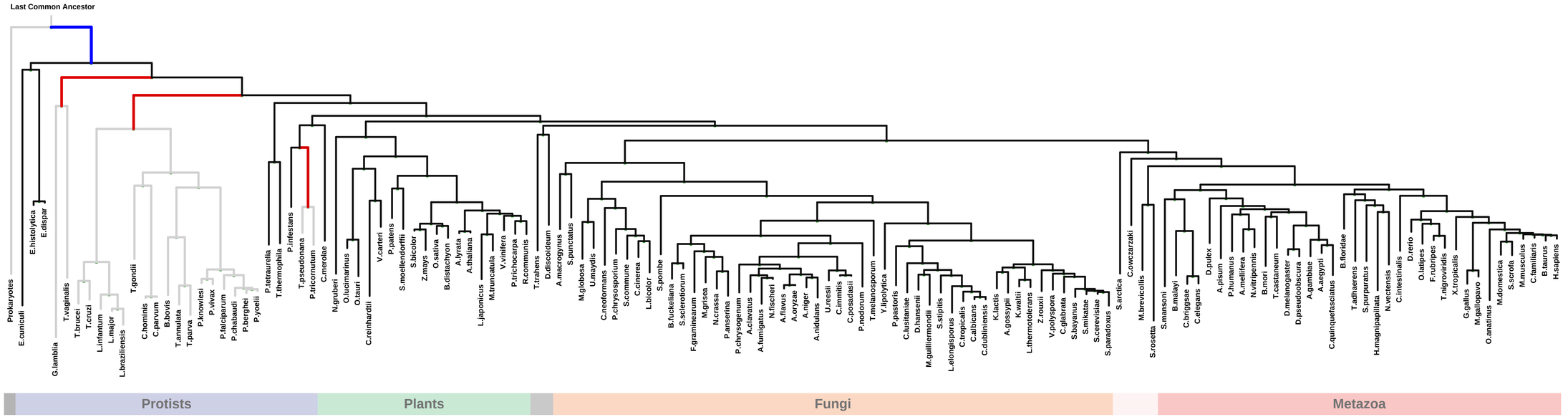


PG	Protein	LLR	Notes
T	LHX4	4.7	
T	LMX1A	4.7	
	STX2	4.6	1 / 2 / 3 / 4 / 5
B	KLF12	4.6	
B	SP3	4.6	6 / 7
U	CTR9	4.5	8 / 9 / 10
	LSM2	4.5	11
	RNF113A	4.5	
U	GTF3C3	4.5	12
B	ZNF582	4.5	
B	ZNF429	4.5	
B	HIVEP2	4.4	
K	PTPRB	4.4	
K	PTPN4	4.4	13
B	SP4	4.4	
K	PTPN5	4.3	
K	PTPN3	4.3	13
	EIF4G2	4.3	14
H	TRIM5	4.3	15
	PGLS	4.2	
	RNGTT	4.2	
L	CHN1	4.2	
D	ARHGEF4	4.2	16
R	LRCH1	4.2	
	ELAC1	4.2	
G	SENP3	4.2	17
L	ARHGAP8	4.2	
H	RFPL4B	4.1	
B	ZNF180	4.1	
B	ZNF248	4.1	
B	KLF14	4.1	
H	RNF4	4.1	6 / 18
H	PCGF1	4.0	19
V	SSB	4.0	20
W	SV2C	4.0	21

1: basolateral plasma membrane || 2: cell-cell junction || 3: membrane raft || 4: midbody || 5: transport vesicle || 6: PML body || 7: transcriptional repressor complex || 8: Cdc73/Paf1 complex || 9: nuclear speck || 10: transcriptionally active chromatin || 11: catalytic step 2 spliceosome || 12: transcription factor TFIIIC complex || 13: internal side of plasma membrane || 14: eukaryotic translation initiation factor 4F complex || 15: cytoplasmic mRNA processing body || 16: ruffle membrane || 17: MLL1 complex || 18: microtubule cytoskeleton || 19: PcG protein complex || 20: ribonucleoprotein complex || 21: synaptic vesicle membrane

ECM 46, Gene set "nuclear speck", Page 4

Num of ECM Genes: 1. Num of Predicted Genes: 500

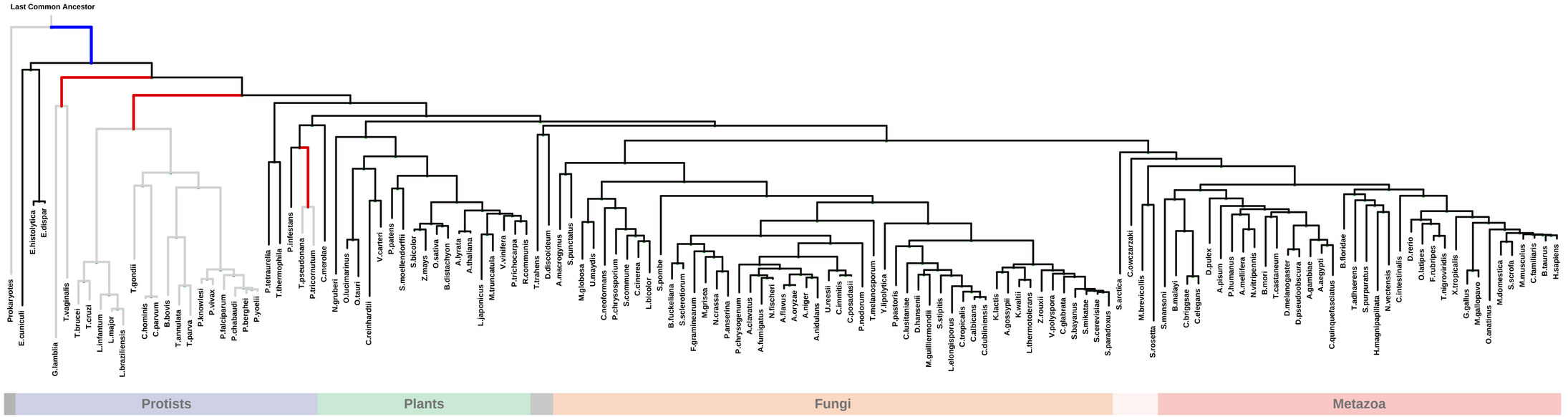


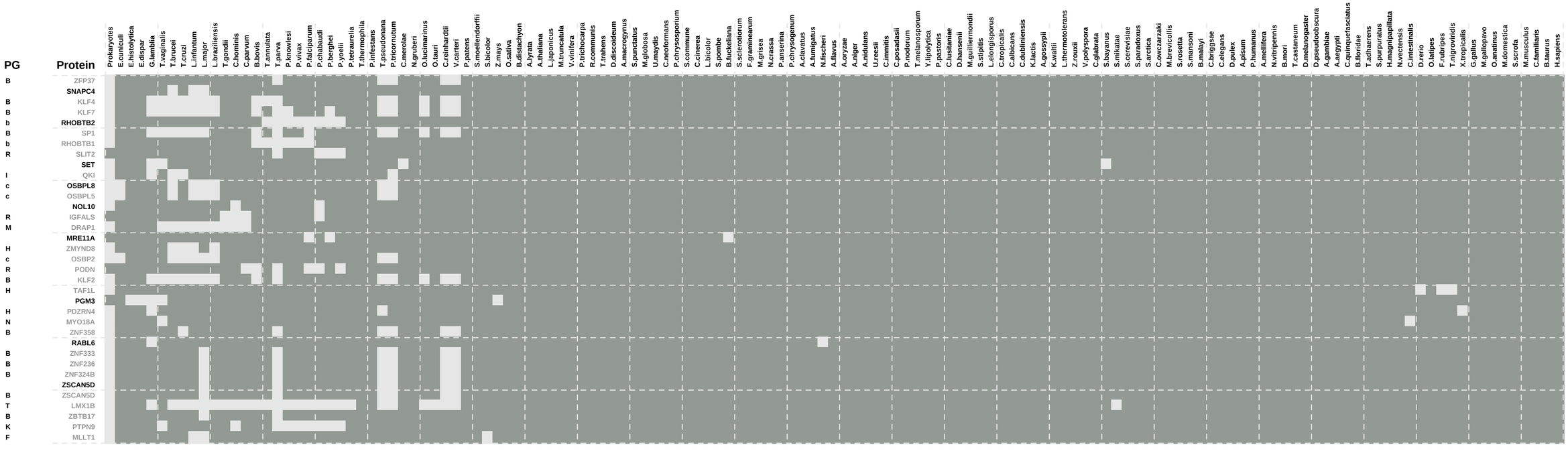
PG	Protein	LLR	Notes
B	ZBTB38	4.0	
B	HIVEP1	4.0	
B	KLF13	4.0	
B	WT1	3.9	1
B	KLF5	3.9	
B	KLF11	3.9	
W	SV2B	3.9	2 / 3
B	ZNF408	3.9	
	POMT2	**3.9**	
	UBL4B	**3.9**	
H	UHRF2	3.9	4
	ZFAND4	**3.9**	
S	ISG15	3.9	
R	LRG1	3.8	
	SETD1A	**3.8**	1 / 5 / 6 / 7
B	ZBTB14	3.8	
X	**HSD17B4**	**3.7**	8 / 9 / 10
	FNTA	**3.7**	11
N	IQGAP3	3.7	12 / 13
R	PHLPP2	3.6	
N	MYO6	3.6	14 / 15 / 16 / 17 / 18 / 19 /
	CWF19L1	**3.6**	
	AKTIP	**3.6**	29 / 30
Y	**HSF2**	**3.5**	
Y	HSF4	3.5	
Y	HSF1	3.5	31
Z	**UBTD1**	**3.4**	
Z	UBTD2	3.4	
R	LRRC40	3.4	
N	MYO1D	3.4	32 / 33 / 34
a	**CUL5**	**3.3**	35
N	MYO5B	3.3	33 / 36 / 37
W	SLC22A6	3.3	38 / 39
	TMEM30A	**3.3**	
X	HSD11B1L	3.2	

1: nuclear speck || 2: acrosomal vesicle || 3: synaptic vesicle membrane || 4: nuclear heterochromatin || 5: chromosome || 6: histone methyltransferase complex || 7: Set1C/COMPASS complex || 8: peroxisomal matrix || 9: peroxisomal membrane || 10: peroxisome || 11: microtubule associated complex || 12: cell-cell junction || 13: lateral plasma membrane || 14: apical part of cell || 15: axon || 16: cell cortex || 17: clathrin-coated endocytic vesicle || 18: clathrin-coated vesicle membrane || 19: coated pit || 20: cytoplasmic membrane-bounded vesicle || 21: DNA-directed RNA polymerase II, holoenzyme || 22: endocytic vesicle || 23: filamentous actin || 24: microvillus || 25: nuclear membrane || 26: ruffle || 27: ruffle membrane ||

ECM 46, Gene set "nuclear speck", Page 5

Num of ECM Genes: 1. Num of Predicted Genes: 500

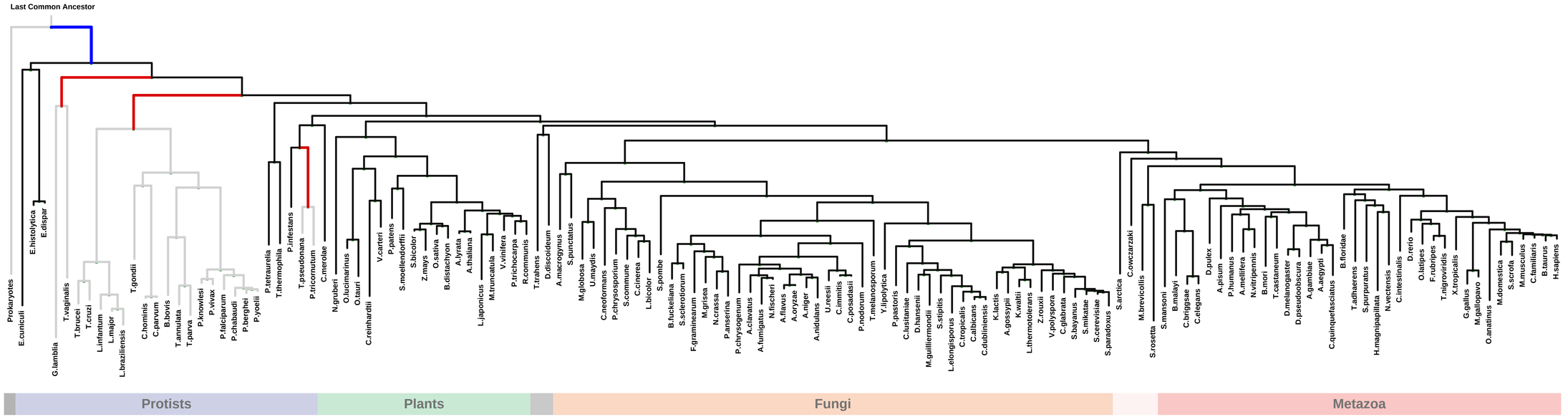




1: nuclear chromatin || 2: protein-DNA complex || 3: chromosome, telomeric region || 4: condensed nuclear chromosome || 5: Mre11 complex || 6: proteinaceous extracellular matrix || 7: transcription factor TFIID complex || 8: actomyosin || 9: endoplasmic reticulum-Golgi intermediate compartment || 10: myosin complex || 11: cytoplasmic part

ECM 46, Gene set "nuclear speck", Page 6

Num of ECM Genes: 1. Num of Predicted Genes: 500

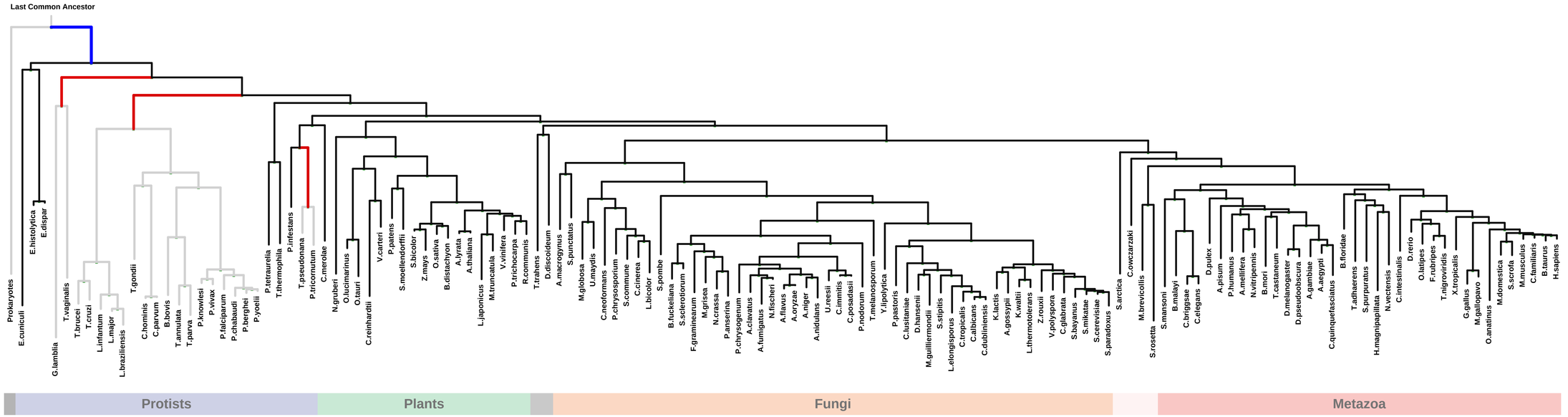


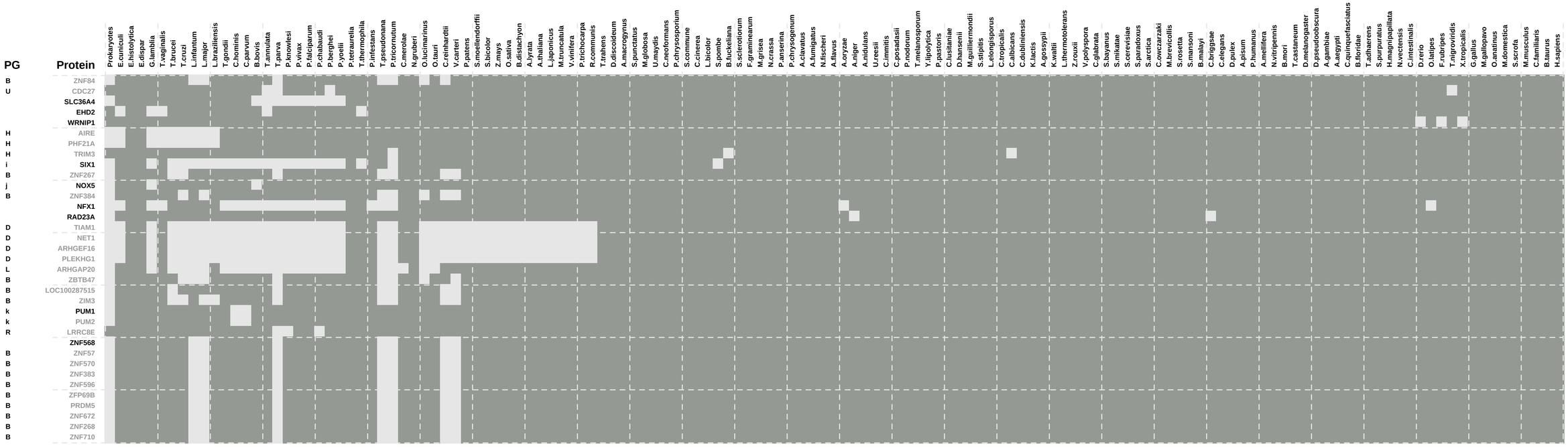
PG	Protein	LLR	Notes
d	INPP5E	2.6	1 / 2
d	INPP5K	2.6	3 / 4 / 5 / 6
O	RBM41	2.6	
B	ZNF34	2.6	
	IQSEC3	2.6	6 / 7 / 8
C	TMED7-TICAM2	2.6	
B	ZNF768	2.5	9
e	PHB2	2.5	
Q	PCCA	2.5	
f	ADCK5	2.5	
f	ADCK1	2.5	
f	ADCK3	2.5	
f	ADCK4	2.5	
e	PHB	2.5	
g	BCKDHA	2.5	10
h	BCKDHB	2.5	10
g	PDHA1	2.5	
g	PDHA2	2.5	
h	PDHB	2.5	11
U	BBS4	2.5	12 / 13 / 14 / 15 / 16 / 17 /
B	ZNF425	2.5	
	TOM1L1	2.4	20 / 21 / 22 / 23
	SPHK2	2.4	24
	LSM3	2.4	25
	HSDL1	2.4	
	RPTOR	2.4	23 / 26 / 27
R	SHOC2	2.3	28
R	LRRTM4	2.3	8
R	LRRC8C	2.3	
R	LRRTM2	2.3	8
H	TRIM25	2.3	
	DOHH	2.3	
B	ZNF367	2.3	
W	SLC22A8	2.3	29
	ZNF84	2.3	

1: cilium axoneme || 2: Golgi cisterna membrane || 3: neuron projection || 4: ruffle || 5: ruffle membrane || 6: trans-Golgi network || 7: inhibitory synapse || 8: postsynaptic membrane || 9: DNA-directed RNA polymerase II, core complex ||
10: mitochondrial alpha-ketoglutarate dehydrogenase complex || 11: pyruvate dehydrogenase complex || 12: BBSome || 13: centriolar satellite || 14: centriole || 15: cilium membrane || 16: microtubule basal body || 17: motile cilium ||
18: nonmotile primary cilium || 19: pericentriolar material || 20: endosome || 21: endosome membrane || 22: Golgi stack || 23: lysosome || 24: lysosomal membrane || 25: catalytic step 2 spliceosome || 26: dendrite ||

ECM 46, Gene set "nuclear speck", Page 7

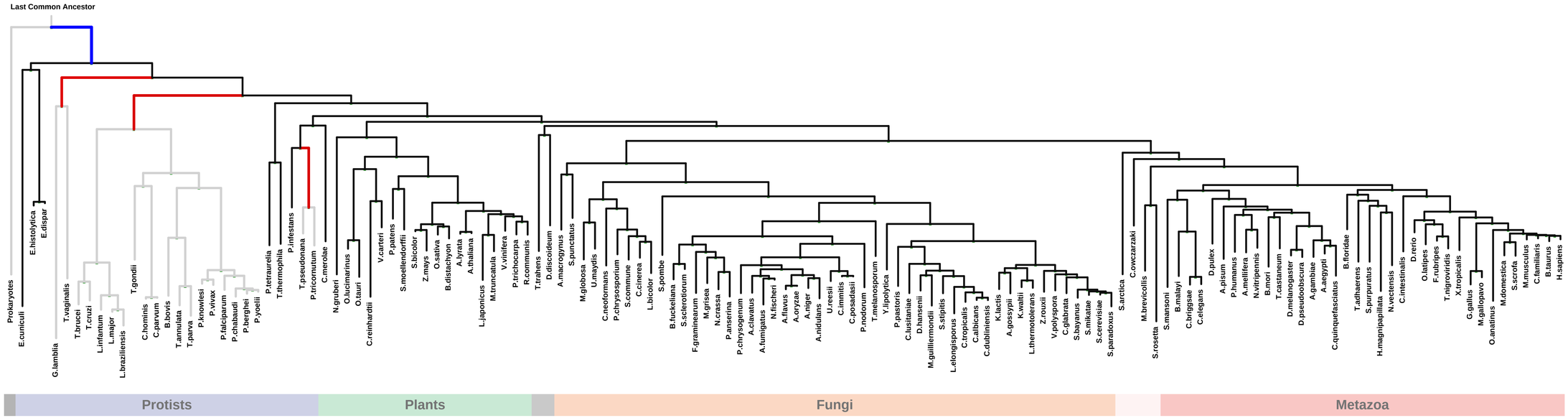
Num of ECM Genes: 1. Num of Predicted Genes: 500





ECM 46, Gene set "nuclear speck", Page 8

Num of ECM Genes: 1. Num of Predicted Genes: 500

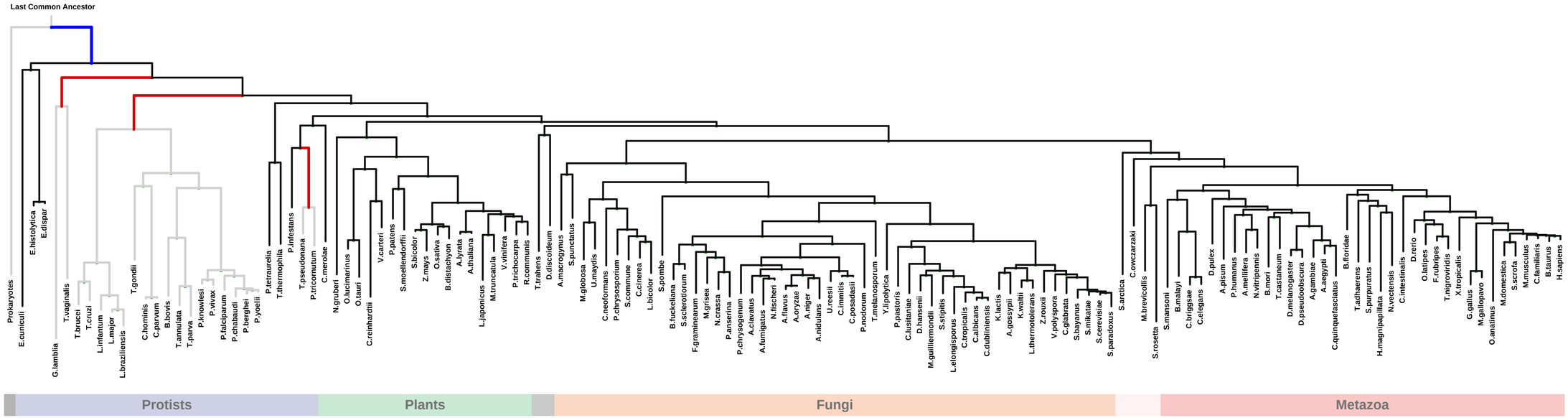


PG	Protein	LLR	Notes
B	ZNF234	2.0	
B	ZNF778	2.0	
B	ZNF836	2.0	
B	ZKSCAN3	2.0	
B	ZNF19	2.0	
B	ZNF480	2.0	
B	ZNF557	2.0	
	AGAP3	**2.0**	**1**
M	NFYC	2.0	**2**
	RSL24D1P11	**1.9**	
	SSRP1	**1.9**	**3**
B	ZBTB11	1.9	
B	PRDM10	1.9	
B	ZNF420	1.9	
B	ZNF486	1.9	
B	ZNF502	1.9	
B	ZNF528	1.9	
B	ZNF583	1.9	
B	ZNF28	1.9	
B	EGR3	1.8	
	SLC25A25	**1.8**	
	GLRX	**1.8**	
I	**CCNB3**	**1.8**	
	ASCC3	**1.8**	
R	FLII	1.8	
O	IGF2BP3	1.8	
	PPAN-P2RY11	**1.8**	
I	CCND2	1.8	**4 / 5 / 6**
I	CCNE1	1.8	**5**
I	CCNE2	1.8	
I	CCNI	1.8	
I	CCNO	1.8	
I	CCNA2	1.8	**7 / 8**
I	CCNB1	1.8	**9 / 10**
I	CCNB2	1.8	**11**

1: cell periphery || 2: CCAAT-binding factor complex || 3: chromosome || 4: chromatin || 5: cyclin-dependent protein kinase holoenzyme complex || 6: nuclear membrane || 7: female pronucleus || 8: male pronucleus || 9: condensed nuclear chromosome outer kinetochore || 10: spindle pole || 11: microtubule cytoskeleton

ECM 46, Gene set "nuclear speck", Page 9

Num of ECM Genes: 1. Num of Predicted Genes: 500

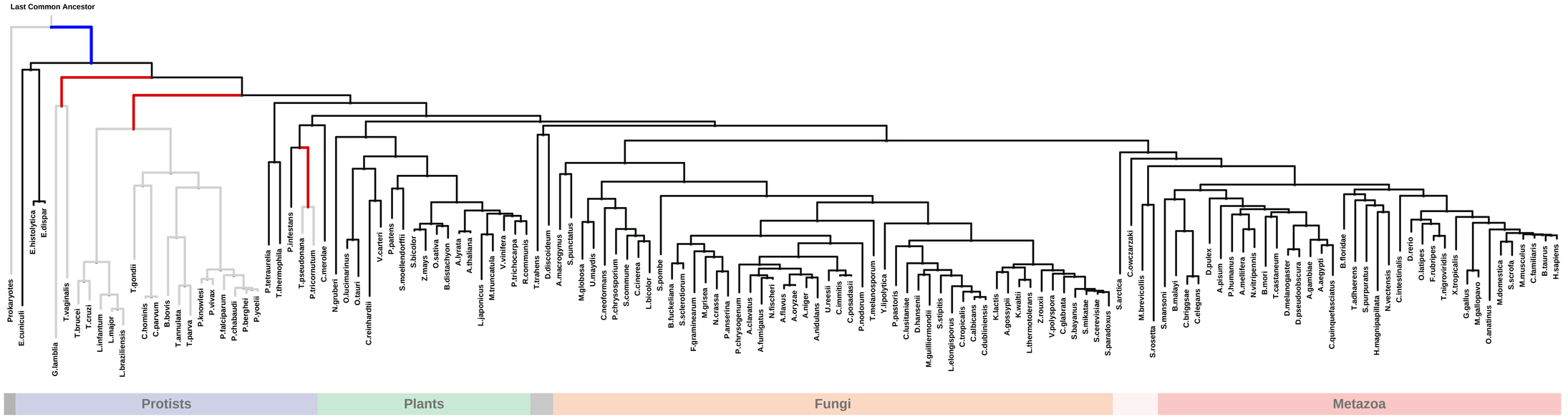


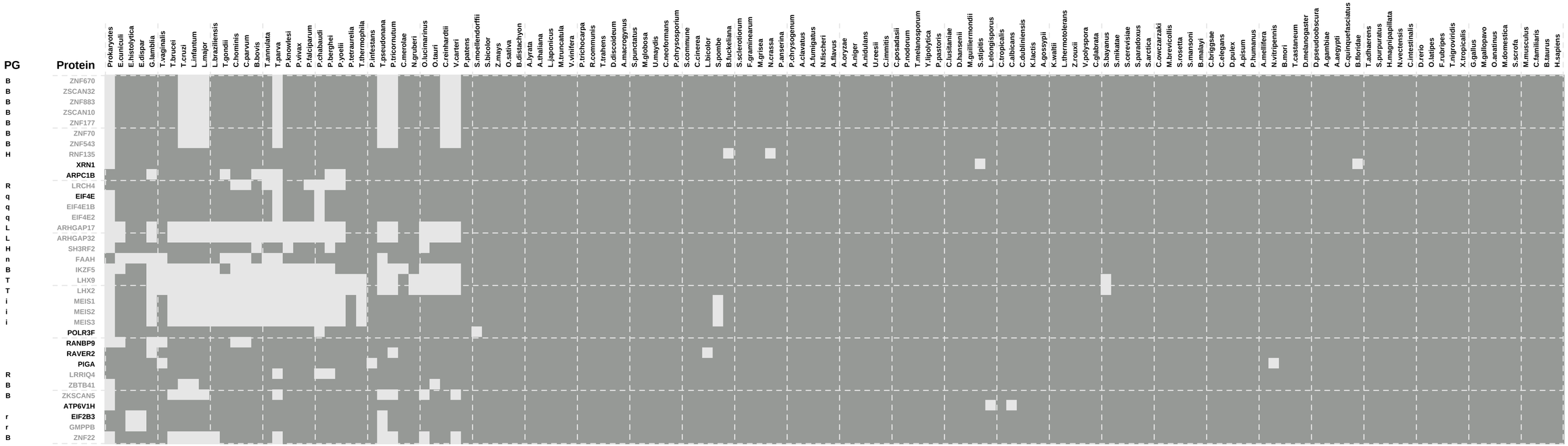
PG	Protein	LLR	Notes
I	CCNA1	1.8	1
I	CNTD2	1.8	
I	CCND1	1.8	2
m	**CDKL2**	**1.7**	
n	**QRSL1**	**1.7**	3
B	ZNF317	1.7	
B	ZNF713	1.7	
B	ZNF275	1.7	
	DAZ2	**1.7**	
	RFWD3	**1.7**	4
R	CPN2	1.7	
	TBC1D9	**1.6**	
R	LRRC69	1.6	
B	ZNF837	1.6	
B	ZNF146	1.6	
o	**KCNAB2**	**1.6**	5
	PRPF8	**1.6**	6 / 7 / 8
B	SNAI1	1.6	
	PTRH2	**1.6**	
B	ZNF223	1.6	
p	**SNX30**	**1.6**	
	CHD1	**1.5**	
p	SNX7	1.5	9
	ZADH2	**1.5**	10
	728528	**1.5**	
	MYSM1	**1.5**	11
B	PRDM4	1.5	
I	SF1	1.5	12 / 13
B	ZNF184	1.5	
B	ZNF559-ZNF177	1.5	
B	ZNF77	1.5	
B	ZNF566	1.5	
B	ZNF805	1.5	
B	ZNF345	1.5	
B	ZNF652	1.5	

1: microtubule cytoskeleton || 2: cyclin-dependent protein kinase holoenzyme complex || 3: glutamyl-tRNA(Gln) amidotransferase complex || 4: PML body || 5: juxtaparanode region of axon || 6: catalytic step 2 spliceosome || 7: nuclear speck ||
8: U5 snRNP || 9: cytoplasmic vesicle membrane || 10: peroxisome || 11: chromatin remodeling complex || 12: ribosome || 13: spliceosomal complex

ECM 46, Gene set "nuclear speck", Page 10

Num of ECM Genes: 1. Num of Predicted Genes: 500

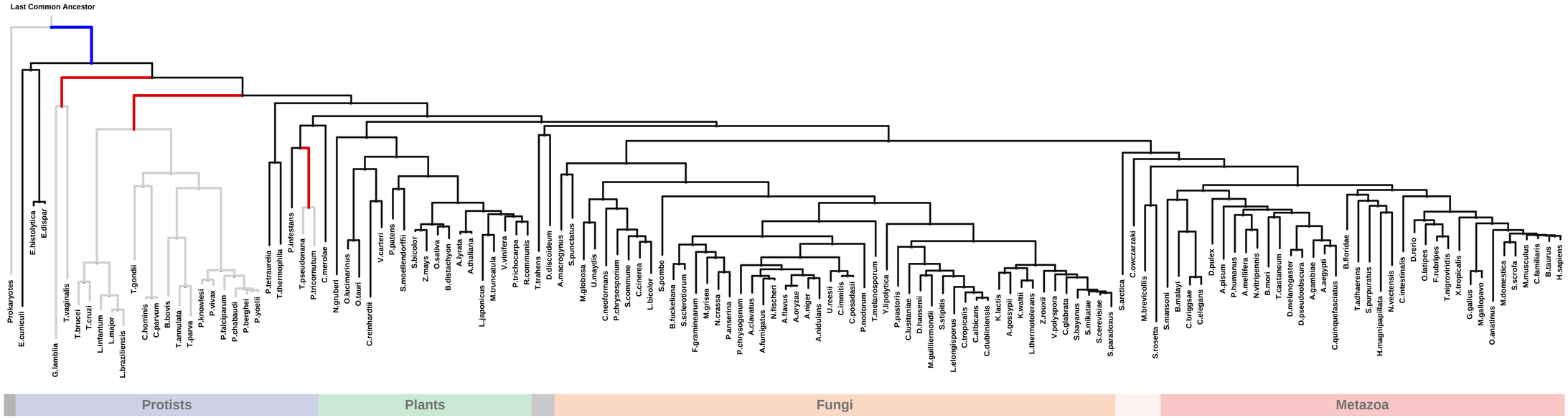




1: intermediate filament cytoskeleton || 2: actin cytoskeleton || 3: Arp2/3 protein complex || 4: PML body || 5: cytoplasmic mRNA processing body || 6: cytoplasmic stress granule || 7: eukaryotic translation initiation factor 4F complex ||
8: mRNA cap binding complex || 9: RNA-induced silencing complex || 10: tight junction || 11: cell cortex || 12: endosome membrane || 13: postsynaptic density || 14: postsynaptic membrane || 15: endomembrane system ||
16: organelle membrane || 17: DNA-directed RNA polymerase III complex || 18: microtubule associated complex || 19: glycosylphosphatidylinositol-N-acetylglucosaminyltransferase (GPI-GnT) complex || 20: vacuolar proton-transporting V-type ATPase, V1 domain ||

ECM 46, Gene set "nuclear speck", Page 11

Num of ECM Genes: 1. Num of Predicted Genes: 500

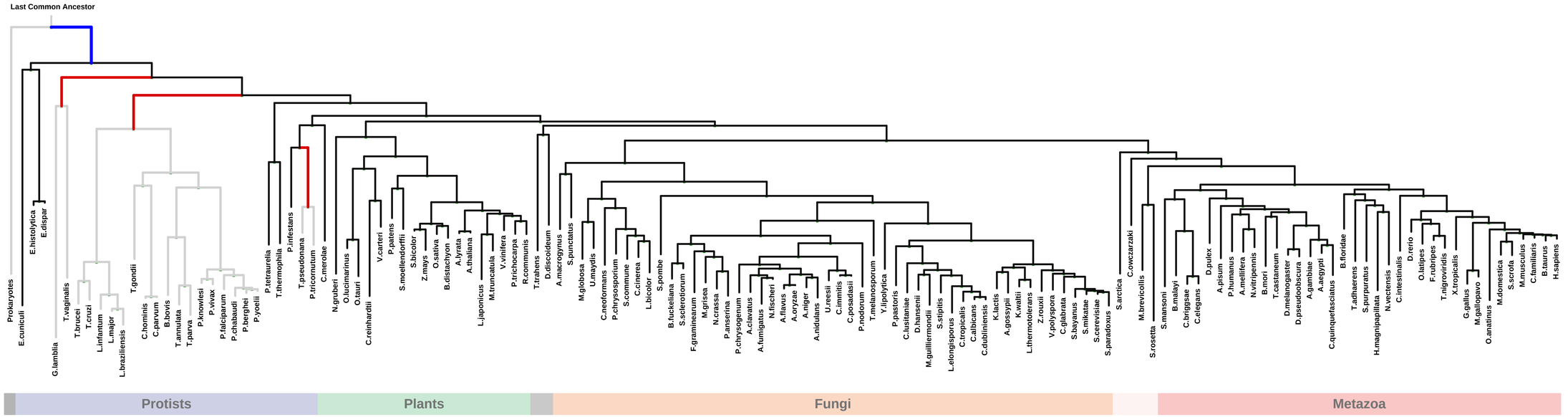


PG	Protein	LLR	Notes
B	ZNF43	1.2	
	CLP1	1.2	1
	OVOL3	1.2	
	WDR74	1.2	
U	TTC37	1.1	2 / 3
	TRMT2A	1.1	
B	ZNF577	1.1	
B	ZNF780B	1.1	
B	ZNF546	1.1	
B	ZNF561	1.1	
R	TLR5	1.1	
s	PUS7L	1.1	
s	PUS7	1.1	
	TBCE	1.1	
M	POLE4	1.1	4 / 5
U	TMTC1	1.1	
	UTP18	1.1	
	SLC39A12	1.1	
	RBM25	1.1	6
	FA2H	1.1	
B	KLF3	1.0	
B	ZIC4	1.0	
N	MYO5C	1.0	7
B	ZNF764	1.0	
m	MAP3K5	1.0	
t	ZNRF1	1.0	8 / 9 / 10
t	ZNRF2	1.0	11 / 12 / 13
B	BCL6	1.0	14
	CERS5	1.0	15
D	SPATA13	0.9	16 / 17 / 18
H	SH3RF1	0.9	17
B	OVOL3	0.9	
E	MKRN1	0.9	
B	ZNF684	0.9	
	PFKL	0.9	19

1: tRNA-intron endonuclease complex || 2: Ski complex || 3: transcriptionally active chromatin || 4: Ada2/Gcn5/Ada3 transcription activator complex || 5: epsilon DNA polymerase complex || 6: nuclear speck || 7: myosin complex ||
8: endosome || 9: lysosome || 10: synaptic vesicle membrane || 11: endosome membrane || 12: lysosomal membrane || 13: presynaptic membrane || 14: replication fork || 15: nuclear membrane || 16: filopodium || 17: lamellipodium ||
18: ruffle membrane || 19: 6-phosphofructokinase complex

ECM 46, Gene set "nuclear speck", Page 12

Num of ECM Genes: 1. Num of Predicted Genes: 500

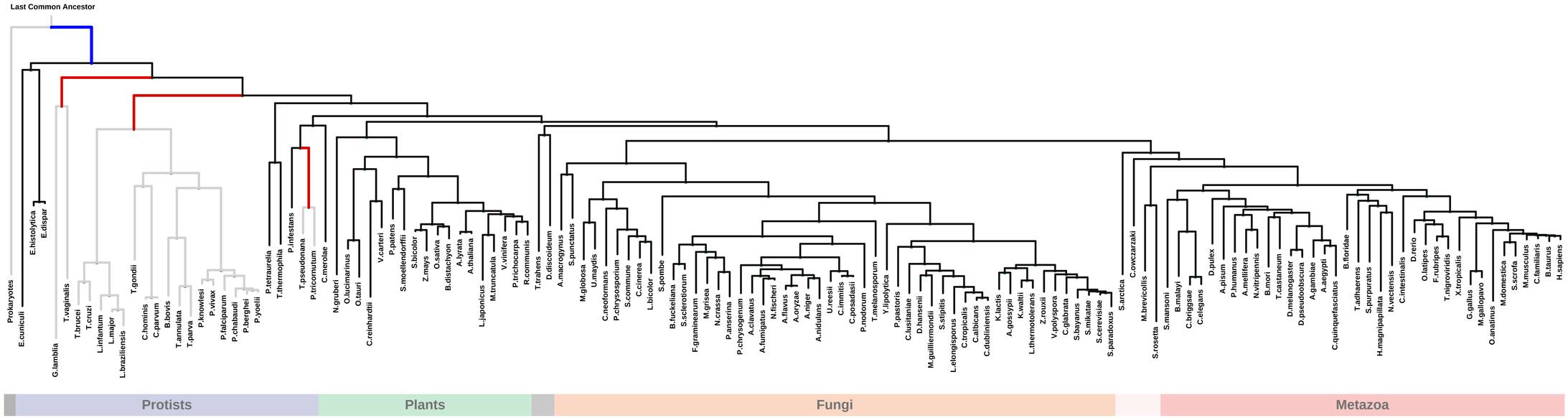


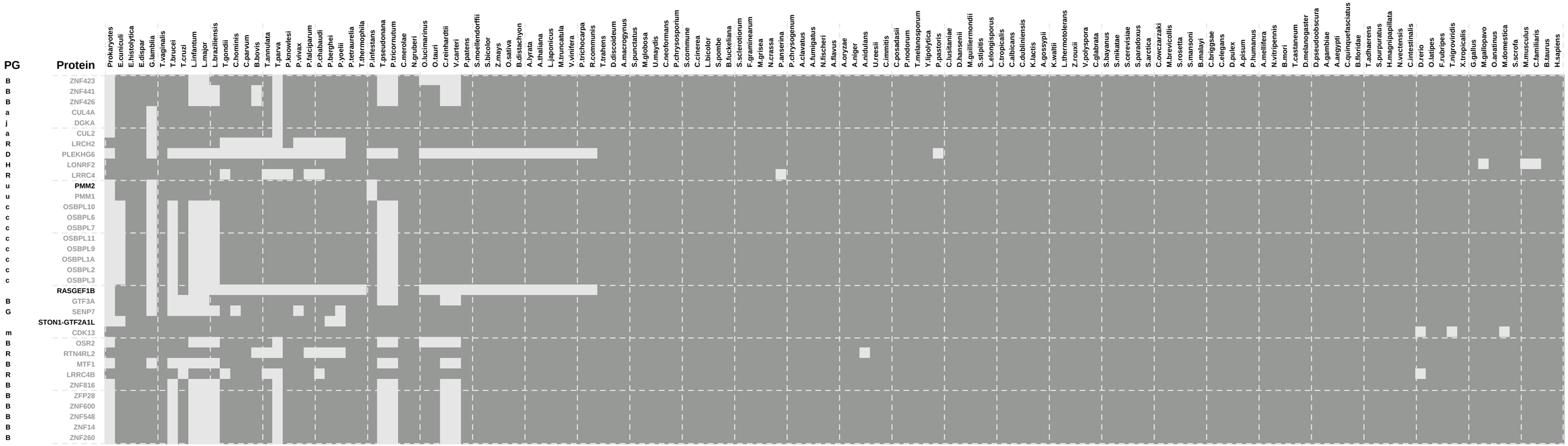
PG	Protein	LLR	Notes
o	KCNAB3	0.9	
	IPO9	**0.9**	**1**
N	MYH14	0.9	**2 / 3 / 4 / 5**
	RPL23A	**0.9**	**6 / 7**
B	ZNF717	0.9	
B	LOC100287163	0.9	
B	ZNF630	0.9	
B	ZNF696	0.9	
B	ZNF562	0.9	
B	ZNF71	0.9	
B	ZNF25	0.9	
B	ZKSCAN8	0.9	
B	ZNF175	0.9	**8**
B	ZNF347	0.9	
B	ZNF121	0.9	
B	ZNF141	0.9	
B	ZNF287	0.9	
B	ZNF584	0.9	
B	ZNF225	0.9	
B	ZNF829	0.9	
B	ZNF623	0.9	
B	ZNF624	0.9	
B	ZFP90	0.9	
B	ZNF189	0.9	
B	ZNF845	0.9	
B	ZNF846	0.9	
B	ZNF880	0.9	
B	ZNF41	0.9	
B	ZNF556	0.9	
B	ZNF665	0.9	
B	ZNF415	0.9	**9**
B	ZNF558	0.9	
B	ZNF419	0.9	
B	ZNF160	0.9	
B	ZNF705G	0.9	

1: nuclear pore || 2: axon || 3: growth cone || 4: myosin complex || 5: stress fiber || 6: cytosolic large ribosomal subunit || 7: TORC2 complex || 8: intermediate filament cytoskeleton || 9: microtubule cytoskeleton

ECM 46, Gene set "nuclear speck", Page 13

Num of ECM Genes: 1. Num of Predicted Genes: 500

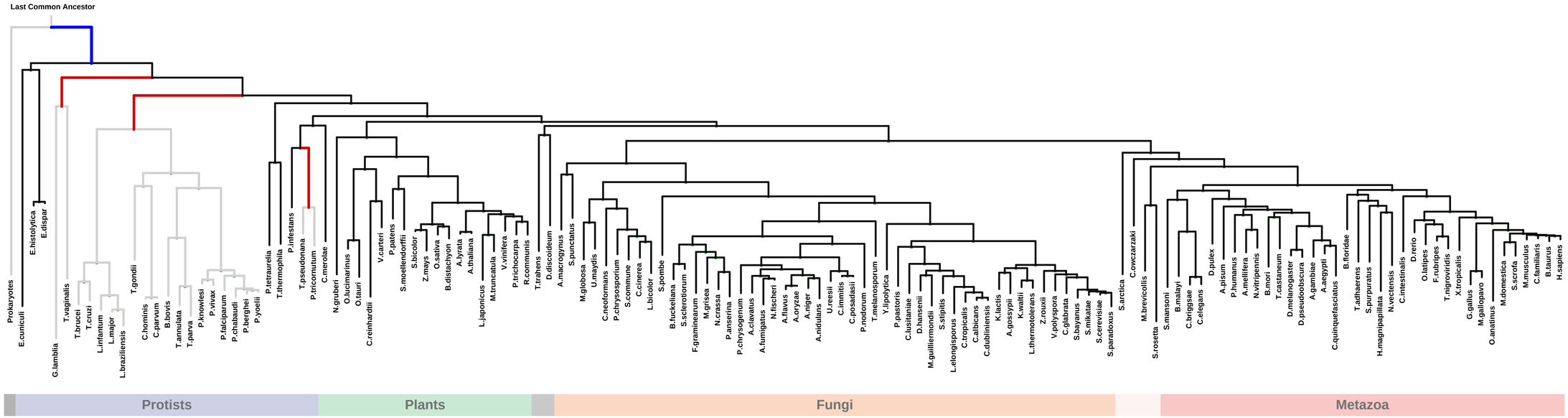




1: Cul4A-RING ubiquitin ligase complex || 2: Cul4-RING ubiquitin ligase complex || 3: Cul2-RING ubiquitin ligase complex || 4: cleavage furrow || 5: spindle pole || 6: postsynaptic membrane || 7: late endosome || 8: lysosomal membrane ||
9: early endosome || 10: nuclear cyclin-dependent protein kinase holoenzyme complex || 11: nuclear speck || 12: anchored to plasma membrane || 13: external side of plasma membrane || 14: membrane raft || 15: presynaptic membrane

ECM 46, Gene set "nuclear speck", Page 14

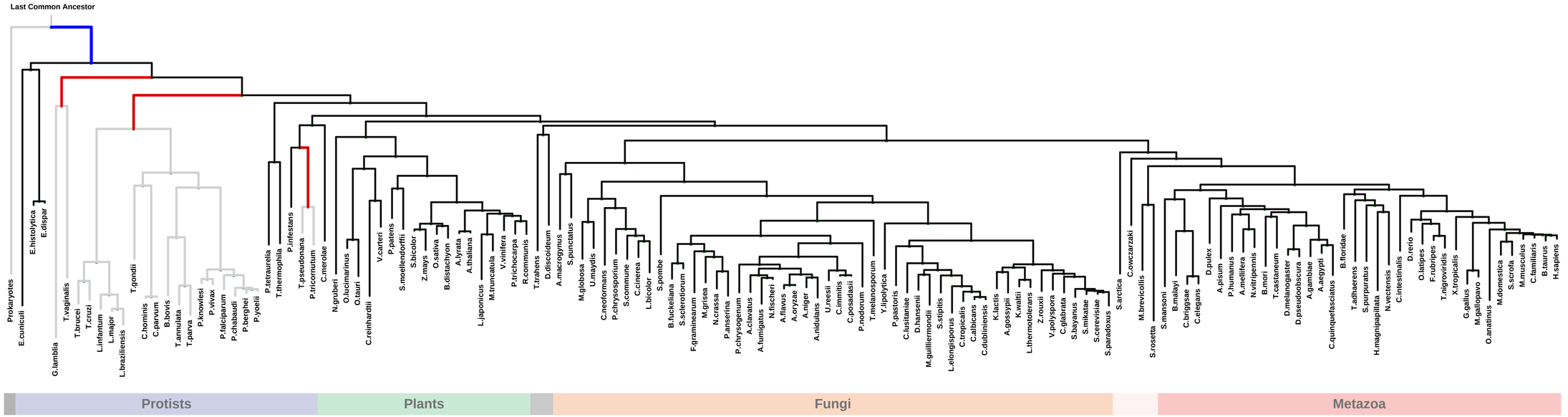
Num of ECM Genes: 1. Num of Predicted Genes: 500



PG	Protein	LLR	Notes
B	ZNF791	0.7	
B	ZNF732	0.7	
B	ZFX	0.6	
B	ZFY	0.6	
	SCAF8	**0.6**	**1 / 2**
c	OSBP	0.6	
B	ZSCAN31	0.6	
B	ZNF749	0.6	
B	ZNF529	0.6	
B	ZNF256	0.6	
B	ZNF132	0.6	
B	ZNF329	0.6	
B	ZNF264	0.6	
B	ZNF33A	0.6	
B	ZNF792	0.6	
B	ZNF266	0.6	
B	ZNF81	0.6	
B	ZNF154	0.6	
B	ZNF658	0.6	
B	ZNF134	0.6	
B	ZKSCAN7	0.6	
B	ZNF564	0.6	
B	ZNF674	0.6	
B	ZFP14	0.6	
B	ZNF567	0.6	
B	ZNF85	0.6	
B	ZNF878	0.6	
B	ZNF454	0.6	
B	ZNF461	0.6	
B	ZNF99	0.6	
B	ZNF205	0.6	
B	ZFP1	0.6	
B	ZNF578	0.6	
B	ZNF311	0.6	
B	ZNF250	0.6	

1: nuclear matrix || 2: spliceosomal complex

Num of ECM Genes: 1. Num of Predicted Genes: 500

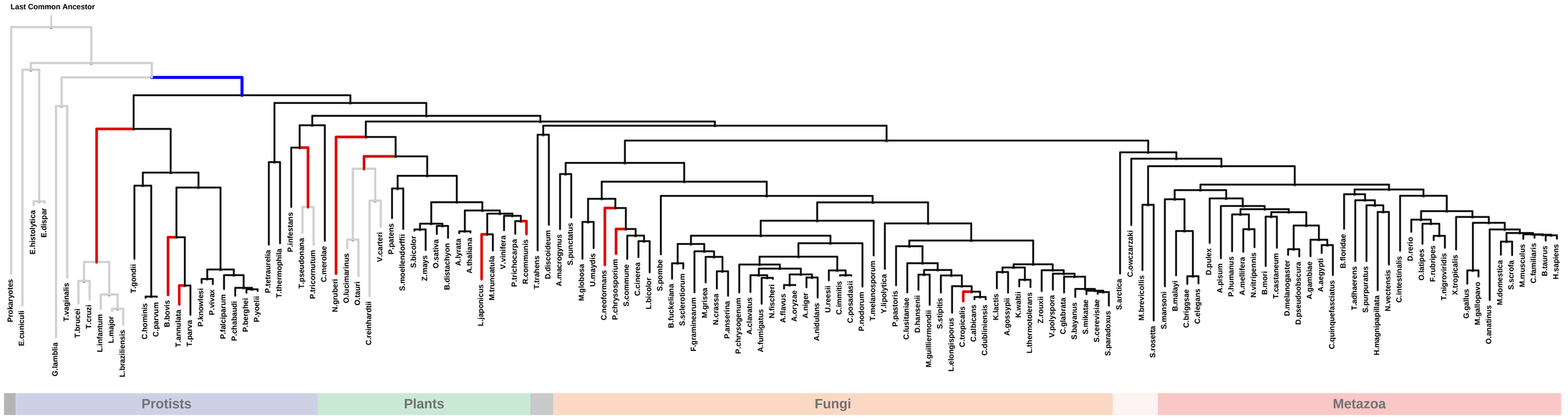


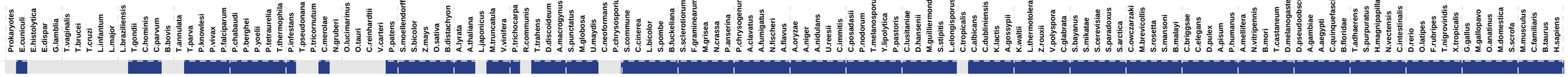
PG	Protein	LLR	Notes
B	ZNF729	0.6	
R	LRRC18	0.6	
V	LARP6	0.6	1
B	ZNF879	0.6	
B	ZNF587	0.6	
B	ZNF181	0.6	
B	ZNF544	0.6	
B	ZNF157	0.6	
B	ZNF776	0.6	
B	ZNF253	0.6	
B	ZNF780A	0.6	

1: ribonucleoprotein complex

ECM 47, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

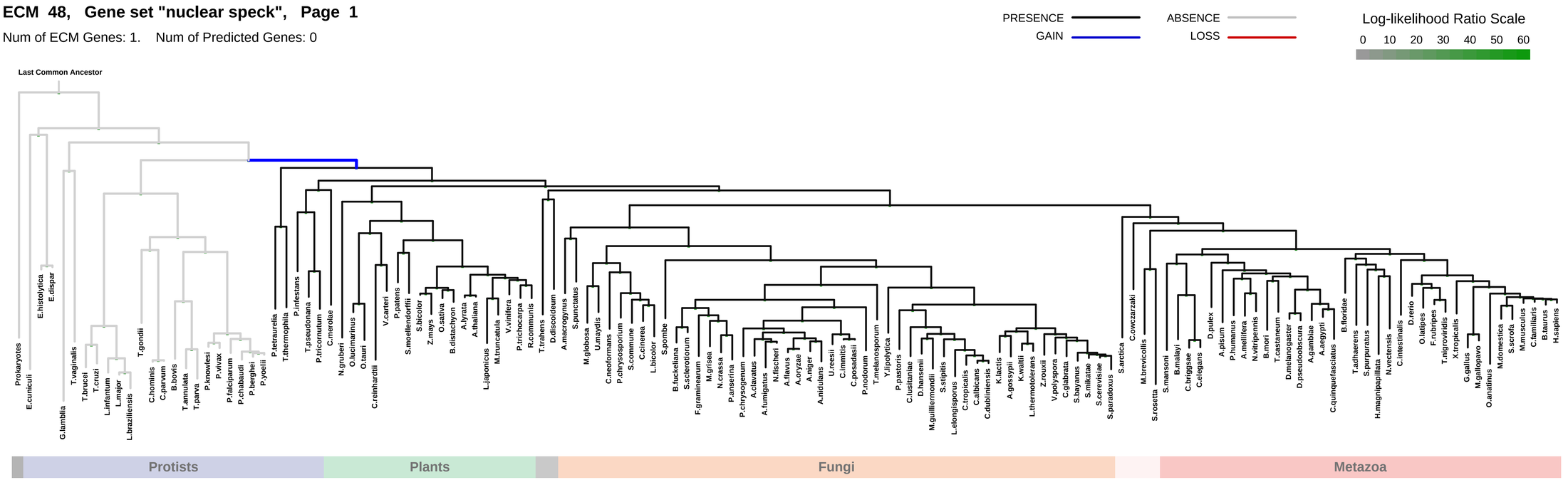




1: nuclear speck

ECM 48, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

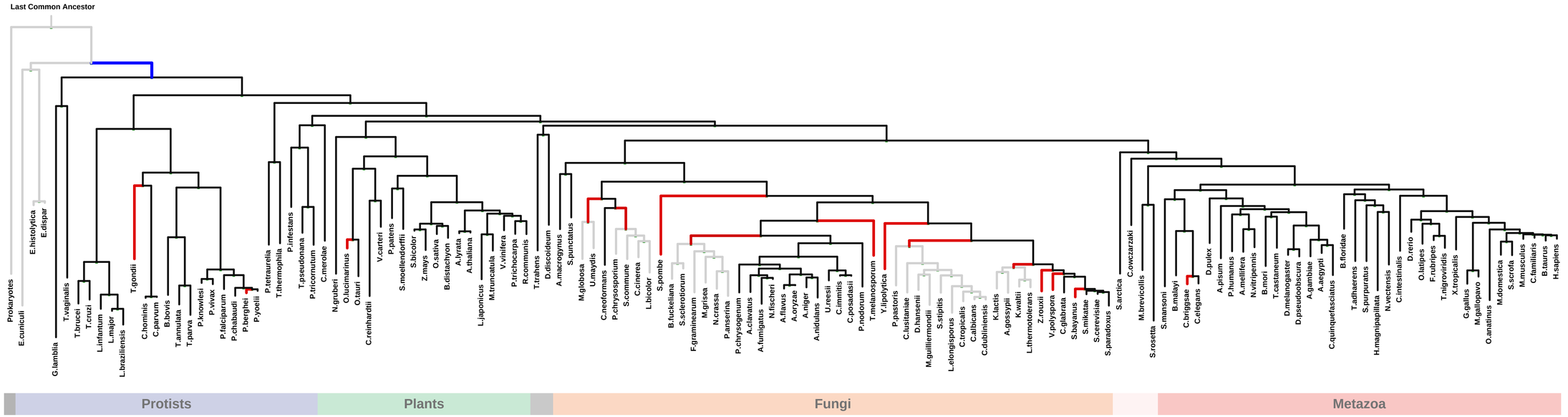


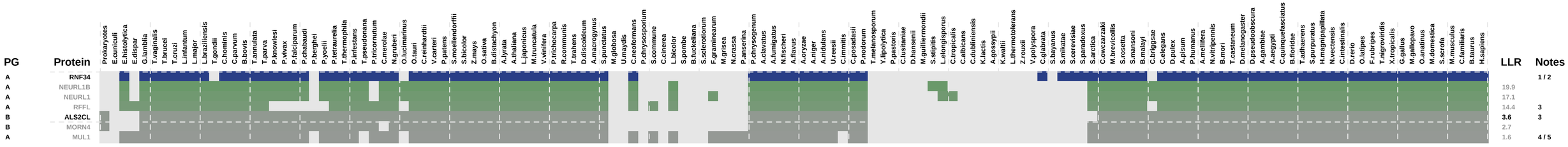
PG	Protein	Prokaryotes E.cuniculi E.histolytica E.dispar G.lamblia T.vaginalis T.brucei T.cruzi L.infantum L.major L.braziliensis T.gondii C.hominis C.parvum B.bovis T.annulata T.parva P.knowlesi P.vivax P.falciparum P.chabaudi P.berghei P.yoelii P.tetraurelia T.thermophila P.infestans T.pseudonana P.tricornutum C.merolae N.gruberi O.lucimarinus O.tauri C.reinhardtii V.carteri P.patens S.moellendorffii S.bicolor Z.mays O.sativa B.distachyon A.lyrata A.thaliana L.japonicus M.truncatula V.vinifera P.trichocarpa R.communis T.trahens D.discoideum A.macrogynus S.punctatus M.globosa U.maydis C.neoformans P.chrysosporium S.commune C.cinerea L.bicolor S.pombe B.fuckeliana S.sclerotiorum F.graminearum M.grisea N.crassa P.anserina P.chrysogenum A.clavatus A.fumigatus N.fischeri A.flavus A.oryzae A.niger A.nidulans U.reesii C.immitis C.posadasii P.nodorum T.melanosporum Y.lipolytica P.pastoris C.lusitaniae D.hansenii M.guilliermondii S.stipitis L.elongisporus C.tropicalis C.albicans C.dubliniensis K.lactis A.gossypii K.waltii L.thermotolerans Z.rouxii V.polyspora C.glabrata S.bayanus S.mikatae S.cerevisiae S.paradoxus S.arctica C.owczarzaki M.brevicollis S.rosetta S.mansoni B.malayi C.briggsae C.elegans D.pulex A.pisum P.humanus A.mellifera N.vitripennis B.mori T.castaneum D.melanogaster D.pseudoobscura A.gambiae A.aegypti C.quinquefasciatus B.floridae T.adhaerens S.purpuratus H.magnipapillata N.vectensis C.intestinalis D.rerio O.latipes F.rubripes T.nigroviridis X.tropicalis G.gallus M.gallopavo O.anatinus M.domestica S.scrofa M.musculus C.familiaris B.taurus H.sapiens	LLR	Notes
	CXXC1			1 / 2 / 3 / 4

1: histone methyltransferase complex || 2: nuclear matrix || 3: nuclear speck || 4: Set1C/COMPASS complex

ECM 49, Gene set "nuclear speck", Page 1

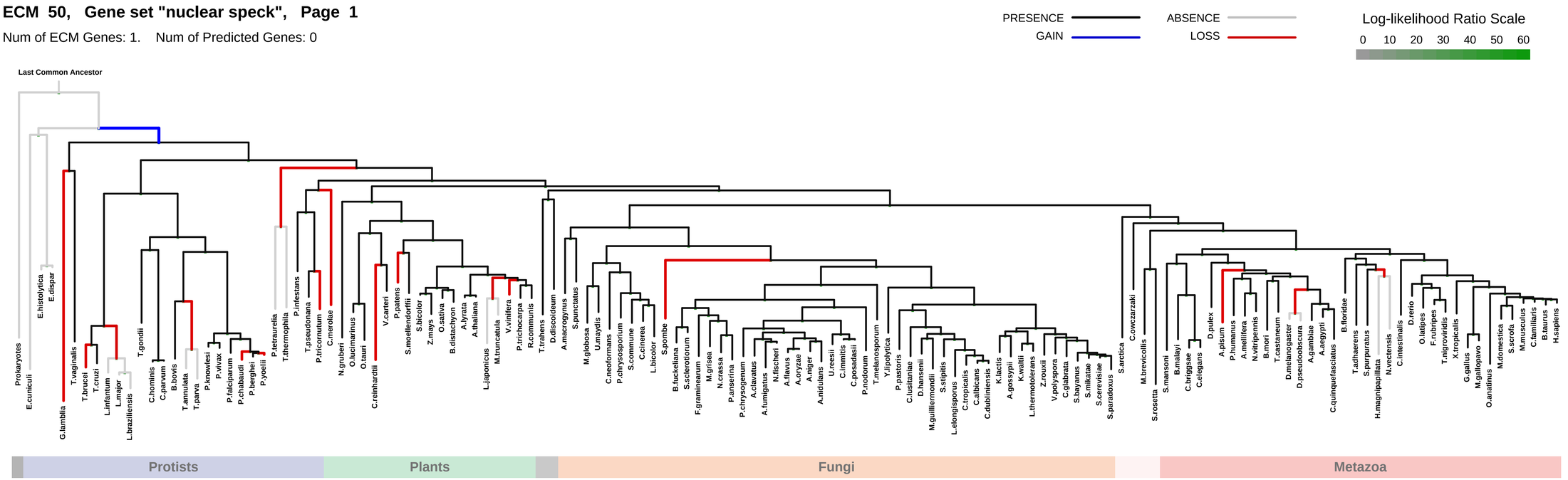
Num of ECM Genes: 1. Num of Predicted Genes: 6

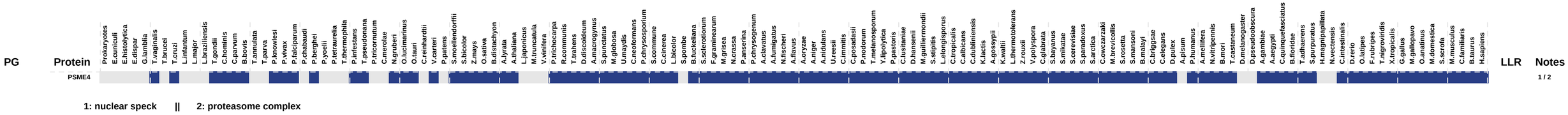




ECM 50, Gene set "nuclear speck", Page 1

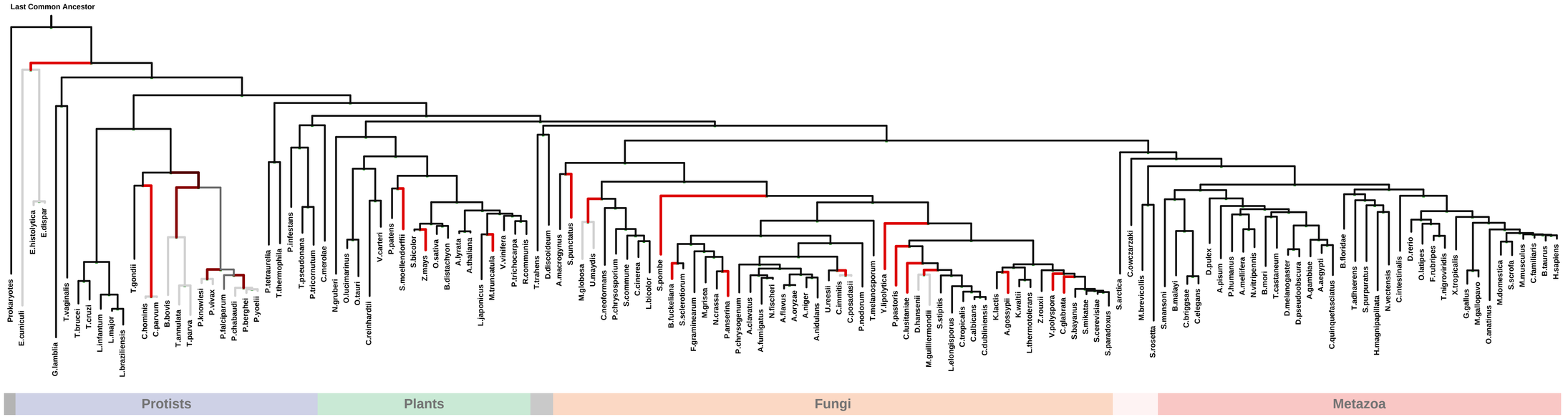
Num of ECM Genes: 1. Num of Predicted Genes: 0

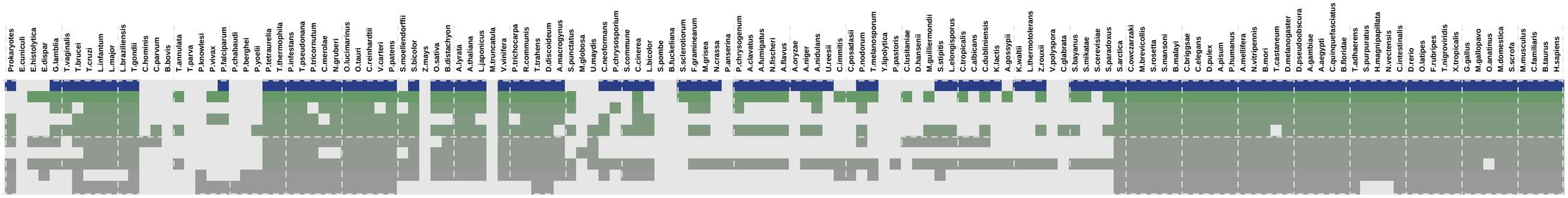




ECM 51, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 9



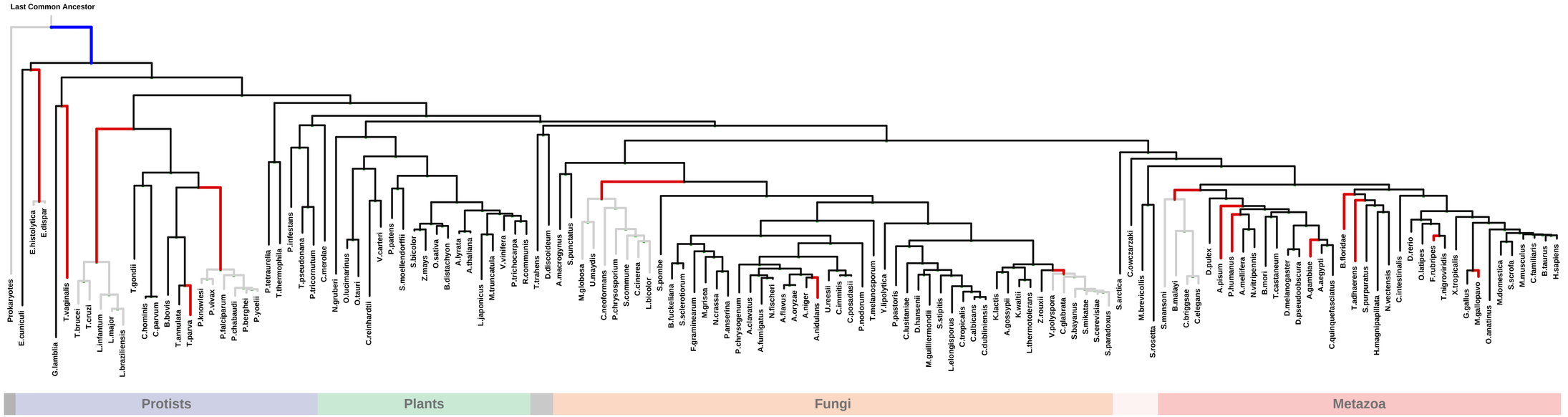


PG	Protein	LLR	Notes
A	TENM1		1 / 2
A	TNXB	21.2	3 / 4 / 5
A	VWDE	13.1	
B	KCNC1	10.8	6
A	TENM4	10.3	7
	SLC9C1	3.4	8 / 9
	TPCN2	3.2	10 / 11
A	TENM3	3.2	
B	KCNB2	0.6	6
	SEPHS1	0.4	

1: nuclear matrix || 2: nuclear speck || 3: extracellular matrix || 4: fibrillar collagen || 5: proteinaceous extracellular matrix || 6: voltage-gated potassium channel complex || 7: neuron projection || 8: cilium || 9: flagellar membrane ||
10: endosome membrane || 11: lysosomal membrane

ECM 52, Gene set "nuclear speck", Page 1

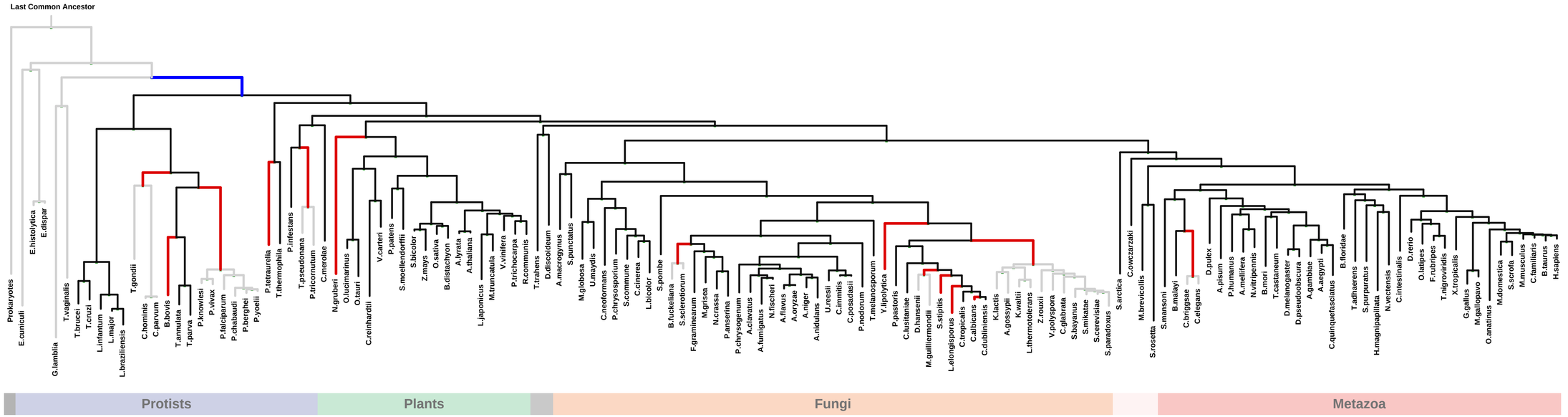
Num of ECM Genes: 1. Num of Predicted Genes: 0

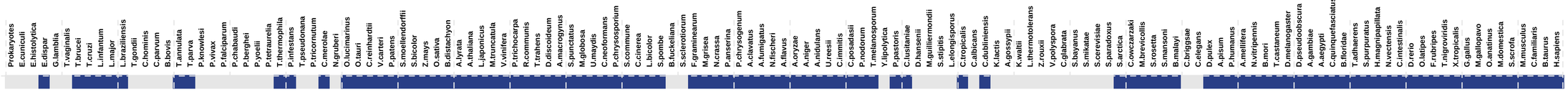


| PG | Protein | Prokaryotes | E.cuniculi | E.histolytica | E.dispar | G.lamblia | T.vaginalis | T.brucei | T.cruzi | L.infantum | L.major | L.braziliensis | T.gondii | C.hominis | C.parvum | B.bovis | T.annulata | T.parva | P.knowlesi | P.vivax | P.falciparum | P.chabaudi | P.berghei | P.yoelii | P.tetraurelia | T.thermophila | P.infestans | T.pseudonana | P.tricornutum | C.merolae | N.gruberi | O.lucimarinus | O.tauri | C.reinhardtii | V.carteri | P.patens | S.moellendorffii | S.bicolor | Z.mays | O.sativa | B.distachyon | A.lyrata | A.thaliana | L.japonicus | M.truncatula | V.vinifera | P.trichocarpa | R.communis | T.trahens | D.discoideum | A.macrogynus | S.punctatus | M.globosa | U.maydis | C.neoformans | P.chrysosporium | S.commune | C.cinerea | L.bicolor | S.pombe | B.fuckeliana | S.sclerotiorum | F.graminearum | M.grisea | N.crassa | P.anserina | P.chrysogenum | A.clavatus | A.fumigatus | A.flavus | N.fischeri | A.oryzae | A.niger | A.nidulans | U.reesii | C.immitis | C.posadasii | P.nodorum | T.melanosporum | Y.lipolytica | P.pastoris | C.lusitaniae | D.hansenii | M.guilliermondii | S.stipitis | L.elongisporus | C.tropicalis | C.albicans | C.dubliniensis | K.lactis | A.gossypii | K.waltii | L.thermotolerans | Z.rouxii | V.polyspora | C.glabrata | S.bayanus | S.mikatae | S.cerevisiae | S.paradoxus | S.arctica | C.owczarzaki | M.brevicollis | S.rosetta | S.mansoni | B.malayi | C.briggsae | C.elegans | D.pulex | A.pisum | P.humanus | A.mellifera | N.vitripennis | B.mori | T.castaneum | D.melanogaster | D.pseudoobscura | A.gambiae | A.aegypti | C.quinquefasciatus | B.floridae | T.adhaerens | S.purpuratus | H.magnipapillata | N.vectensis | C.intestinalis | D.rerio | O.latipes | F.rubripes | T.nigroviridis | X.tropicalis | G.gallus | M.gallopavo | O.anatinus | M.domestica | S.scrofa | M.musculus | C.familiaris | B.taurus | H.sapiens | LLR | Notes |
|---|---|---

ECM 53, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

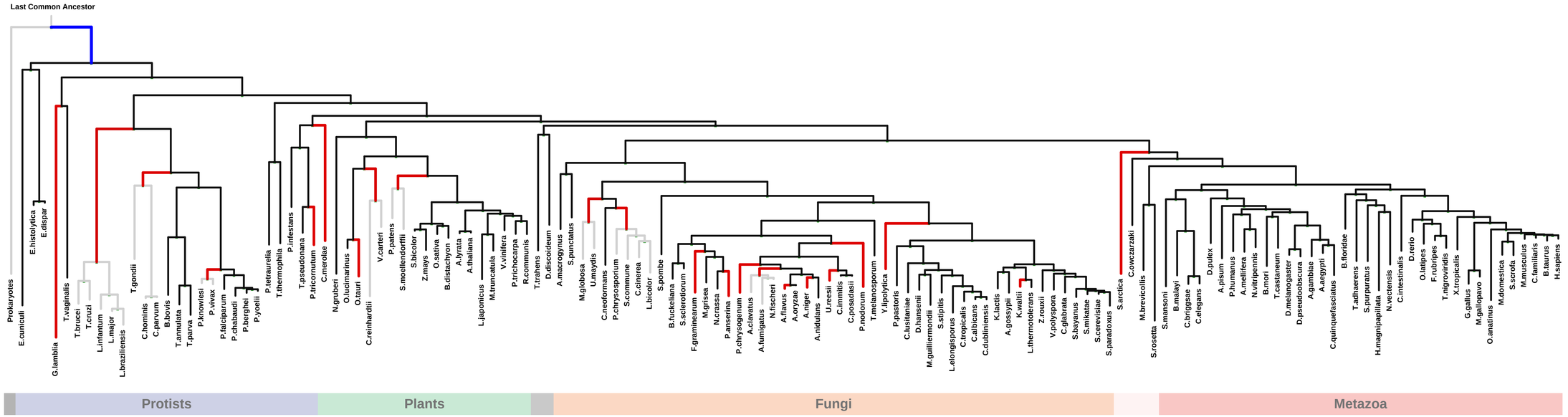


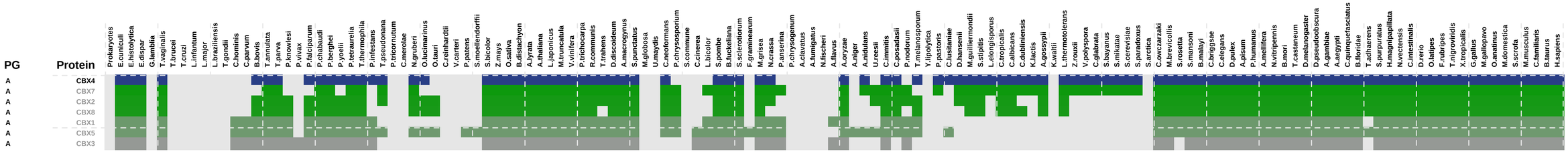


1: exon-exon junction complex || 2: nuclear speck

ECM 54, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 6

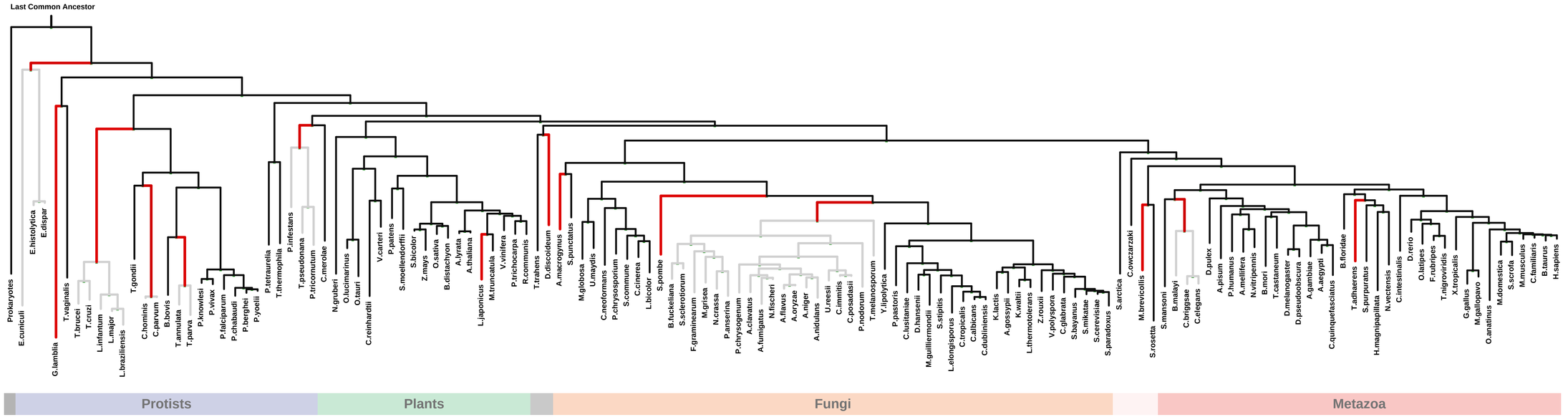


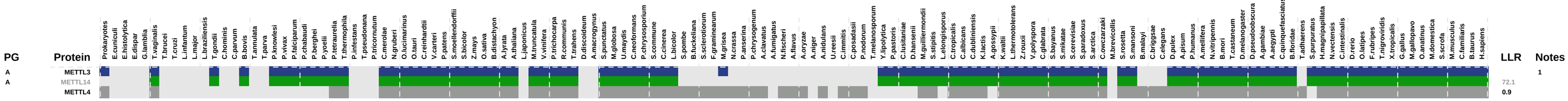


1: nuclear speck || 2: PcG protein complex || 3: PRC1 complex || 4: heterochromatin || 5: nuclear chromatin || 6: ubiquitin ligase complex || 7: centromeric heterochromatin || 8: chromatin || 9: chromocenter || 10: chromosome, centromeric region ||
11: female pronucleus || 12: male pronucleus || 13: nuclear heterochromatin || 14: spindle || 15: histone deacetylase complex || 16: histone methyltransferase complex || 17: kinetochore || 18: nuclear centromeric heterochromatin ||
19: nuclear envelope || 20: PML body || 21: transcriptional repressor complex || 22: condensed chromosome, centromeric region || 23: nuclear euchromatin || 24: nuclear inner membrane

ECM 55, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 2

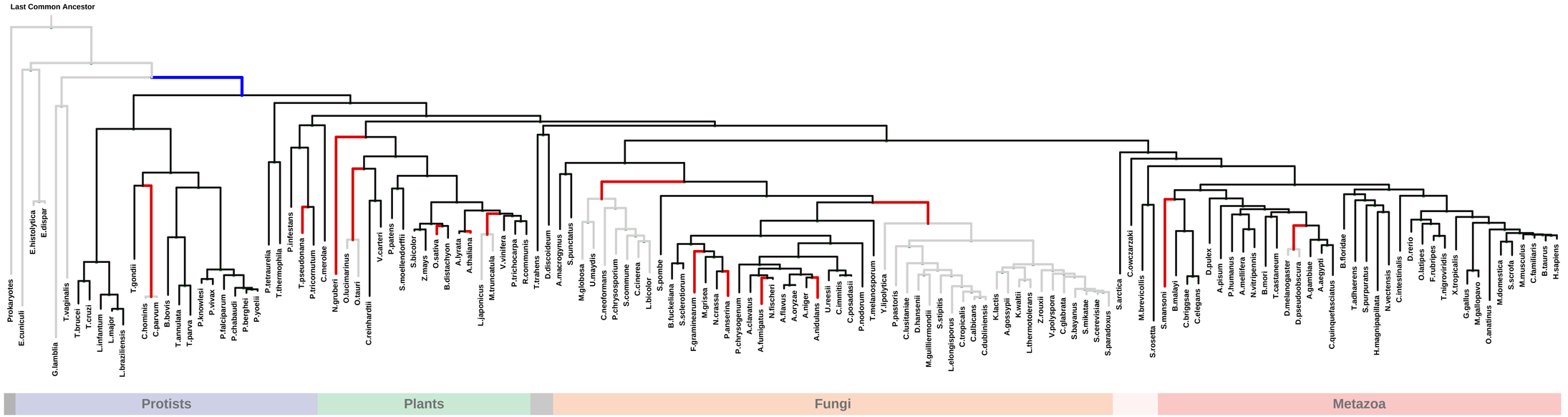


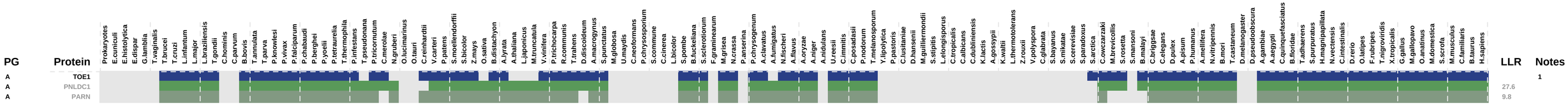


1: nuclear speck

ECM 56, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 2

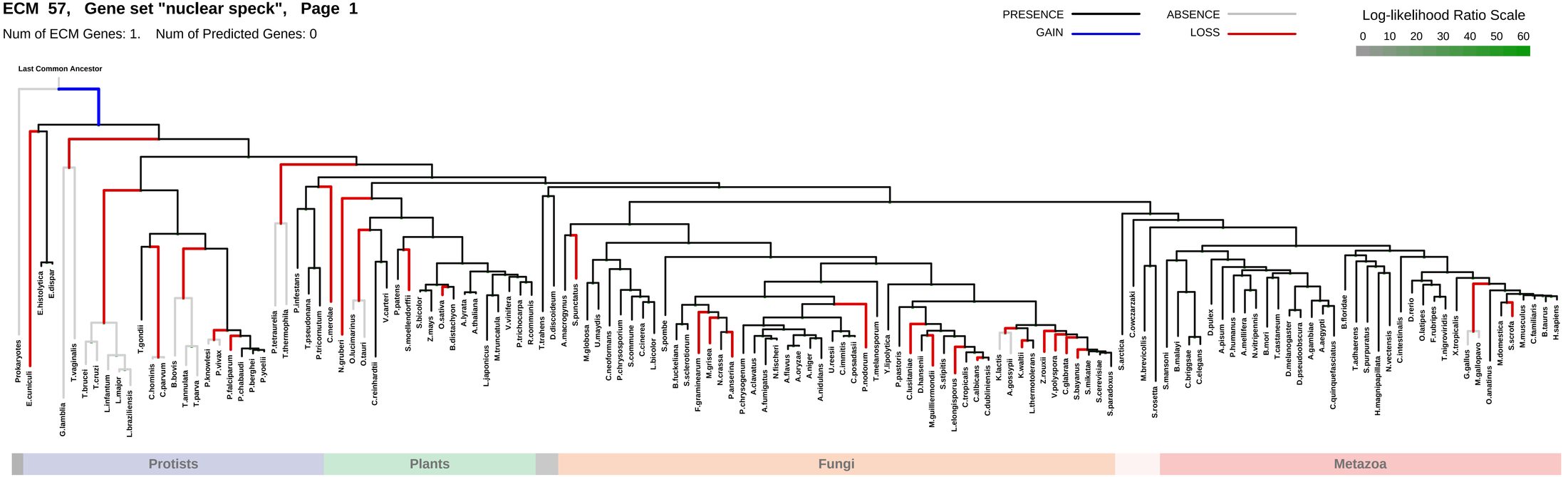


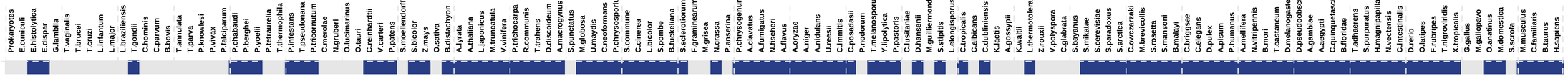


1: nuclear speck

ECM 57, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

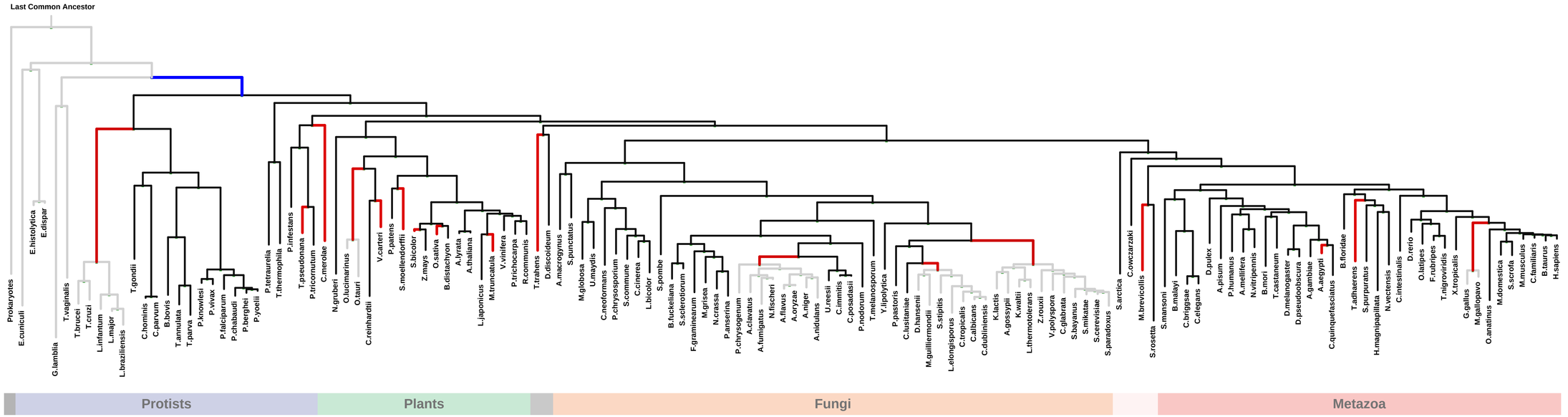




1: nuclear speck || 2: U4/U6 x U5 tri-snRNP complex || 3: U5 snRNP

ECM 58, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

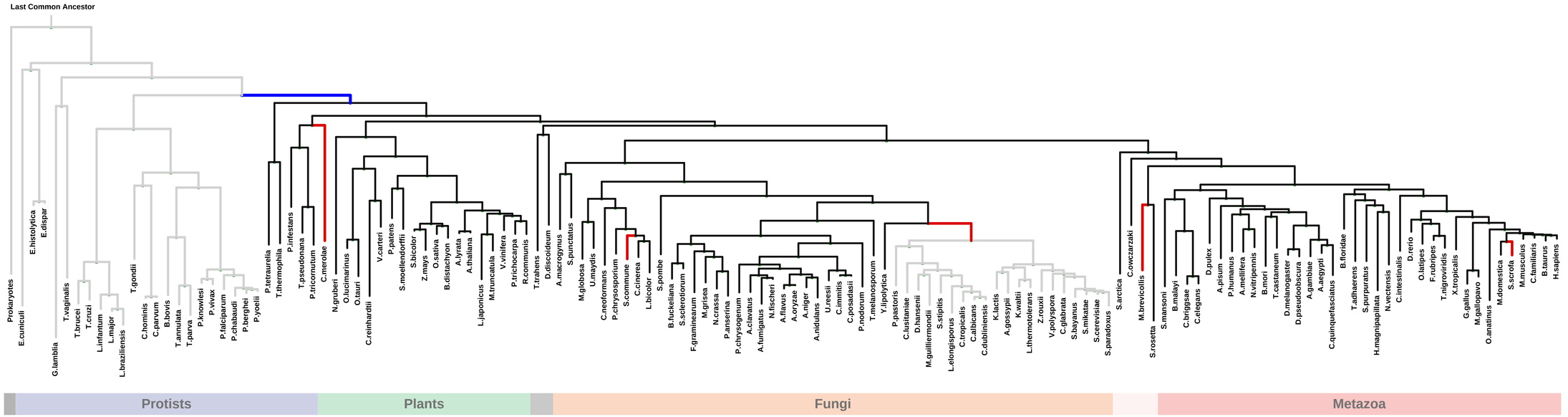


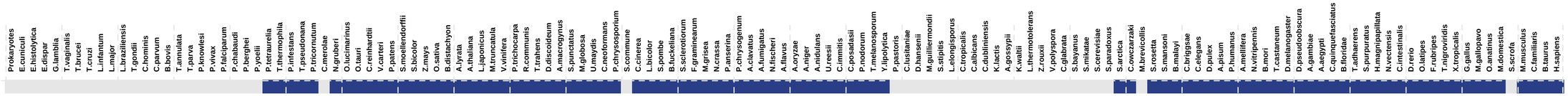
PG	Protein	LLR	Notes
	SRRM2		1 / 2 / 3

1: Cajal body || 2: catalytic step 2 spliceosome || 3: nuclear speck

ECM 59, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

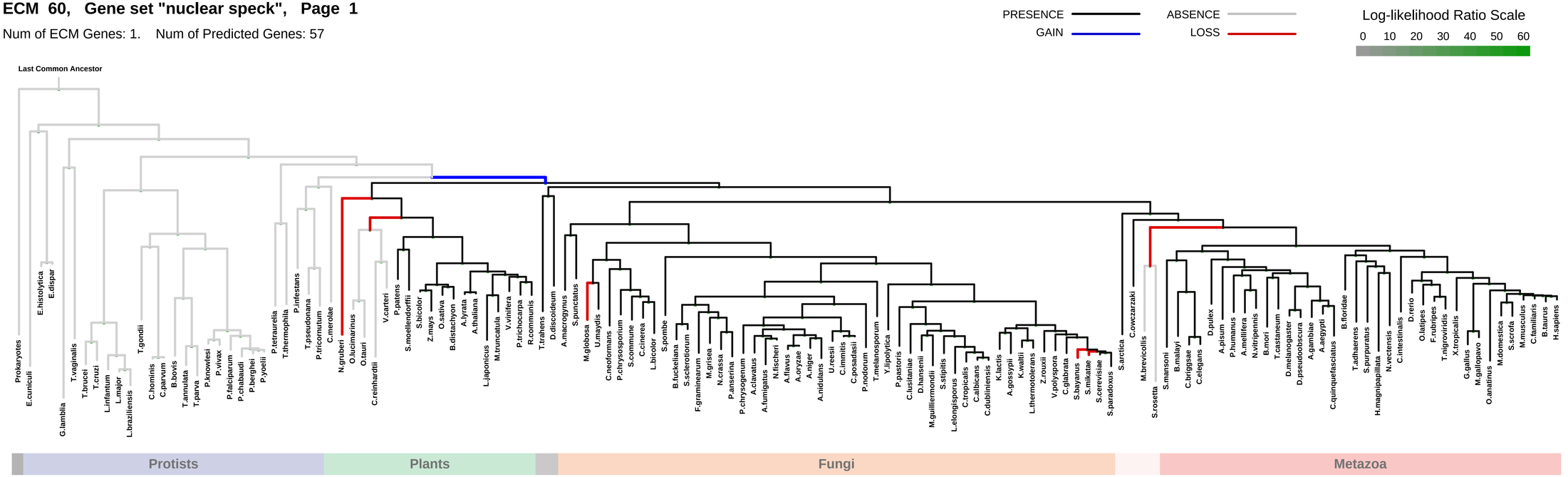


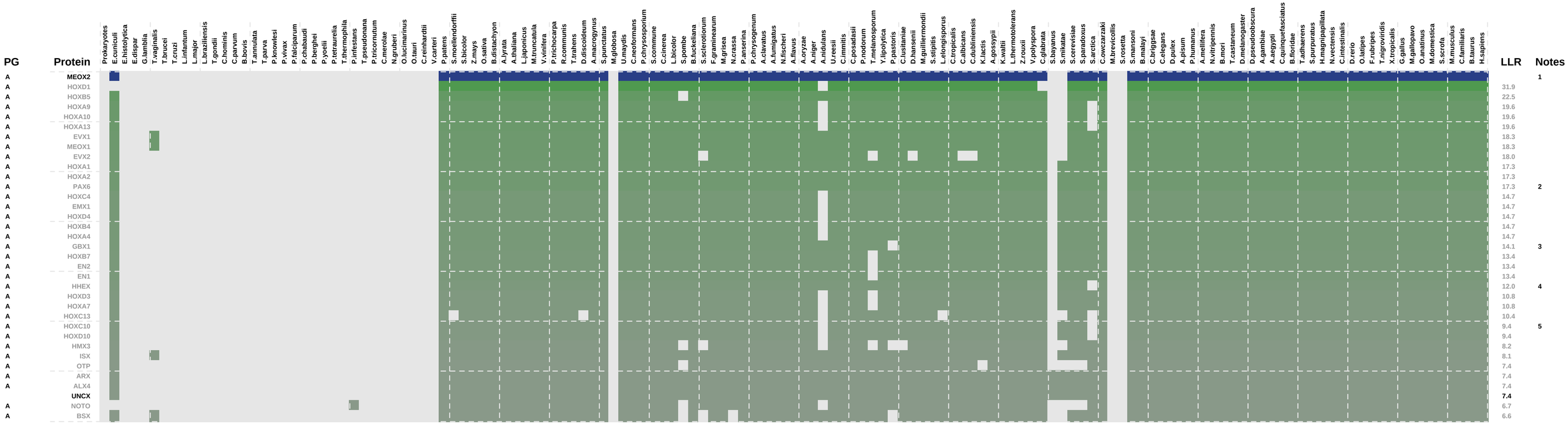


1: nuclear matrix || 2: nuclear speck || 3: THO complex || 4: THO complex part of transcription export complex || 5: transcription export complex

ECM 60, Gene set "nuclear speck", Page 1

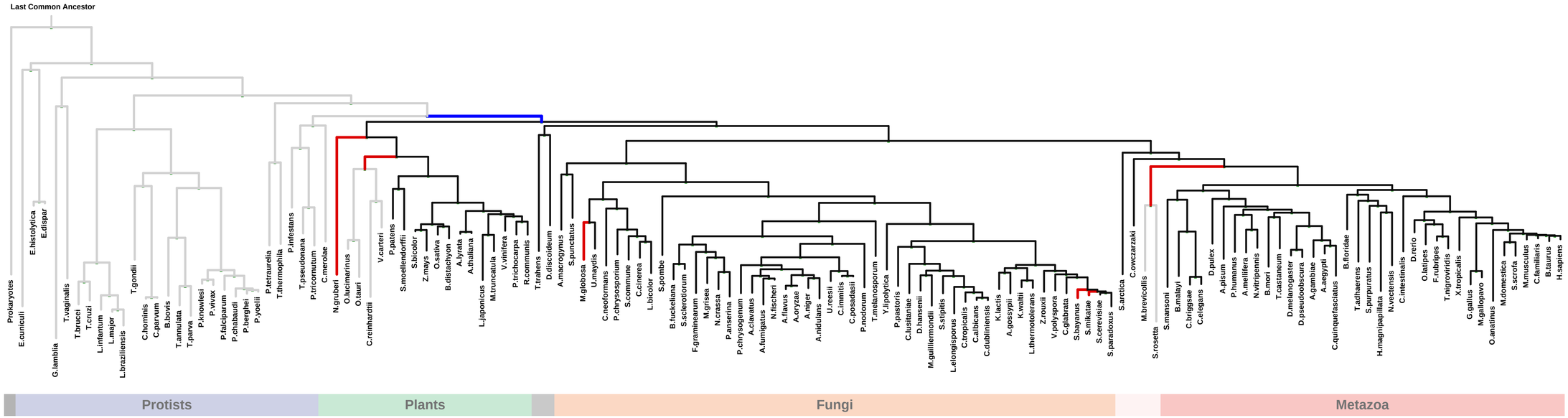
Num of ECM Genes: 1. Num of Predicted Genes: 57





ECM 60, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 57

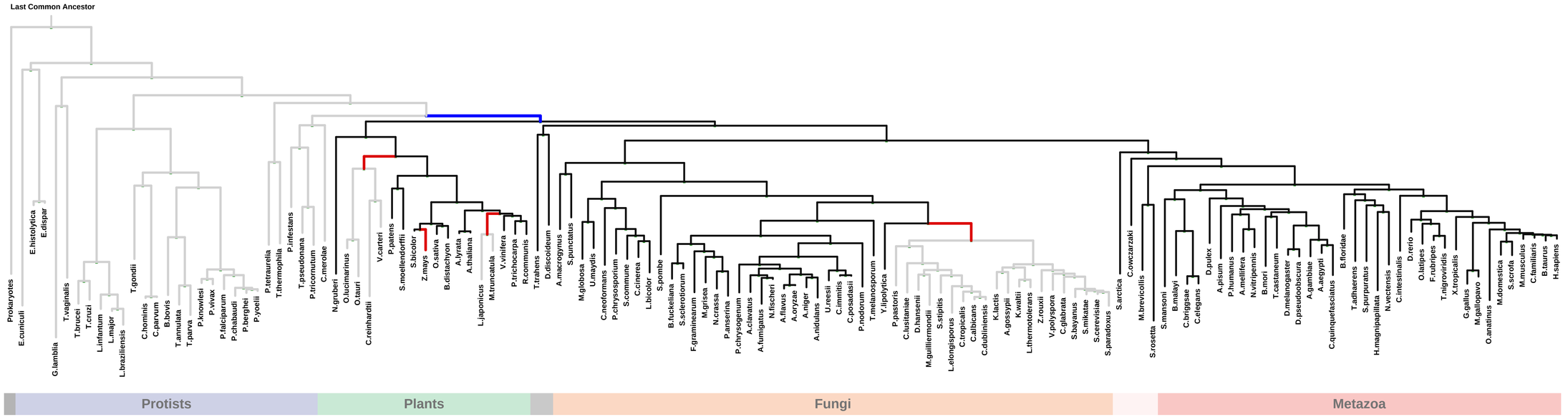


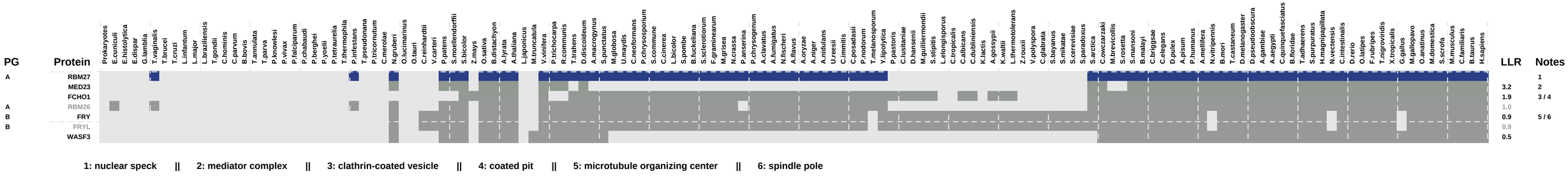
PG	Protein	LLR	Notes
A	HOXC5	6.1	
A	POU6F2	5.3	
A	BARHL1	5.1	
A	PITX3	5.0	
A	CRX	5.0	
A	OTX2	5.0	1
A	NKX2-6	4.8	
A	DRGX	4.3	
A	ALX1	4.3	
A	ESX1	4.3	
A	VSX2	4.3	
A	PROP1	4.2	
A	MSX1	4.1	
A	BARHL2	4.1	
A	HOXC6	3.6	
A	HOXA5	3.1	
A	PAX4	2.5	
A	ALX3	2.3	
A	NKX2-1	2.2	
A	HOXB3	0.9	
A	HOXA3	0.9	
A	CDX4	0.5	
A	NKX1-2	0.0	

1: growth cone

ECM 61, Gene set "nuclear speck", Page 1

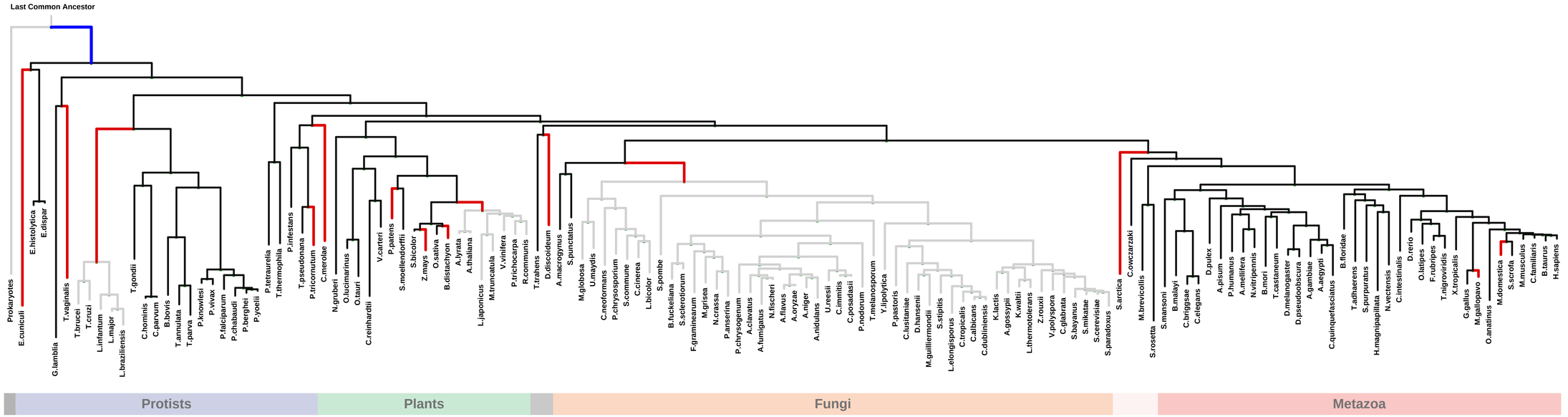
Num of ECM Genes: 1. Num of Predicted Genes: 6

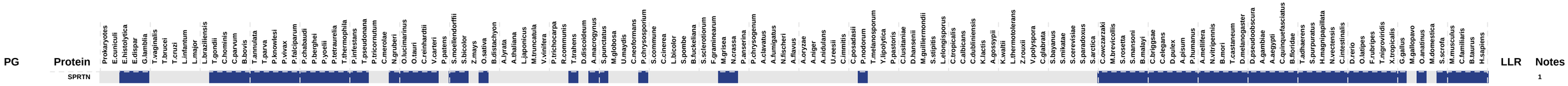




ECM 62, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

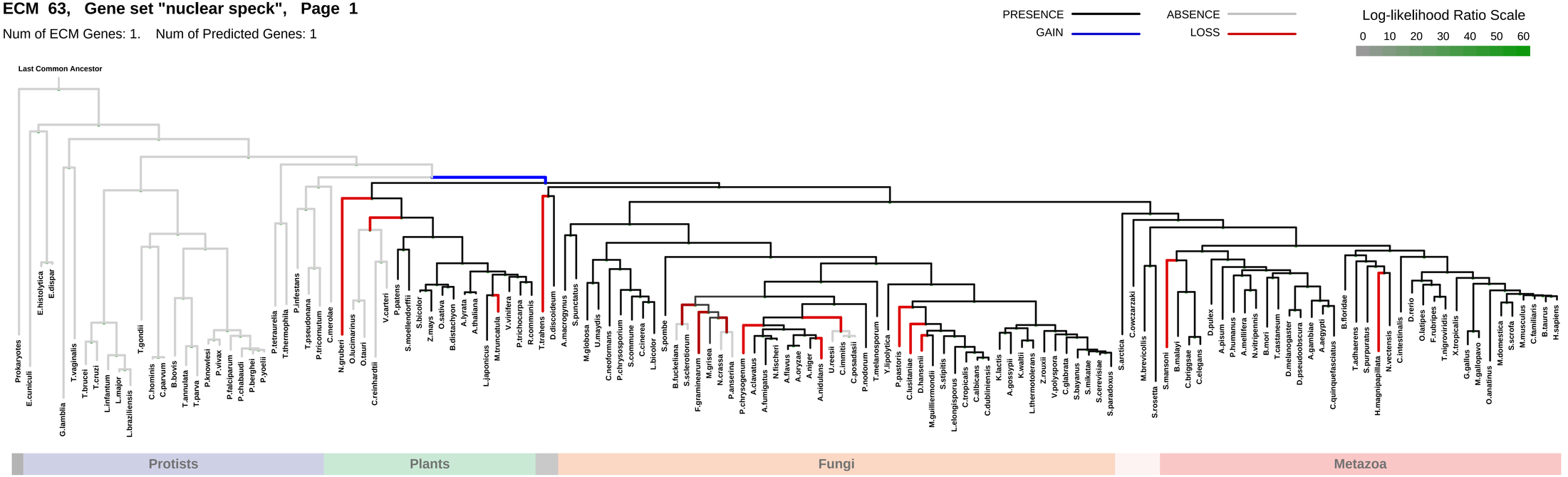




1: nuclear speck

ECM 63, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 1

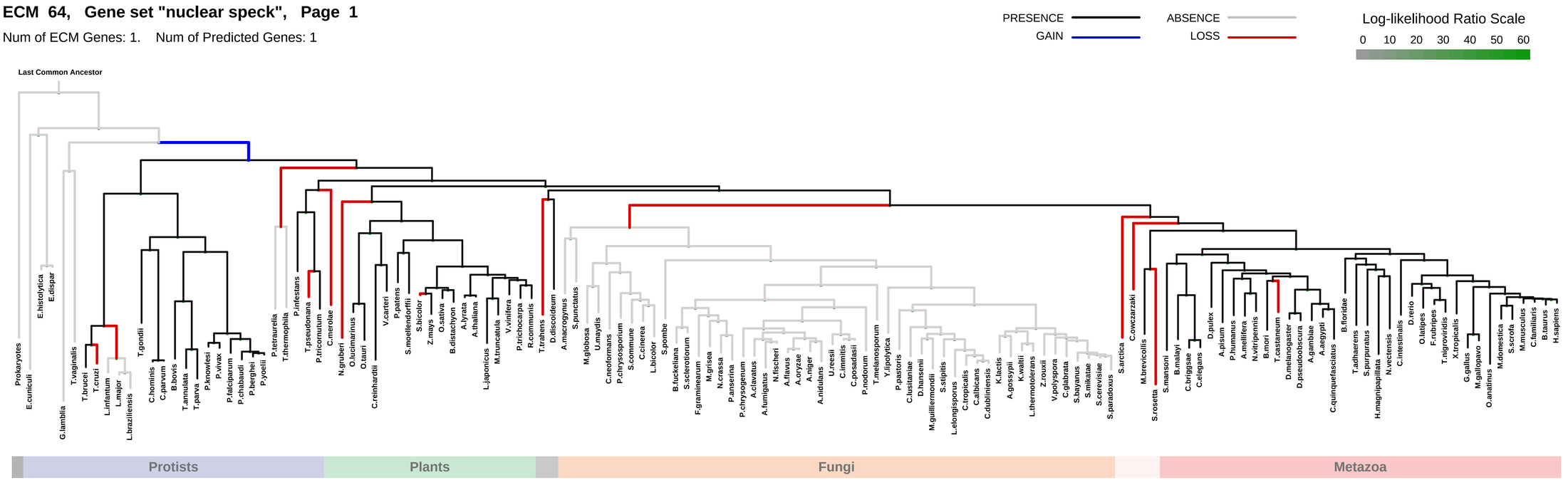


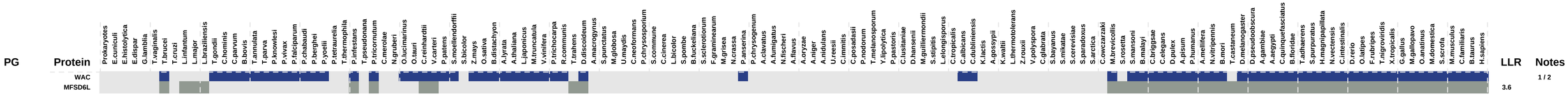
PG	Protein	LLR	Notes
	PATL1		1 / 2 / 3 / 4
	KANSL3	5.0	5

1: CCR4-NOT complex || 2: cytoplasmic mRNA processing body || 3: nuclear speck || 4: PML body || 5: histone acetyltransferase complex

ECM 64, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 1

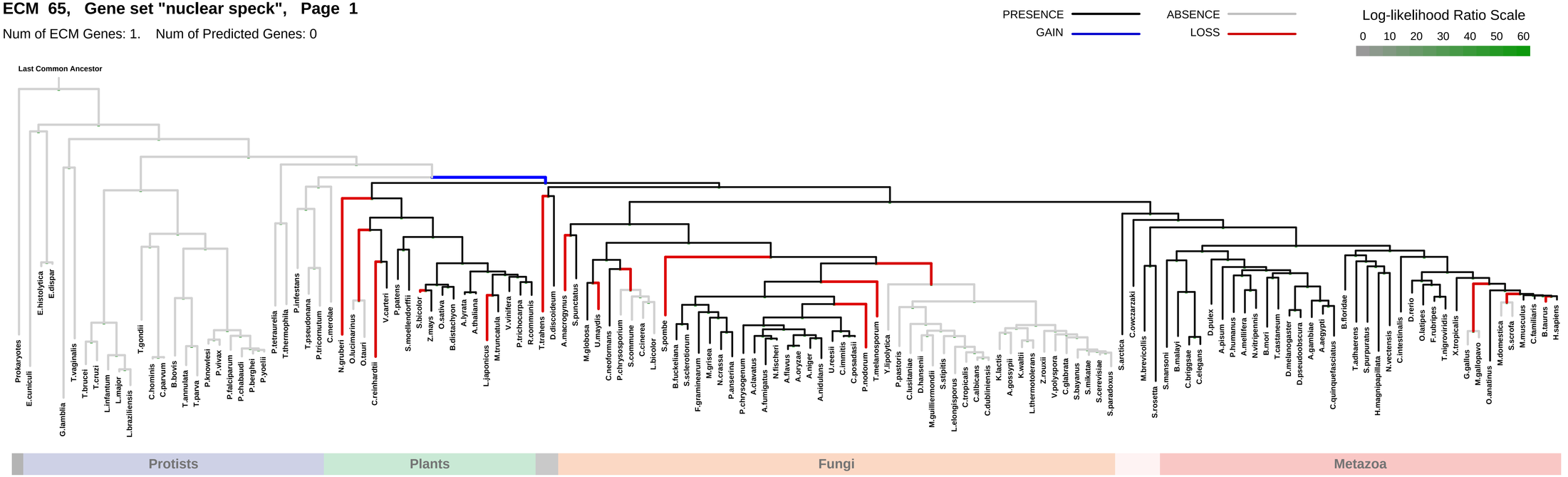




1: nuclear speck || 2: spliceosomal complex

ECM 65, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

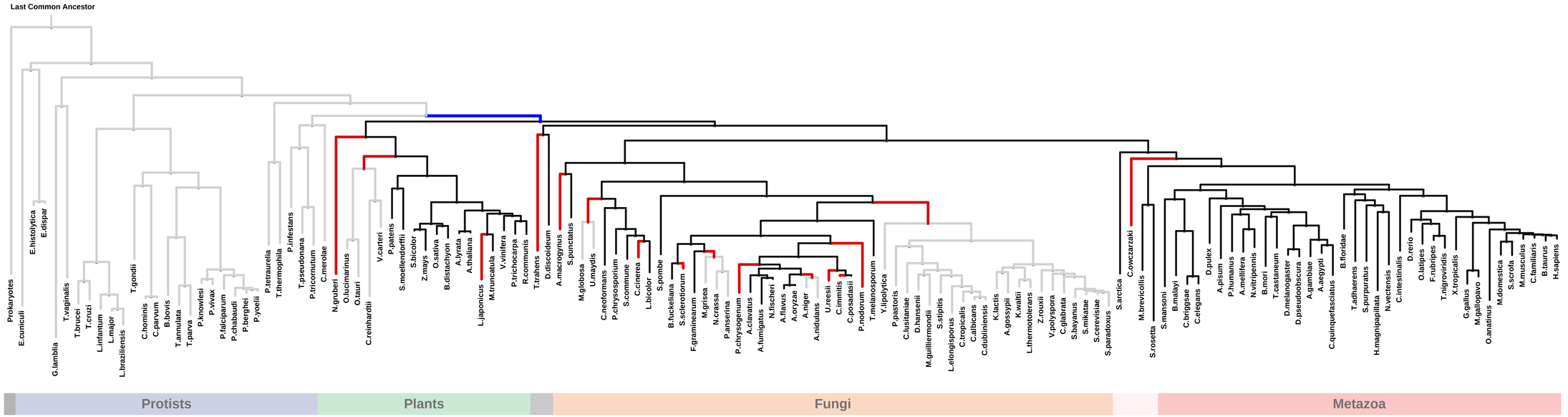


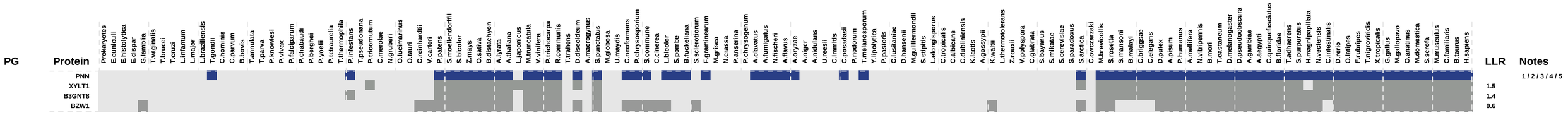
PG	Protein	LLR	Notes
	ACIN1		1

1: nuclear speck

ECM 66, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 3

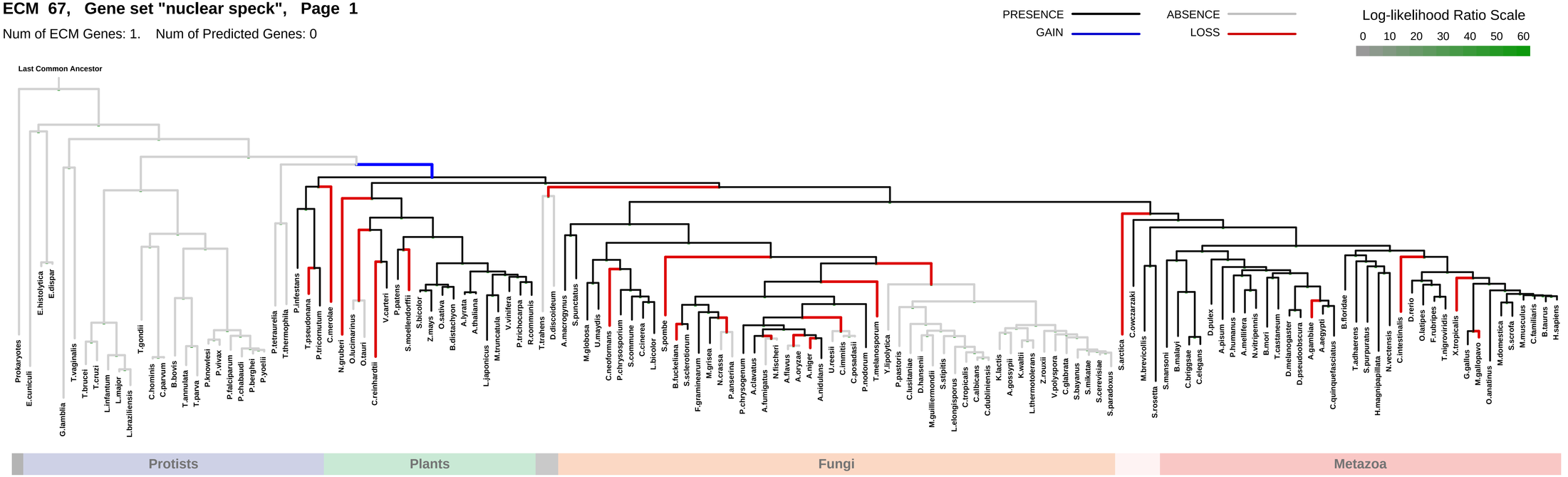




1: catalytic step 2 spliceosome || 2: cell-cell junction || 3: desmosome || 4: intermediate filament || 5: nuclear speck

ECM 67, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

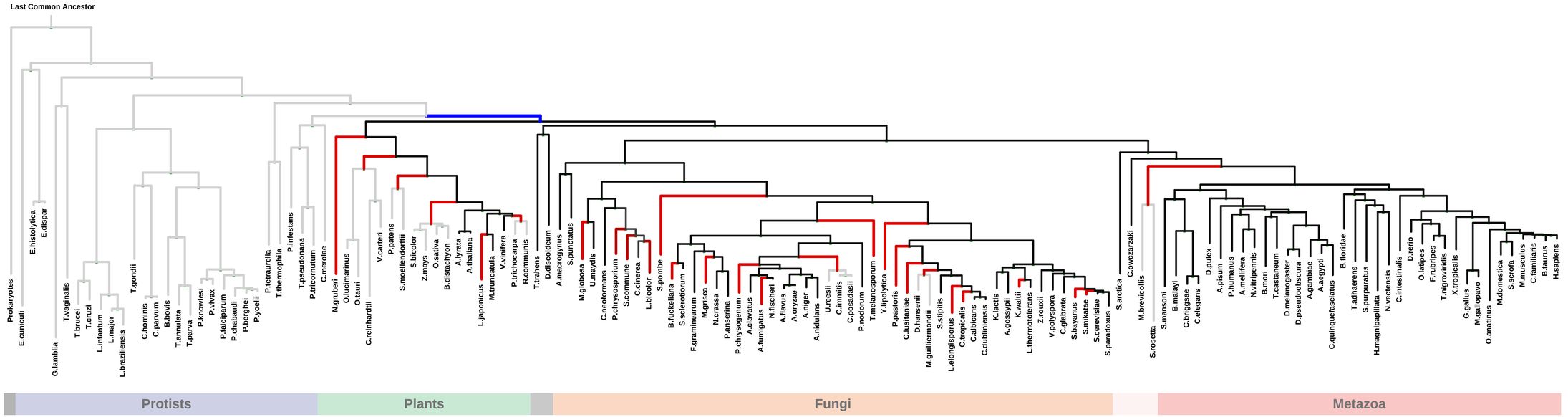


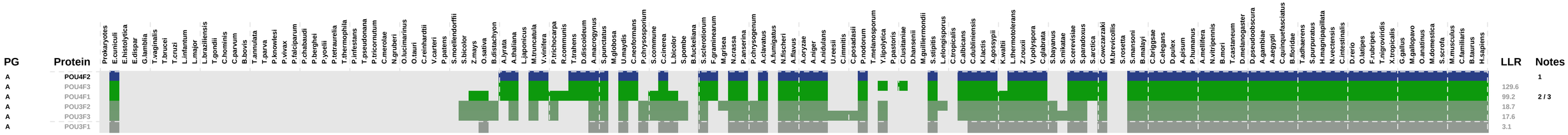
PG	Protein	LLR	Notes
	NSRP1		1 / 2

1: nuclear speck || 2: ribonucleoprotein complex

ECM 68, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 5

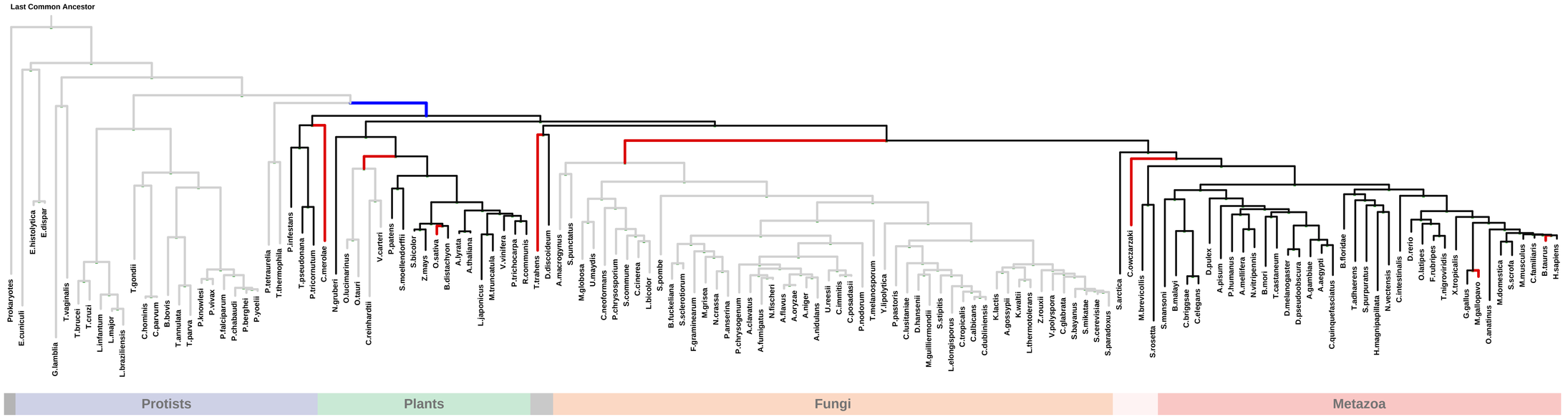


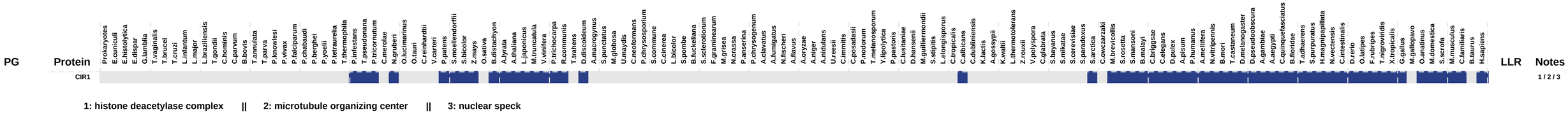


1: nuclear speck || 2: neuron projection || 3: nuclear chromatin

ECM 69, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

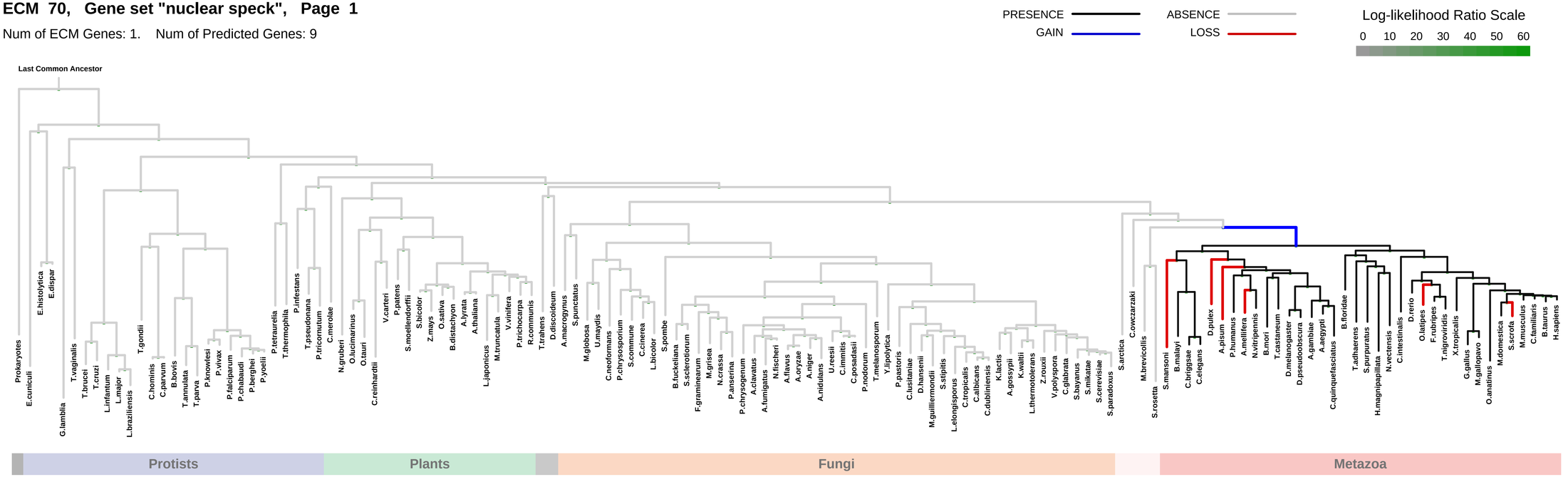


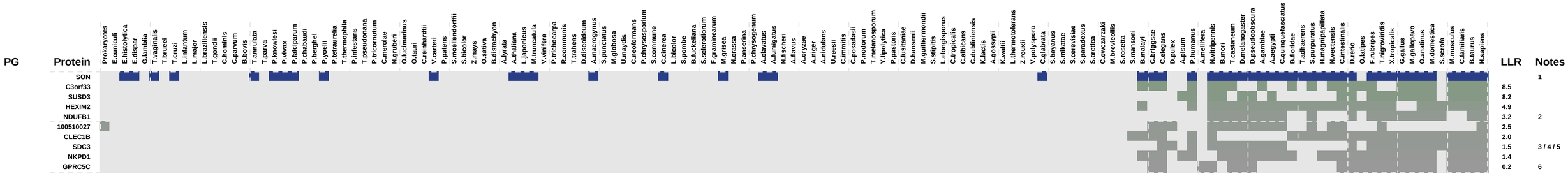


1: histone deacetylase complex || 2: microtubule organizing center || 3: nuclear speck

ECM 70, Gene set "nuclear speck", Page 1

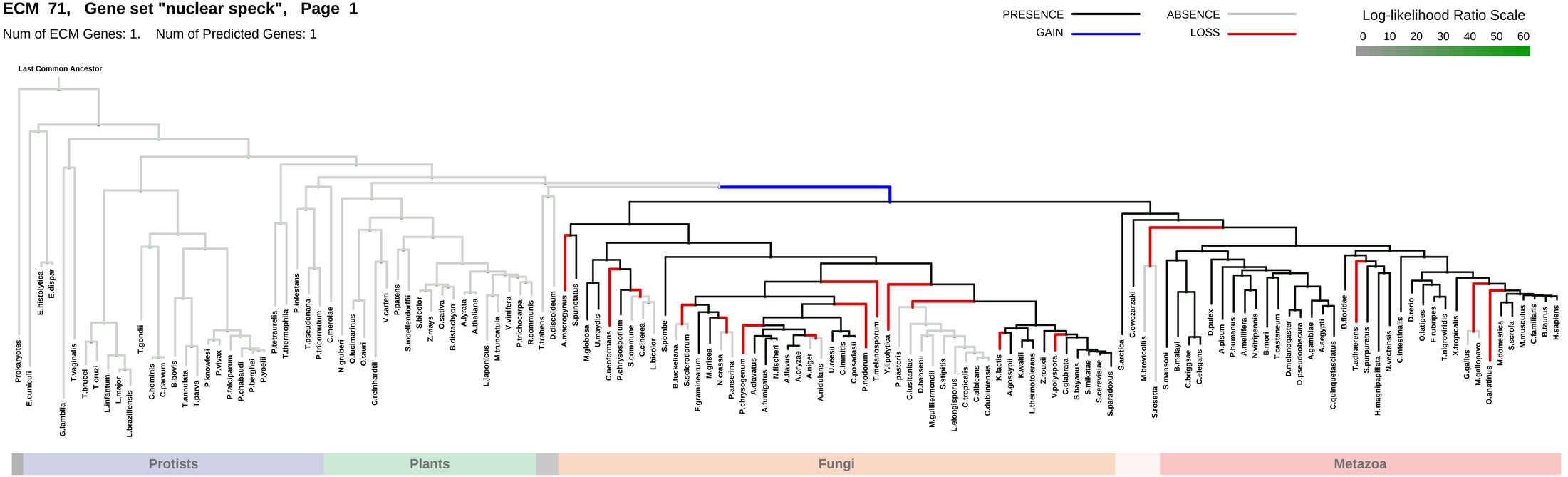
Num of ECM Genes: 1. Num of Predicted Genes: 9

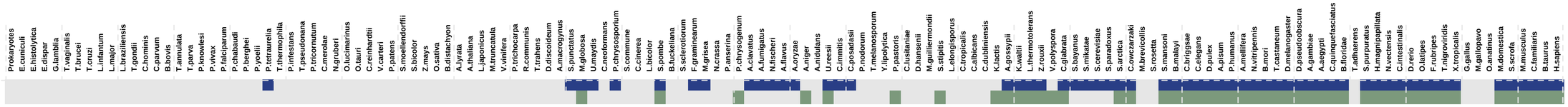




ECM 71, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 1

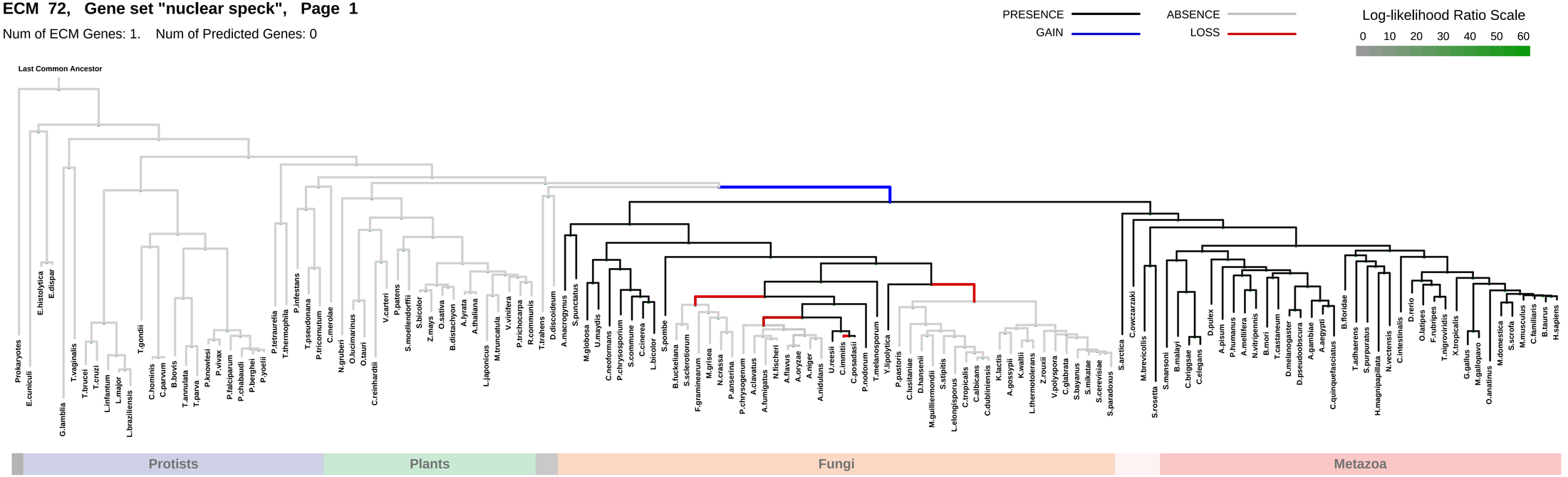


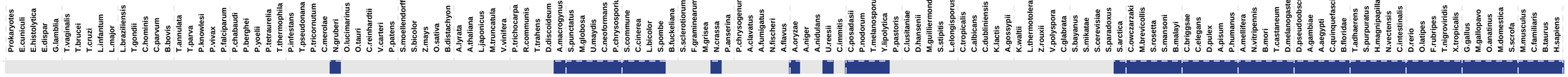


1: nuclear inclusion body || 2: nuclear pore || 3: nuclear speck || 4: actin cytoskeleton

ECM 72, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

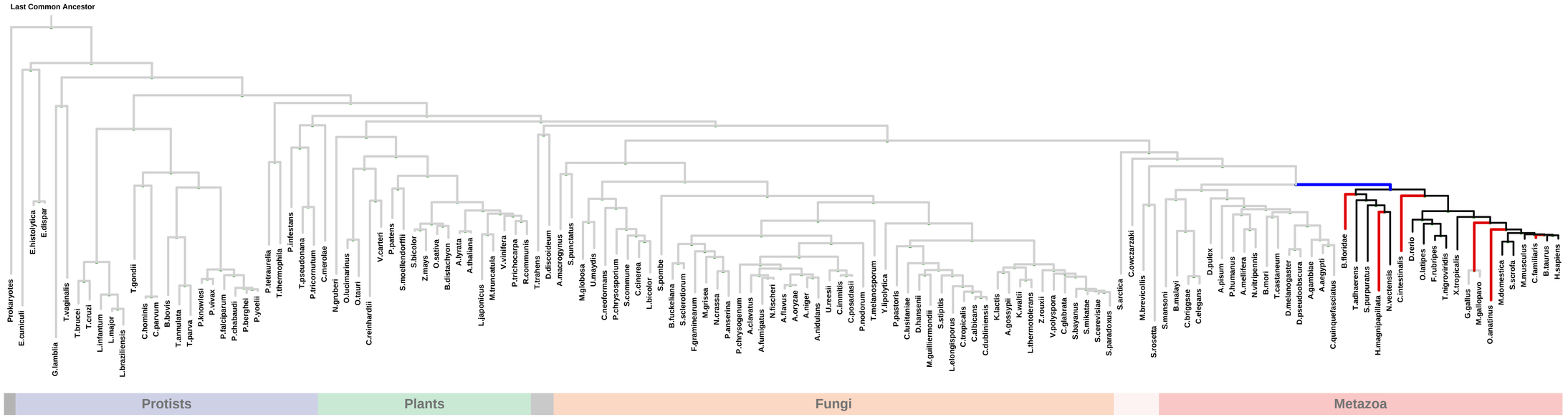


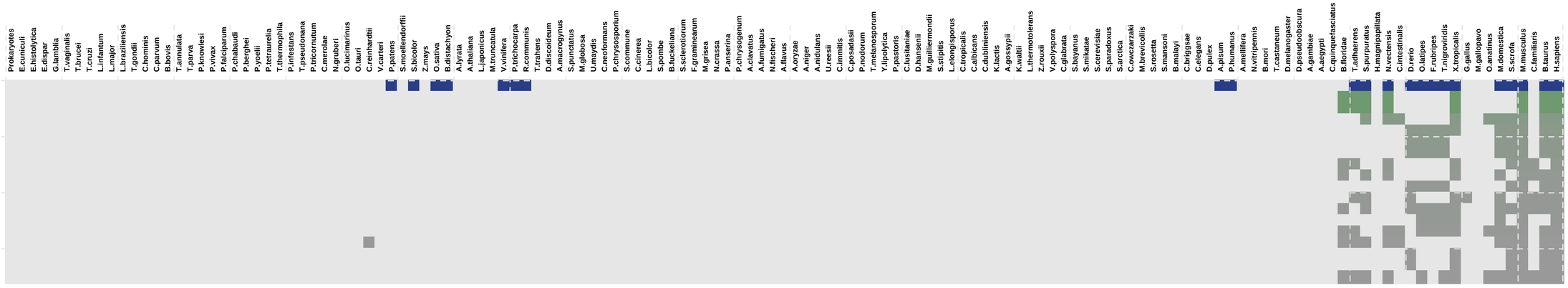


1: Cajal body || 2: catalytic step 2 spliceosome || 3: nuclear speck

ECM 73, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 17

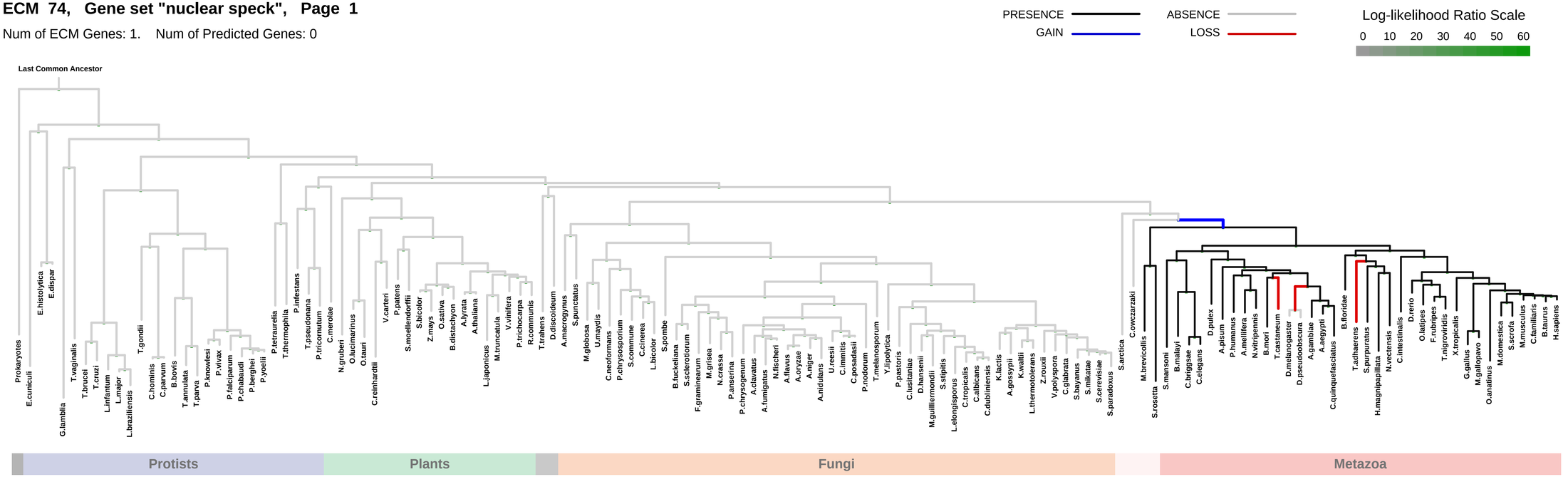




1: nuclear speck || 2: early endosome membrane || 3: transcriptional repressor complex || 4: HAUS complex || 5: spindle

ECM 74, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

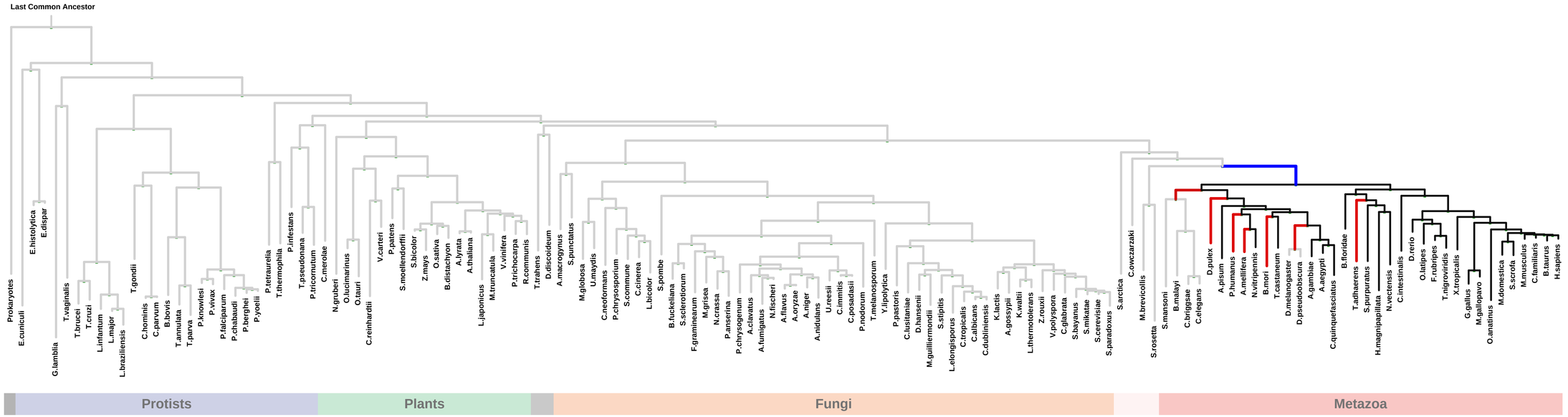


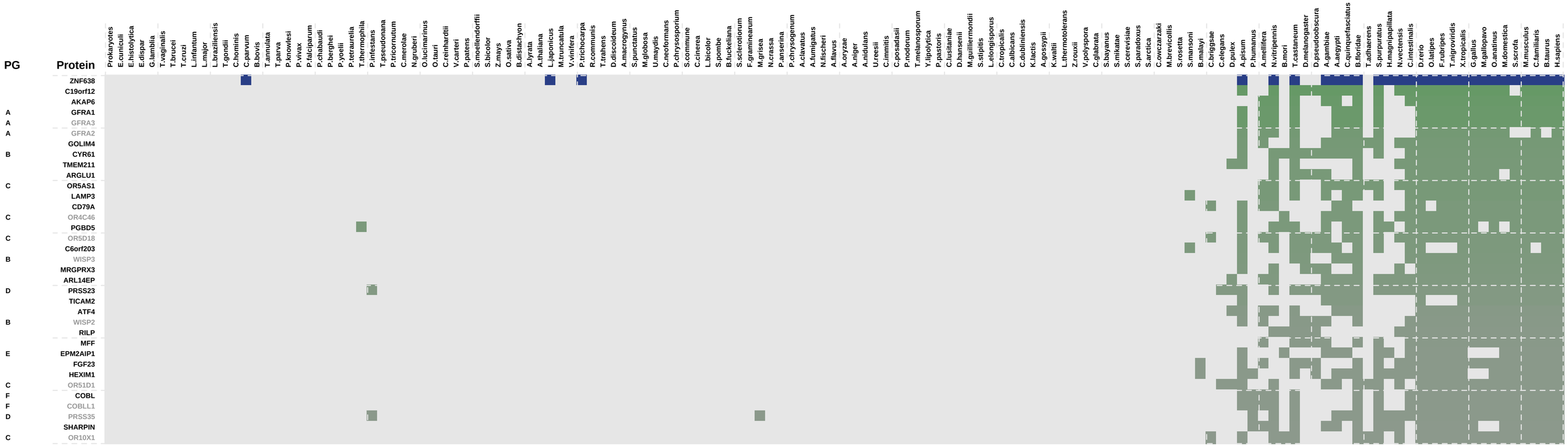
PG	Protein	LLR	Notes
	APBB1		1 / 2 / 3 / 4 / 5 / 6 / 7

1: dendritic spine || 2: growth cone || 3: lamellipodium || 4: nuclear speck || 5: postsynaptic membrane || 6: presynaptic membrane || 7: synapse

ECM 75, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 82

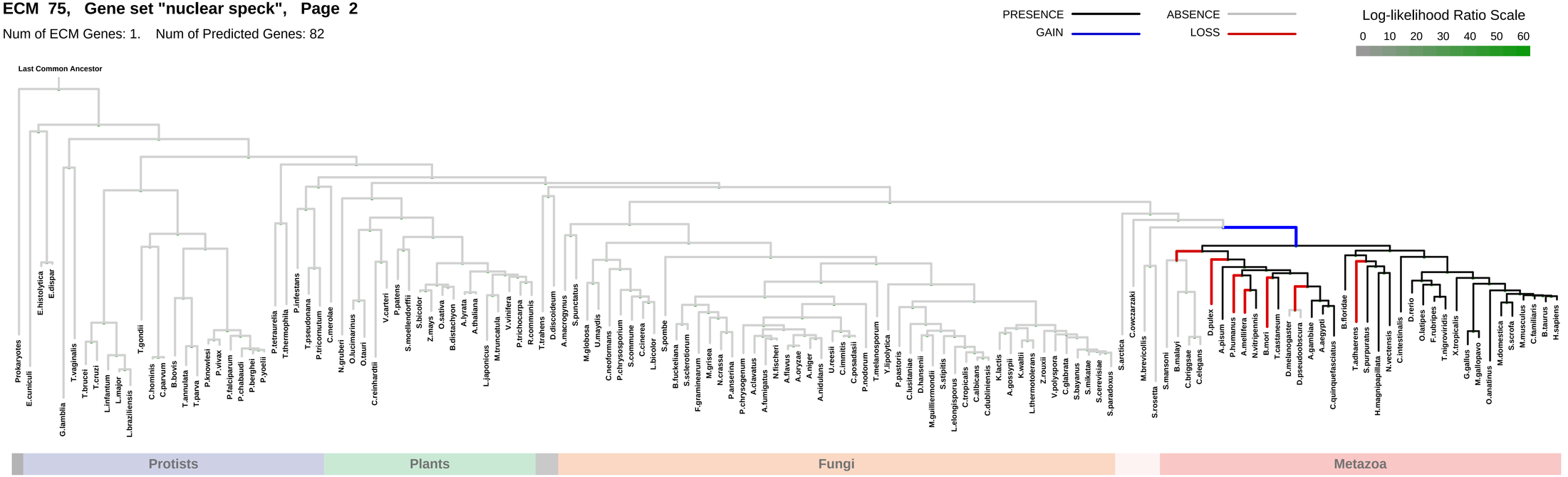




1: nuclear speck || 2: mitochondrial membrane || 3: calcium channel complex || 4: nuclear envelope || 5: nuclear outer membrane || 6: sarcoplasmic reticulum || 7: anchored to membrane || 8: extrinsic to membrane || 9: external side of plasma membrane ||
10: cis-Golgi network || 11: endocytic vesicle || 12: endosome membrane || 13: Golgi cisterna membrane || 14: Golgi lumen || 15: alveolar lamellar body membrane || 16: lysosomal membrane || 17: B cell receptor complex ||
18: membrane raft || 19: multivesicular body || 20: microtubule organizing center || 21: late endosome || 22: late endosome membrane || 23: lysosome || 24: phagocytic vesicle membrane || 25: integral to mitochondrial membrane ||

ECM 75, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 82

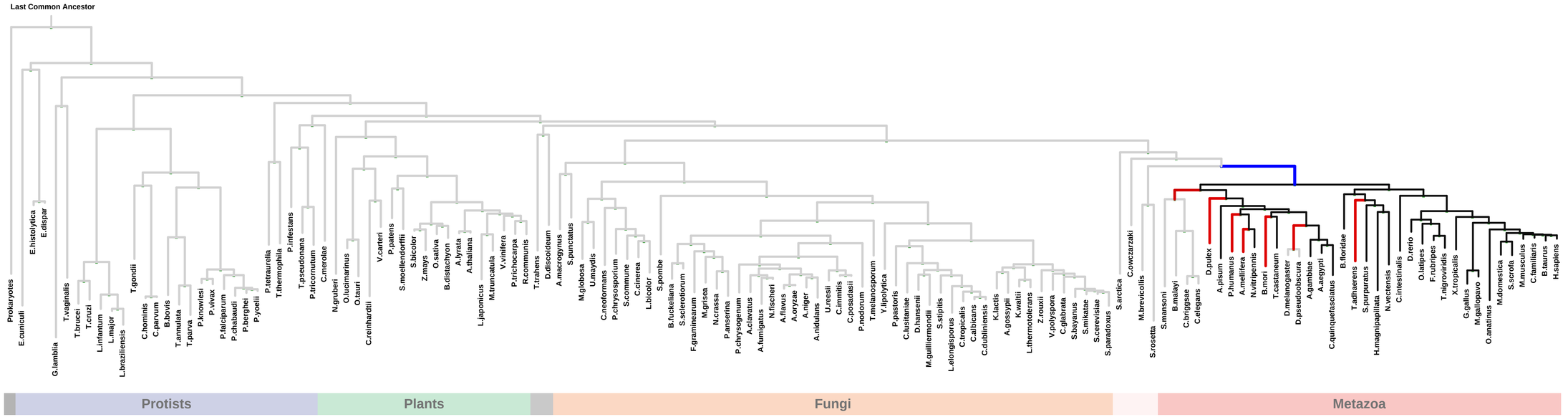


PG	Protein	LLR	Notes
G	BTNL8	5.0	
	SPATA2L	5.0	
E	GTF2IRD2B	4.9	
E	GTF2IRD2	4.9	
	PDCD1LG2	4.9	1
	C1orf106	4.7	
H	CT45A5	4.7	
	C7orf55	4.6	
	EPN2	4.6	
	TIMP1	4.3	2 / 3
	TDRD12	4.1	
	GIF	3.8	4 / 5
	RBFA	3.8	
	ITFG3	3.8	
	C16orf45	3.7	
	LILRA3	3.3	
	LOC646644	3.2	
	CYB561D1	3.1	
C	OR6K6	2.9	
	GLYATL2	2.9	
	RASSF10	2.5	6 / 7
	SPATA18	2.2	8
C	OR1J2	2.2	
	CDKN2AIP	2.2	9
H	CT45A1	2.1	
	CT45A6	2.1	
H	CT45A2	2.1	
H	CT45A3	2.1	
H	CT45A4	2.1	
	NDUFB1	1.8	10
	IGSF23	1.8	
C	OR10T2	1.5	
	DAZAP2	1.4	
	GKAP1	1.3	
C	OR5AP2	1.2	

1: endomembrane system || 2: basement membrane || 3: platelet alpha granule lumen || 4: endosome || 5: microvillus || 6: microtubule organizing center || 7: spindle pole || 8: mitochondrial outer membrane || 9: granular component || 10: mitochondrial respiratory chain complex I

ECM 75, Gene set "nuclear speck", Page 3

Num of ECM Genes: 1. Num of Predicted Genes: 82

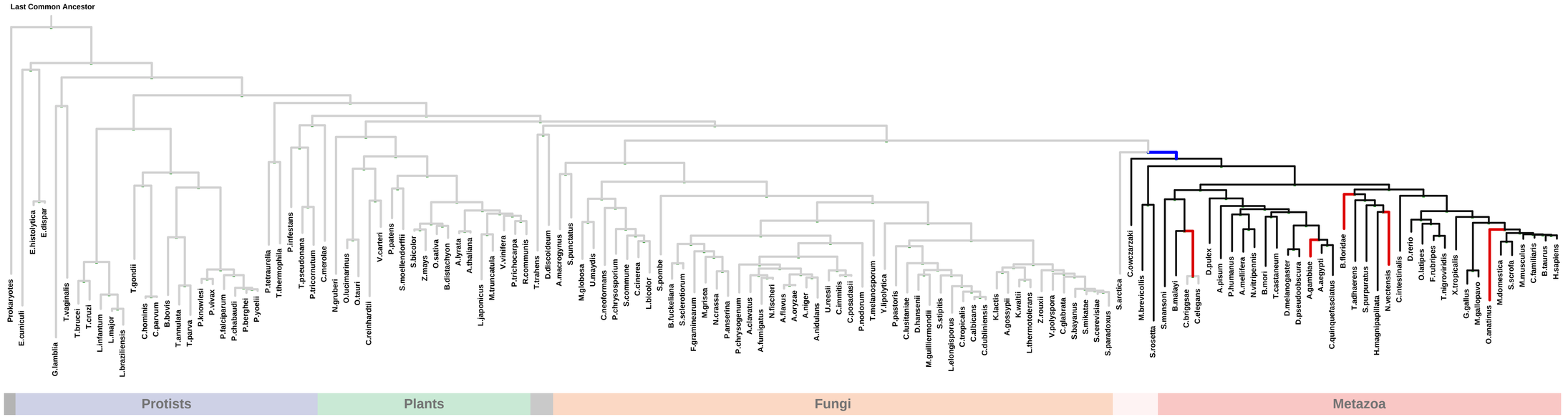


PG	Protein	LLR	Notes
	FGF17	0.9	
	TMEM177	0.8	
	ND6	0.6	1
	LOC728715	0.4	
	100510334	0.4	
	HDAC9	0.3	2 / 3
	DAND5	0.2	
	C2CD2L	0.2	
	FBXO5	0.2	4
	SP110	0.1	
	LYRM2	0.1	
	CLDND1	0.0	
G	NCR3LG1	0.0	5

1: mitochondrial respiratory chain complex I || 2: histone deacetylase complex || 3: histone methyltransferase complex || 4: spindle || 5: viral capsid

ECM 76, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

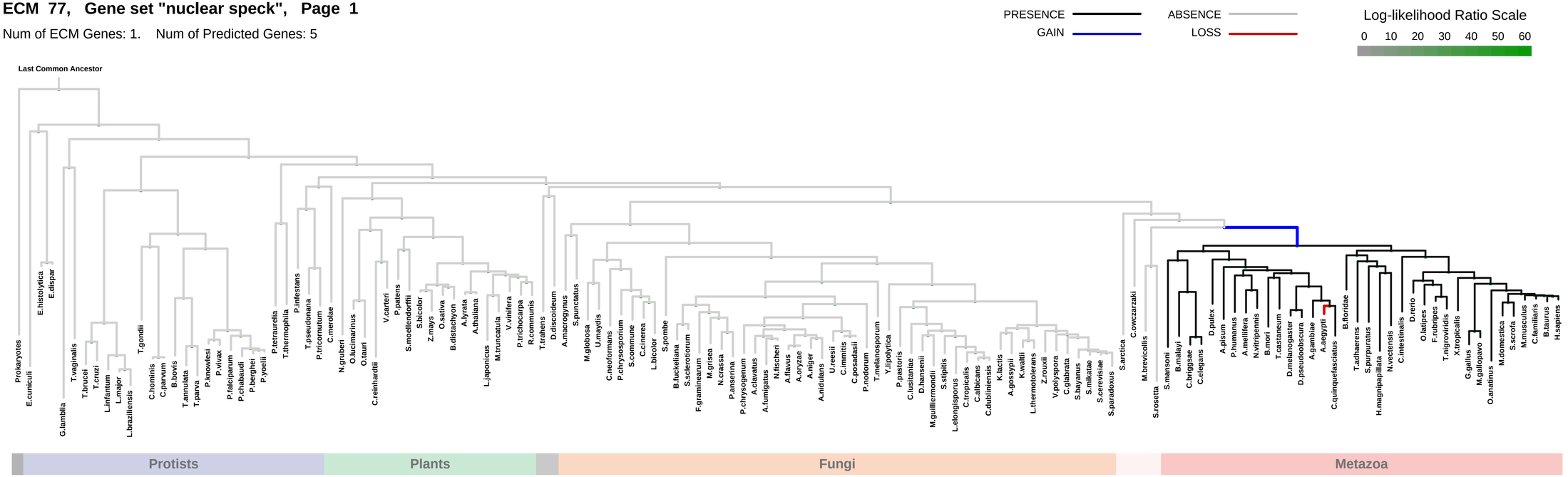


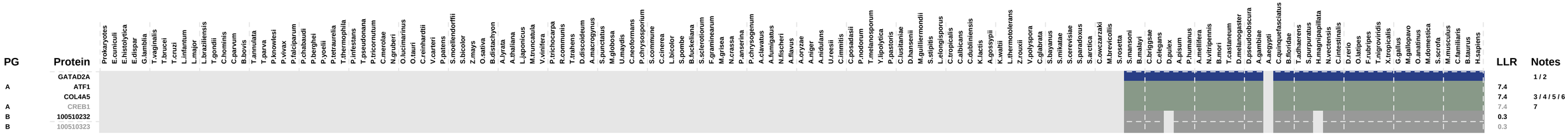
PG	Protein	LLR	Notes
	WBP11		1

1: nuclear speck

ECM 77, Gene set "nuclear speck", Page 1

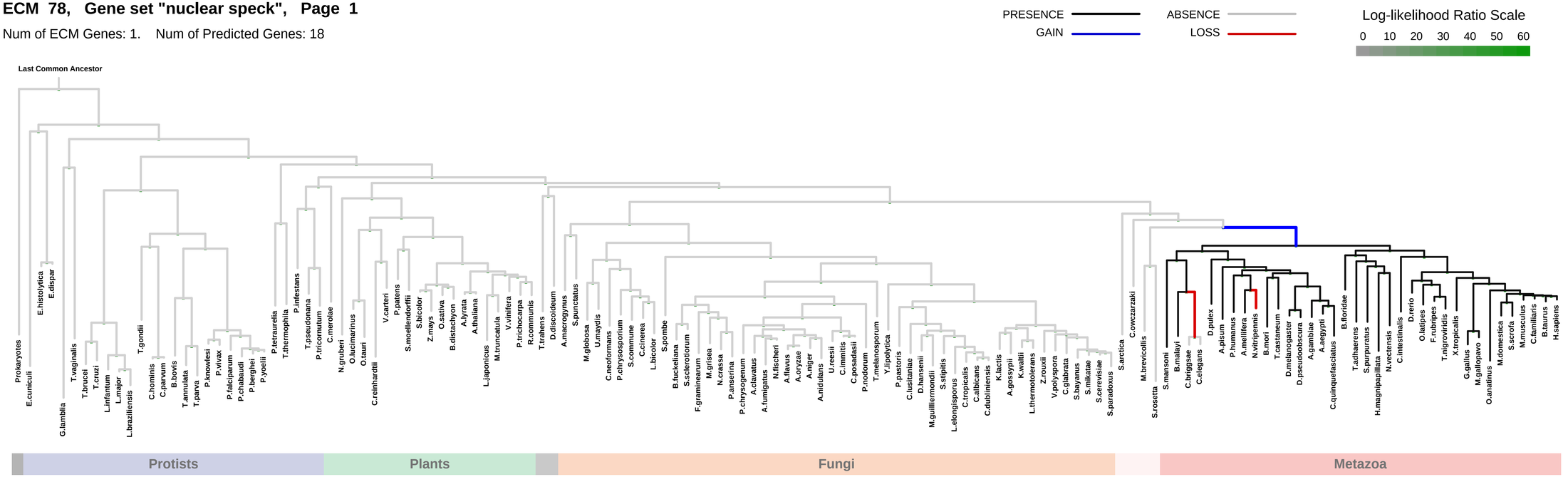
Num of ECM Genes: 1. Num of Predicted Genes: 5

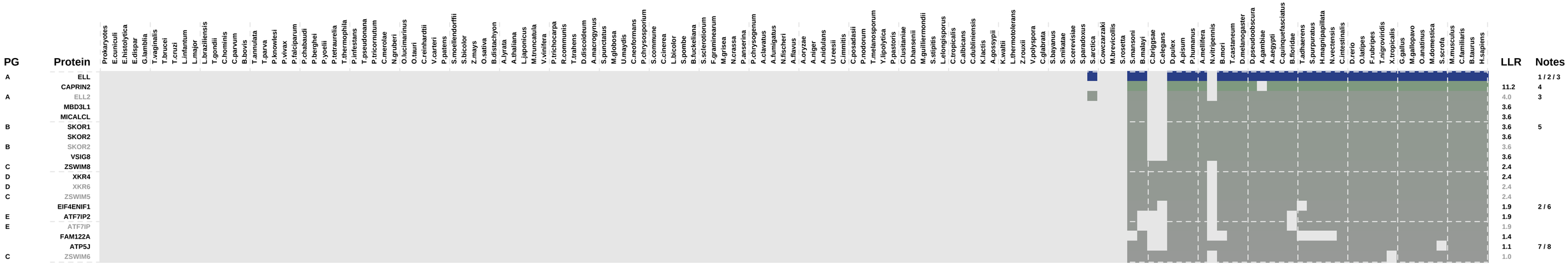




ECM 78, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 18

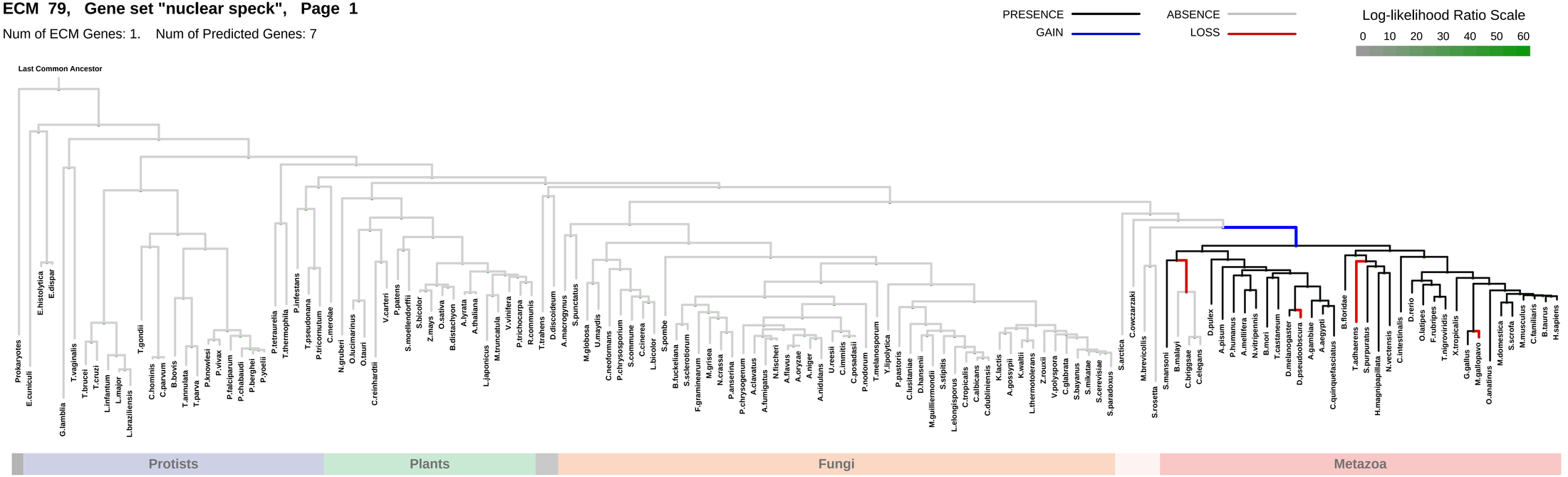


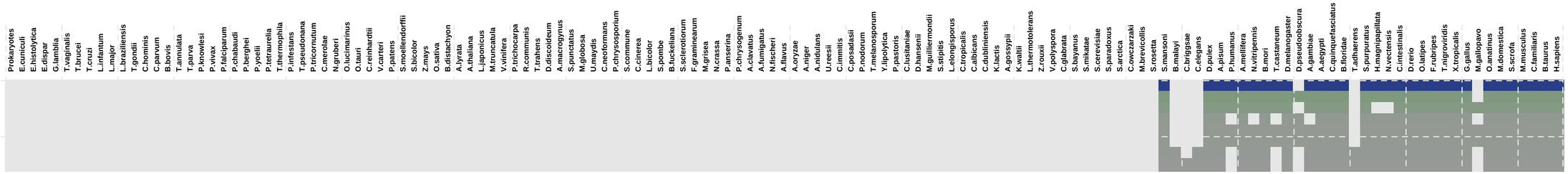


1: Cajal body || 2: nuclear speck || 3: transcription elongation factor complex || 4: receptor complex || 5: dendrite || 6: PML body || 7: mitochondrial proton-transporting ATP synthase complex || 8: mitochondrial proton-transporting ATP synthase complex, coupling factor F(o)

ECM 79, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 7



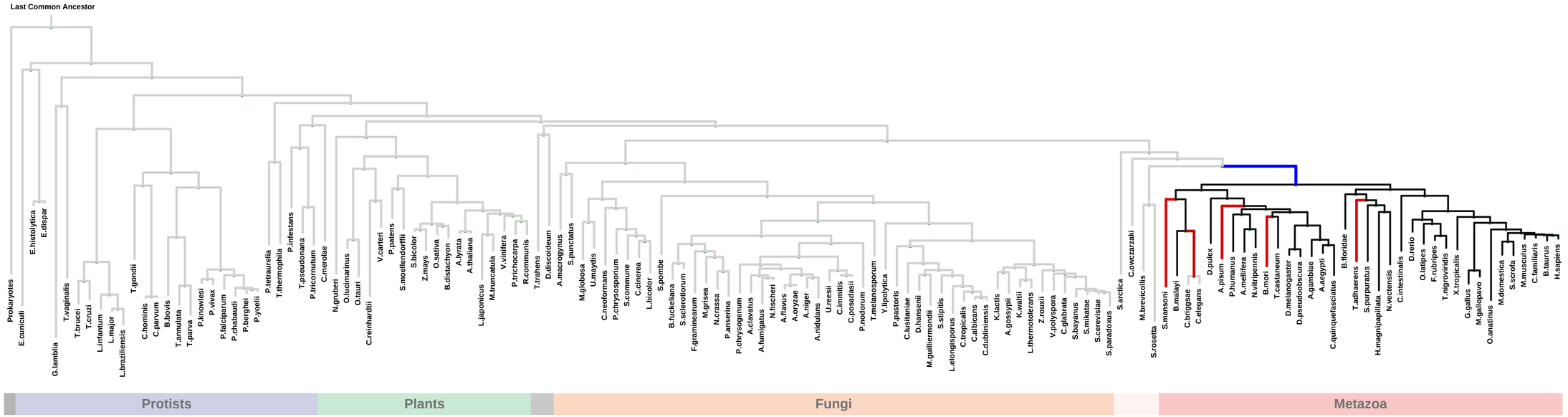


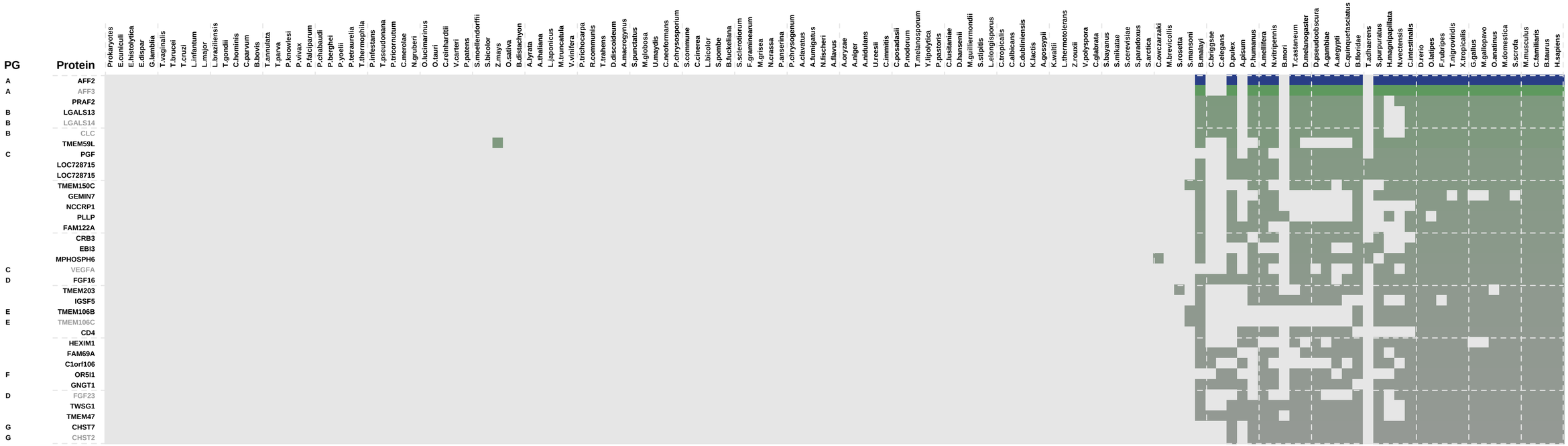
PG	Protein	LLR	Notes
A	THAP7		1 / 2
A	THAP9	11.5	
	GMNN	8.7	
	THAP11	2.8	3
	SPRED3	2.1	
	SUFU	2.1	4
B	NANOS1	1.8	
B	NANOS2	0.9	5

1: chromosome || 2: nuclear speck || 3: half bridge of spindle pole body || 4: cilium || 5: cytoplasmic mRNA processing body

ECM 80, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 69

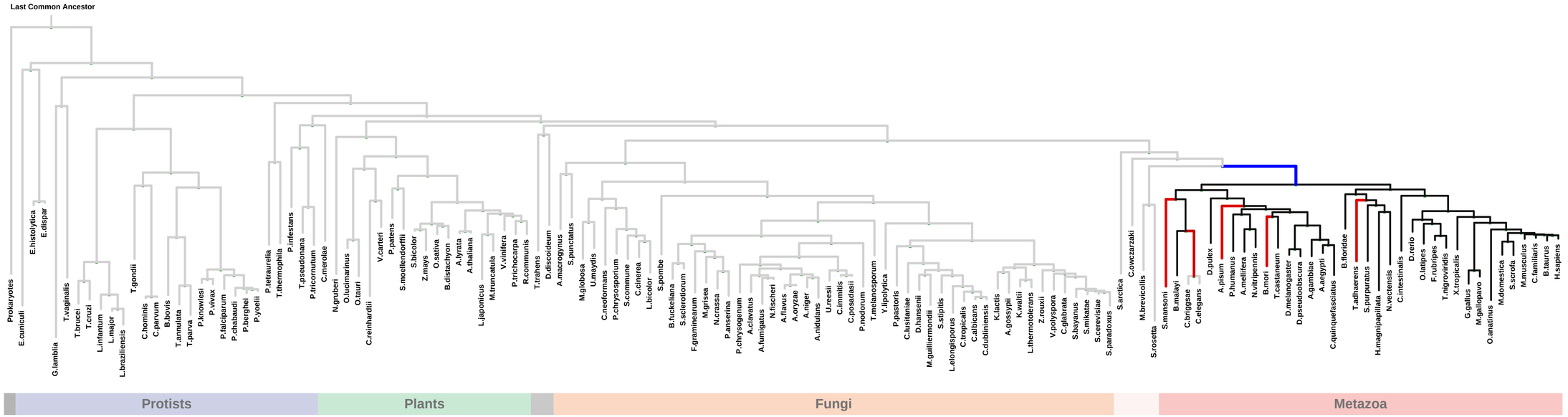


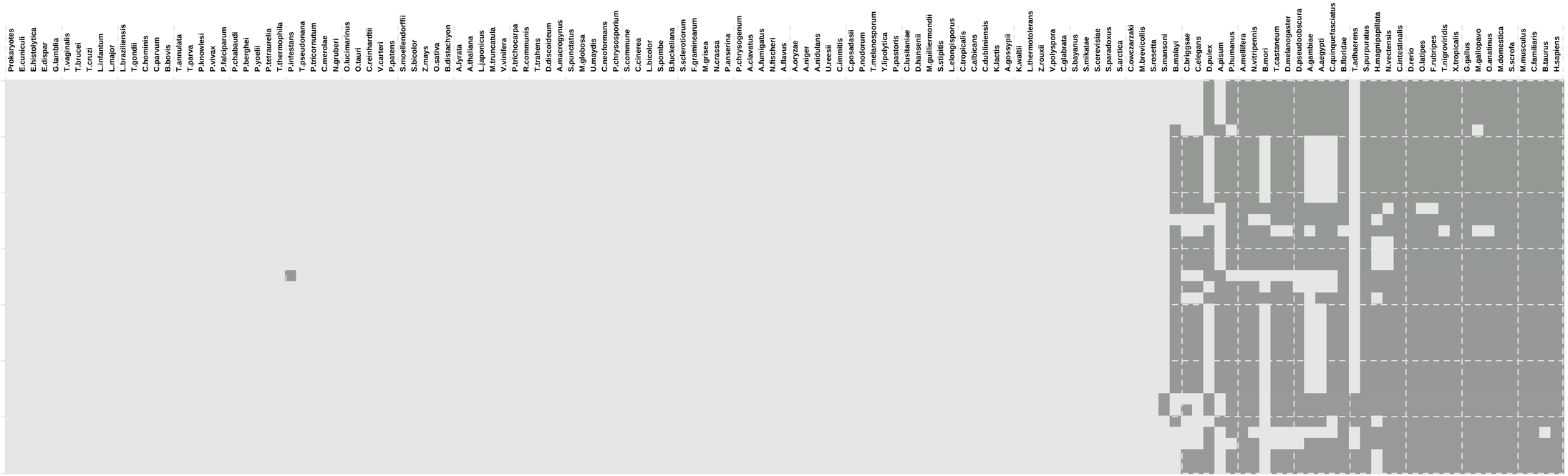


1: nuclear speck || 2: endosome membrane || 3: Cajal body || 4: nuclear body || 5: SMN complex || 6: spliceosomal complex || 7: compact myelin || 8: membrane raft || 9: tight junction || 10: exosome (RNase complex) ||
11: nuclear exosome (RNase complex) || 12: basement membrane || 13: platelet alpha granule lumen || 14: proteinaceous extracellular matrix || 15: secretory granule || 16: late endosome membrane || 17: lysosomal membrane ||
18: early endosome || 19: endoplasmic reticulum lumen || 20: external side of plasma membrane || 21: T cell receptor complex || 22: heterotrimeric G-protein complex || 23: cell-cell junction || 24: intrinsic to Golgi membrane || 25: trans-Golgi network

ECM 80, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 69



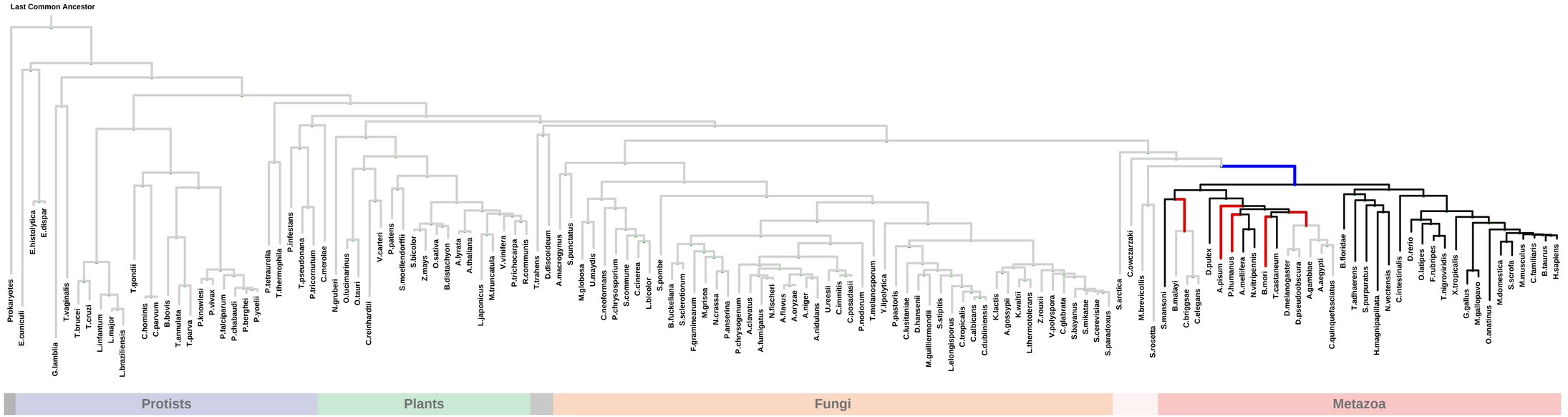


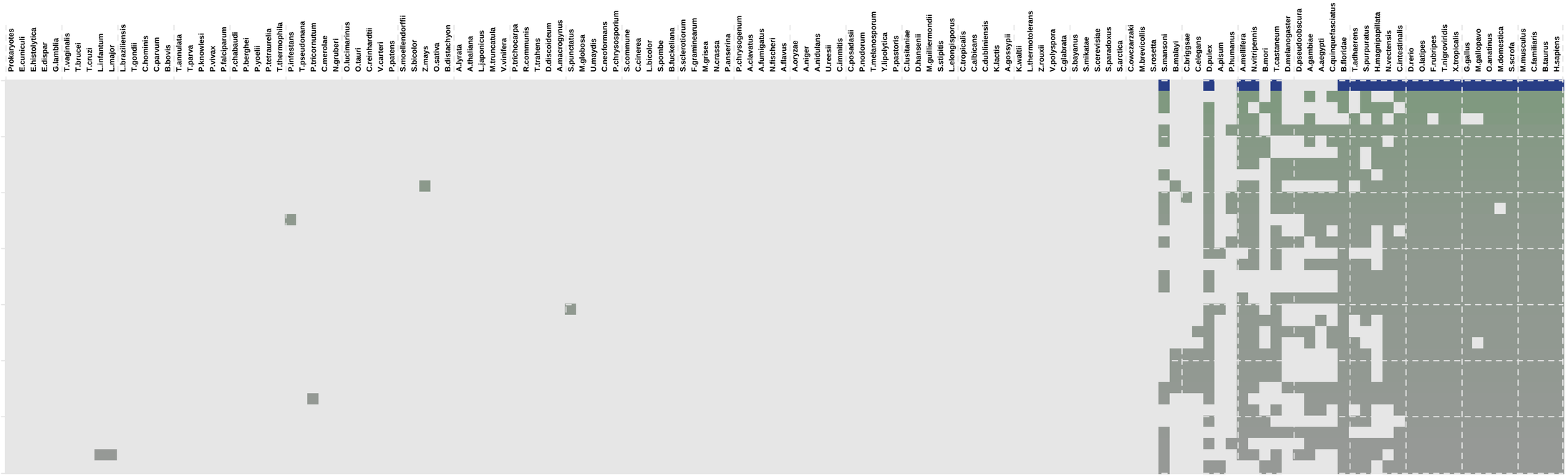
PG	Protein	LLR	Notes
G	CHST3	2.1	
G	CHST4	2.1	1 / 2
G	CHST5	2.1	1
G	CHST6	2.1	
	C1orf43	2.0	
D	FGF4	2.0	
D	FGF6	2.0	3
D	FGF14	2.0	
D	FGF11	2.0	
D	FGF13	2.0	4 / 5 / 6 / 7 / 8 / 9
D	FGF3	2.0	
	SIRPA	1.9	
	LAMP1	1.9	3 / 5 / 10 / 11 / 12 / 13 / 14
	C1orf131	1.9	
B	LGALSL	1.7	
B	LGALS1	1.7	18 / 19
B	LGALS12	1.7	
	DEPDC1	1.1	20
D	FGF17	0.9	
	SLC22A31	0.8	
D	FGF5	0.7	
D	FGF2	0.7	
D	FGF7	0.7	
D	FGF9	0.7	21
D	FGF20	0.7	
D	FGF1	0.7	19 / 22
D	FGF12	0.7	
D	FGF10	0.7	18
H	BCL2L2	0.6	23
H	BCL2	0.5	24 / 25 / 26 / 27
	AMICA1	0.4	28
	APCDD1L	0.3	
	ARL14EP	0.1	
F	OR52L1	0.1	
F	OR52N2	0.1	

1: intrinsic to Golgi membrane || 2: trans-Golgi network || 3: sarcolemma || 4: axon || 5: dendrite || 6: filopodium || 7: growth cone || 8: intercalated disc || 9: neuron projection || 10: endosome membrane || 11: external side of plasma membrane || 12: lamellar body || 13: late endosome || 14: lysosomal membrane || 15: lysosome || 16: melanosome || 17: multivesicular body || 18: extracellular matrix || 19: proteinaceous extracellular matrix || 20: transcriptional repressor complex || 21: basement membrane || 22: cell cortex || 23: mitochondrial membrane || 24: mitochondrial outer membrane || 25: myelin sheath || 26: nuclear membrane || 27: pore complex || 28: tight junction

ECM 81, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 42



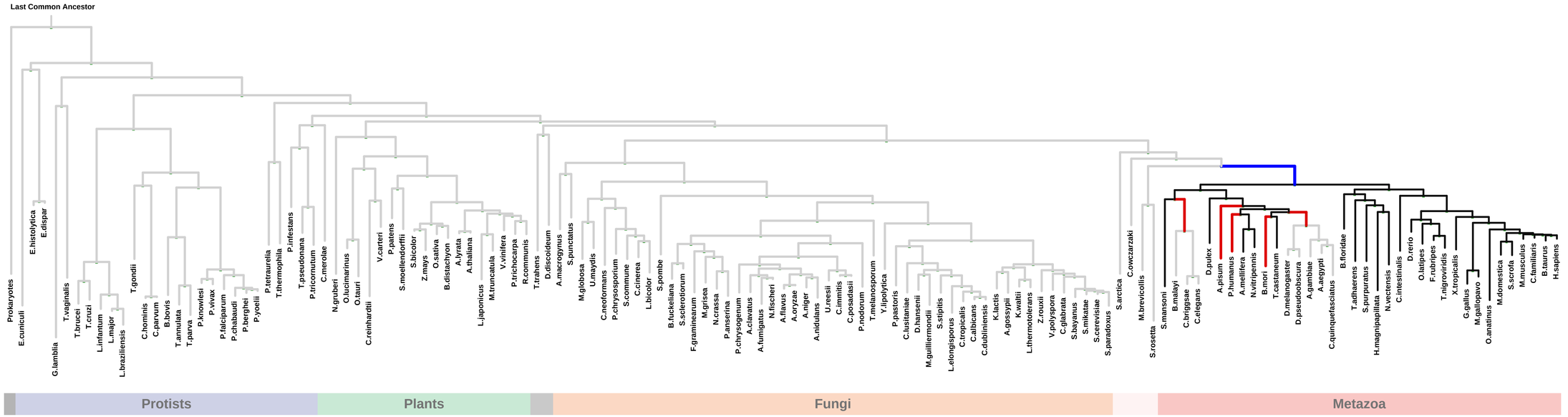


PG	Protein	LLR	Notes
	CBY1		1 / 2 / 3
	LAMP3	10.6	4 / 5
	TPRG1L	10.6	6
	MEA1	9.9	
A	BCL2L2	8.3	7
B	RRBP1	8.3	8 / 9
	GLCCI1	7.7	
	NDFIP2	7.3	10
C	OR2M7	7.0	
	TMEM59L	5.9	
A	BCL2	5.8	11 / 12 / 13 / 14
	SMPD4P1	5.6	
A	BAX	4.9	11 / 14 / 15 / 16
	C16orf87	4.9	
	PTGIR	4.2	
	TMEM211	4.1	
C	OR5AS1	4.0	
D	TECTB	3.9	17 / 18
D	GP2	3.9	17
	TIMP1	3.8	19 / 20
	CINP	3.7	
	IGFBP4	3.5	
C	OR5I1	3.4	
E	TCN2	3.4	
F	CAV2	3.2	21 / 22 / 23 / 24 / 25 / 26
F	CAV3	3.2	22 / 25 / 27 / 28 / 29 / 30 /
F	CAV1	3.2	21 / 22 / 24 / 25 / 32 / 33 /
	SCNN1G	2.8	40 / 41
A	BCL2A1	2.1	
	AKAP6	2.1	42 / 43 / 44 / 45
B	KTN1	2.0	
	PLP1	1.5	46
A	100289713	1.4	
	MYRIP	1.2	26 / 47 / 48 / 49 / 50 / 51 /
C	LOC650293	1.1	

1: microtubule basal body || 2: nuclear speck || 3: trans-Golgi network || 4: alveolar lamellar body membrane || 5: lysosomal membrane || 6: synaptic vesicle || 7: mitochondrial membrane || 8: integral to endoplasmic reticulum membrane ||
9: ribosome || 10: multivesicular body membrane || 11: mitochondrial outer membrane || 12: myelin sheath || 13: nuclear membrane || 14: pore complex || 15: Bcl-2 family protein complex || 16: cytosolic part || 17: anchored to membrane ||
18: proteinaceous extracellular matrix || 19: basement membrane || 20: platelet alpha granule lumen || 21: acrosomal membrane || 22: caveola || 23: extrinsic to internal side of plasma membrane || 24: lipid particle || 25: membrane raft ||

ECM 81, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 42

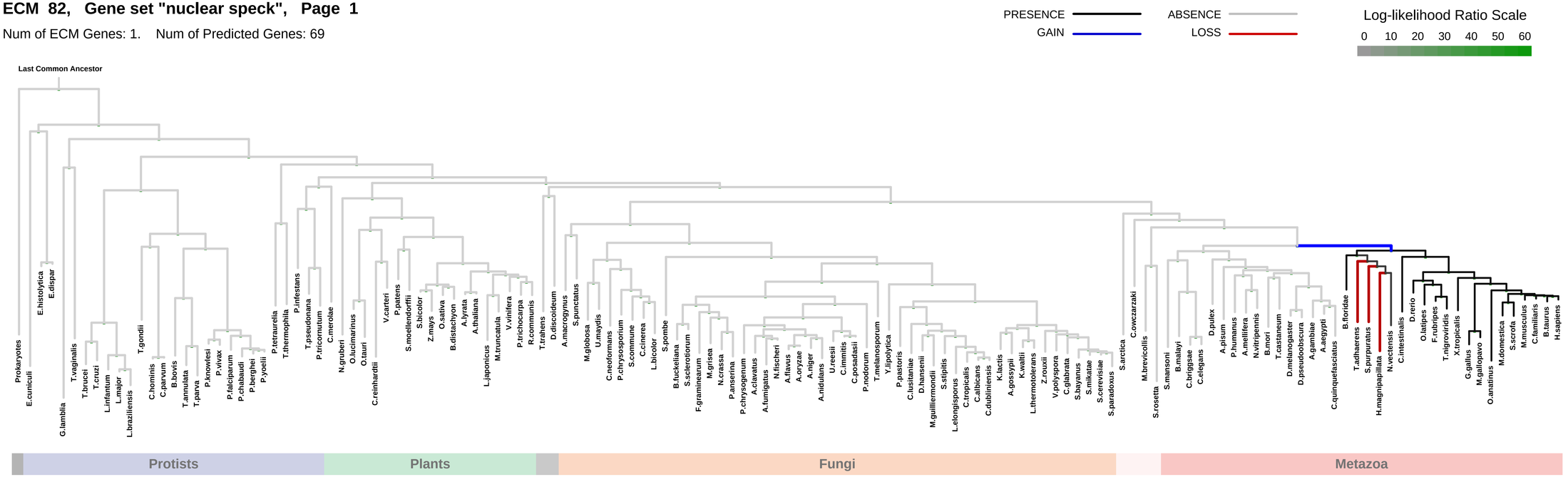


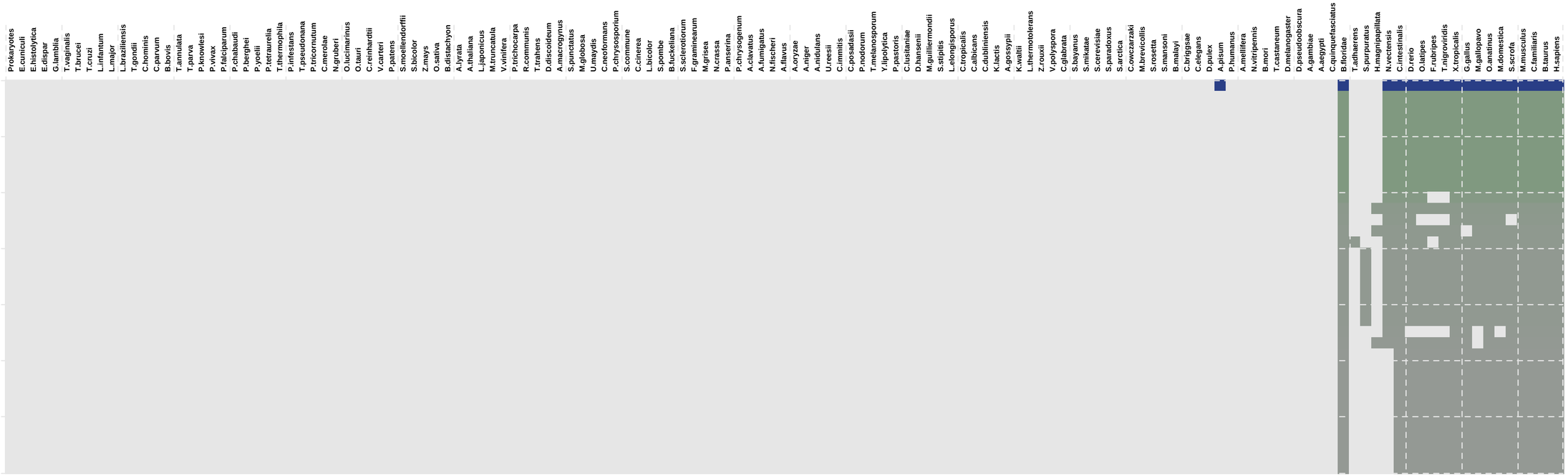
PG	Protein	LLR	Notes
E	GIF	1.1	1 / 2
	CCDC74B	1.0	
	TAPBPL	0.9	
	ARL14EP	0.8	
	ARGLU1	0.7	
	SLC7A6OS	0.6	
	CREM	0.6	
	SPATA6	0.1	

1: endosome || 2: microvillus

ECM 82, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 69

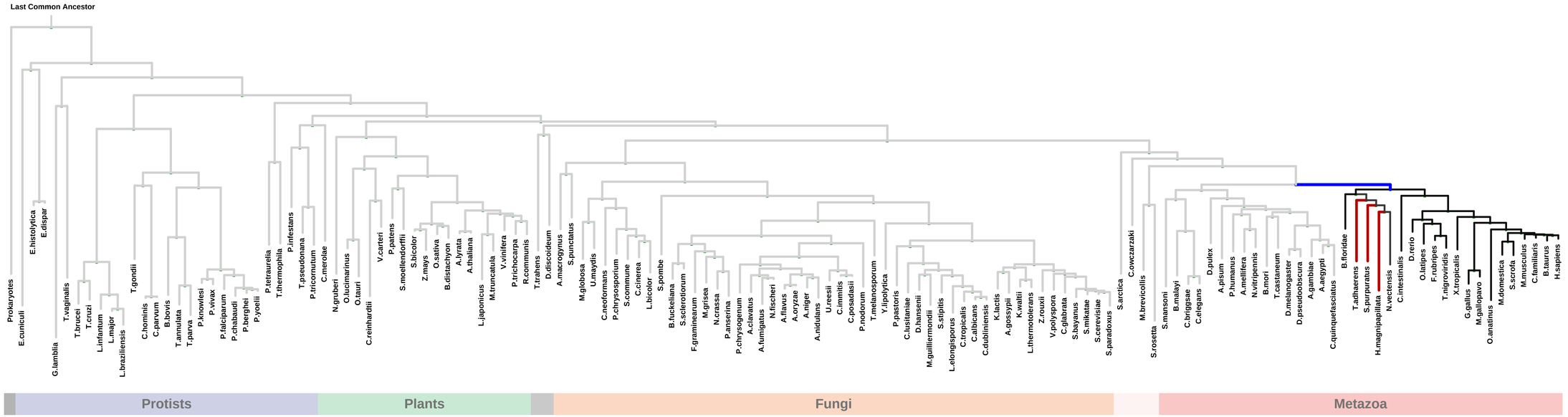




1: nuclear speck || 2: cytoplasmic microtubule || 3: microtubule cytoskeleton || 4: spindle pole || 5: cis-Golgi network || 6: voltage-gated potassium channel complex || 7: external side of plasma membrane || 8: membrane raft ||
9: phagocytic cup || 10: recycling endosome || 11: nuclear membrane || 12: extracellular matrix || 13: proteinaceous extracellular matrix || 14: transport vesicle || 15: acrosomal vesicle || 16: multivesicular body || 17: outer acrosomal membrane ||
18: secretory granule || 19: microtubule-based flagellum part || 20: endomembrane system || 21: apical part of cell || 22: collagen || 23: endoplasmic reticulum lumen

ECM 82, Gene set "nuclear speck", Page 2

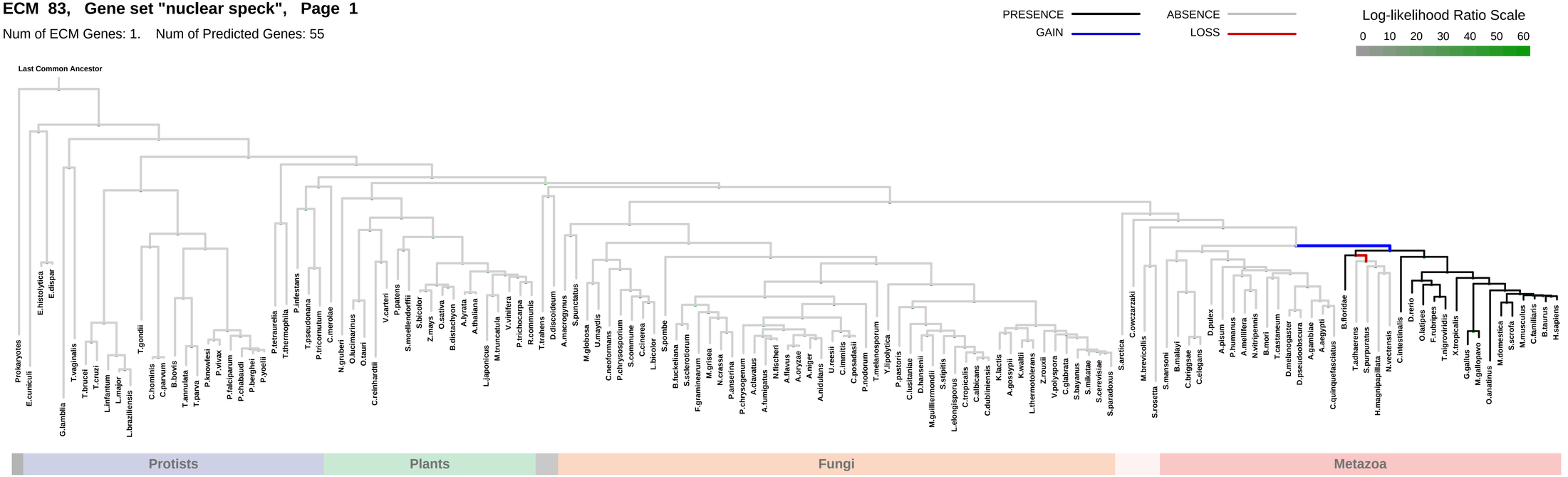
Num of ECM Genes: 1. Num of Predicted Genes: 69



1: lateral plasma membrane || 2: tight junction || 3: nuclear speck || 4: microtubule organizing center || 5: PML body || 6: acrosomal vesicle || 7: dendrite || 8: melanosome || 9: nuclear membrane || 10: cytoplasmic membrane-bounded vesicle ||
11: growth cone || 12: neuron projection || 13: transport vesicle || 14: voltage-gated potassium channel complex || 15: extracellular matrix || 16: endosome membrane || 17: lysosomal membrane

ECM 83, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 55

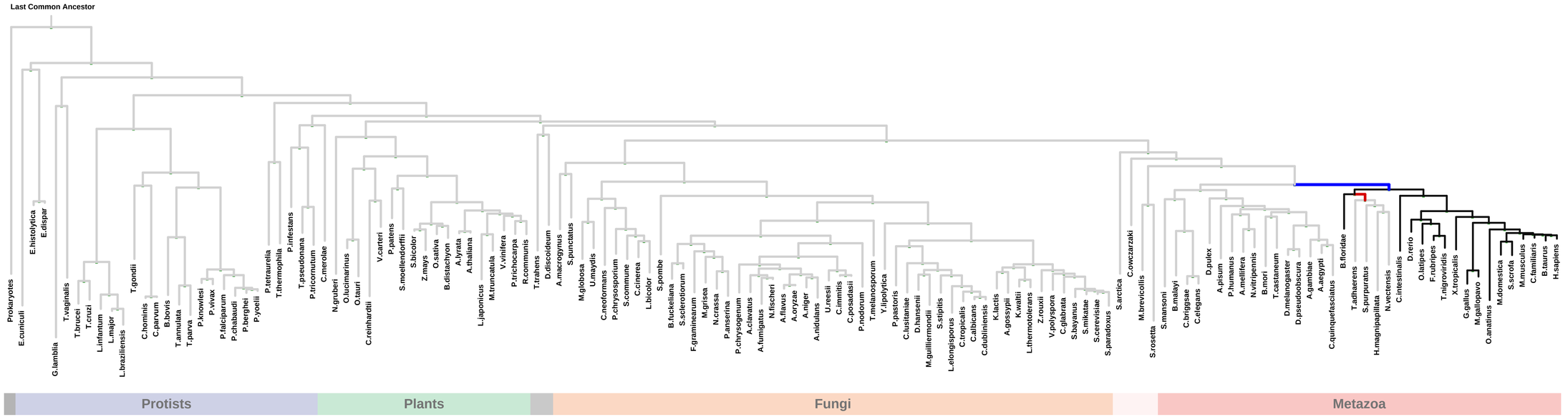


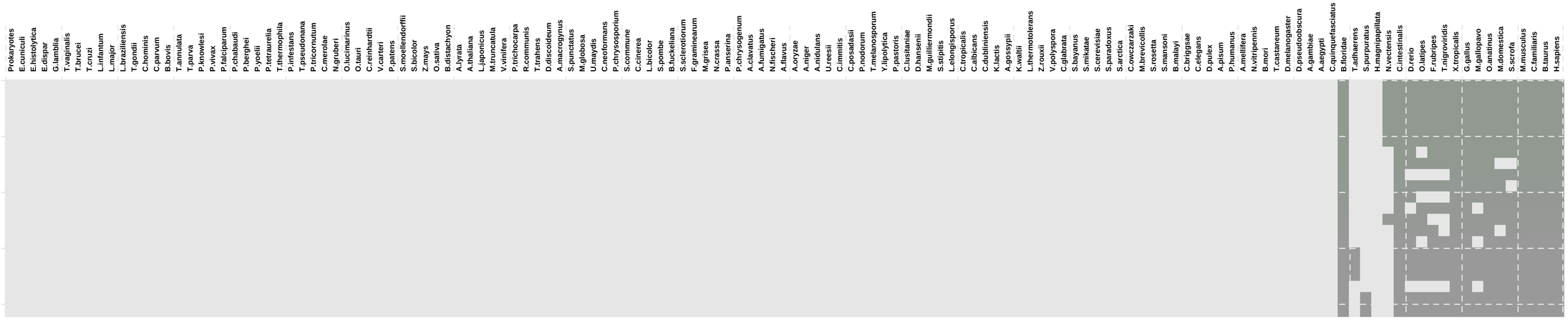
PG	Protein	LLR	Notes
A	TRIM69		1
A	BTN3A1	5.2	
	CLDN7	5.2	2 / 3
B	CRYBA2	5.2	
B	CRYBA4	5.2	
B	CRYBB2	5.2	
B	CRYBB3	5.2	
	EDAR	5.2	4
C	EMID1	5.2	5
C	COL26A1	5.2	5 / 6
	HOMEZ	5.2	
	IFFO2	5.2	
	IGFBP6	5.2	
	IL17F	5.2	
D	IL17RA	5.2	
D	IL17RD	5.2	
E	KCNMB1	5.2	7
E	KCNMB3	5.2	7
	KIAA1549	5.2	
	LECT1	5.2	8
F	PRRG1	5.2	
F	PRRG2	5.2	
F	PRRG3	5.2	
	PTGER1	5.2	
G	STC1	5.2	
G	STC2	5.2	
	TMEM178A	5.2	
A	TRIM14	5.2	
A	TRIM16L	5.2	
	WISP1	5.2	
	ZNF365	5.2	9
	PRR14L	4.2	
H	CKAP2L	3.4	
	TMEM102	3.4	
E	KCNMB4	3.4	7

1: nuclear speck || 2: lateral plasma membrane || 3: tight junction || 4: apical part of cell || 5: collagen || 6: endoplasmic reticulum lumen || 7: voltage-gated potassium channel complex || 8: endomembrane system || 9: microtubule organizing center

ECM 83, Gene set "nuclear speck", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 55

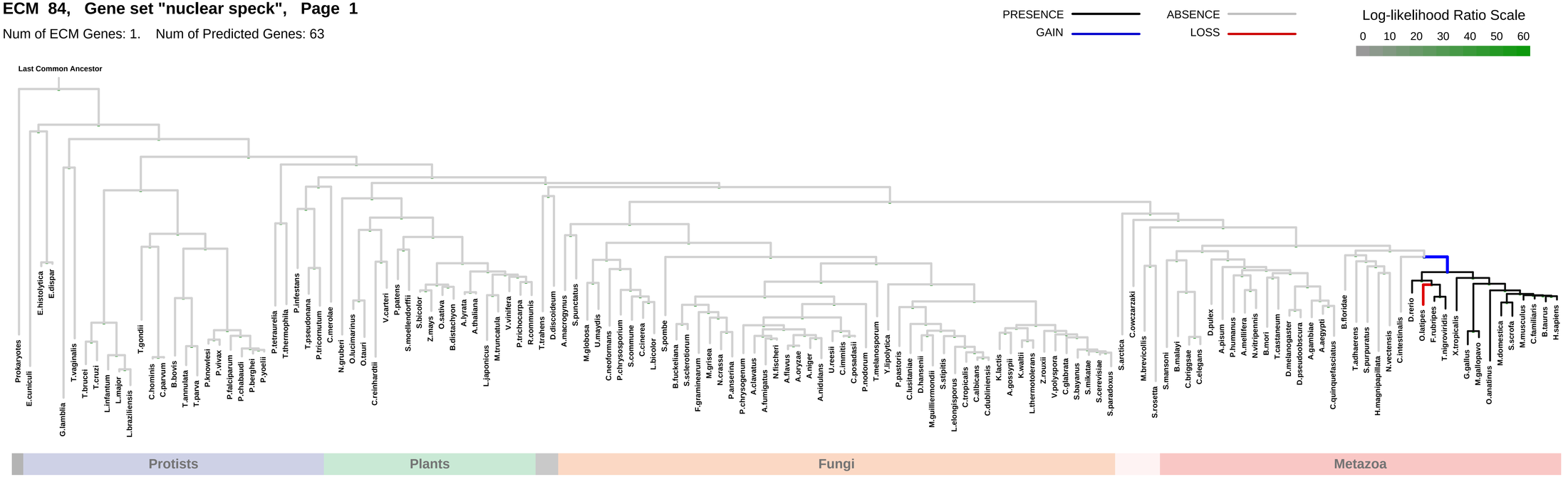




1: external side of plasma membrane || 2: membrane raft || 3: phagocytic cup || 4: recycling endosome || 5: cis-Golgi network || 6: cytoplasmic microtubule || 7: microtubule cytoskeleton || 8: spindle pole || 9: extracellular matrix ||
10: endosome membrane || 11: lysosomal membrane || 12: outer dense fiber

ECM 84, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 63

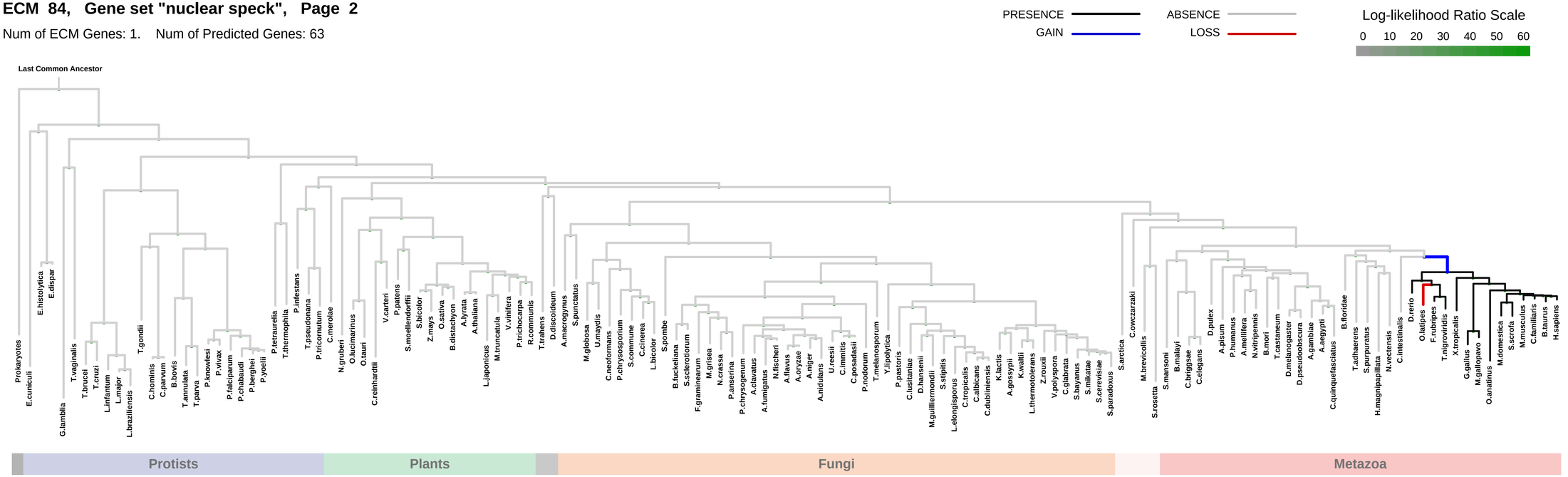


PG	Protein	LLR	Notes
	MAML1		1 / 2
	LOC646543	6.3	
	ARMCX5	4.5	
	C2orf40	4.5	3
	KIAA1211L	4.5	
A	CCL23	4.5	
A	CCL26	4.5	
B	CD247	4.5	4 / 5
C	CD300A	4.5	
C	CD300LD	4.5	
	CD3D	4.5	4 / 5
	CCSER2	4.5	
C	FCAMR	4.5	
	IL17RC	4.5	
	IL22	4.5	
D	KCNE1	4.5	6 / 7 / 8
D	KCNE4	4.5	
	KITLG	4.5	
	AKAP12	4.5	9
	RCSD1	4.5	10
	SLAMF8	4.5	
	SPOCK2	4.5	11
	TAC1	4.5	12
	TMEM108	4.5	
C	TREML4	4.5	
A	XCL1	4.5	
A	XCL2	4.5	
	100508317	4.5	
E	LILRA1	3.0	
E	LILRB2	3.0	
F	TMSB15A	3.0	
F	TMSB15B	3.0	
	RIPPLY3	3.0	
B	FCER1G	3.0	13 / 14
	FXYD1	3.0	15

1: MAML1-RBP-Jkappa- ICN1 complex || 2: nuclear speck || 3: transport vesicle || 4: alpha-beta T cell receptor complex || 5: T cell receptor complex || 6: lysosome || 7: voltage-gated potassium channel complex || 8: Z disc ||
9: cell cortex || 10: actin filament || 11: proteinaceous extracellular matrix || 12: axon || 13: external side of plasma membrane || 14: Fc-epsilon receptor I complex || 15: chloride channel complex

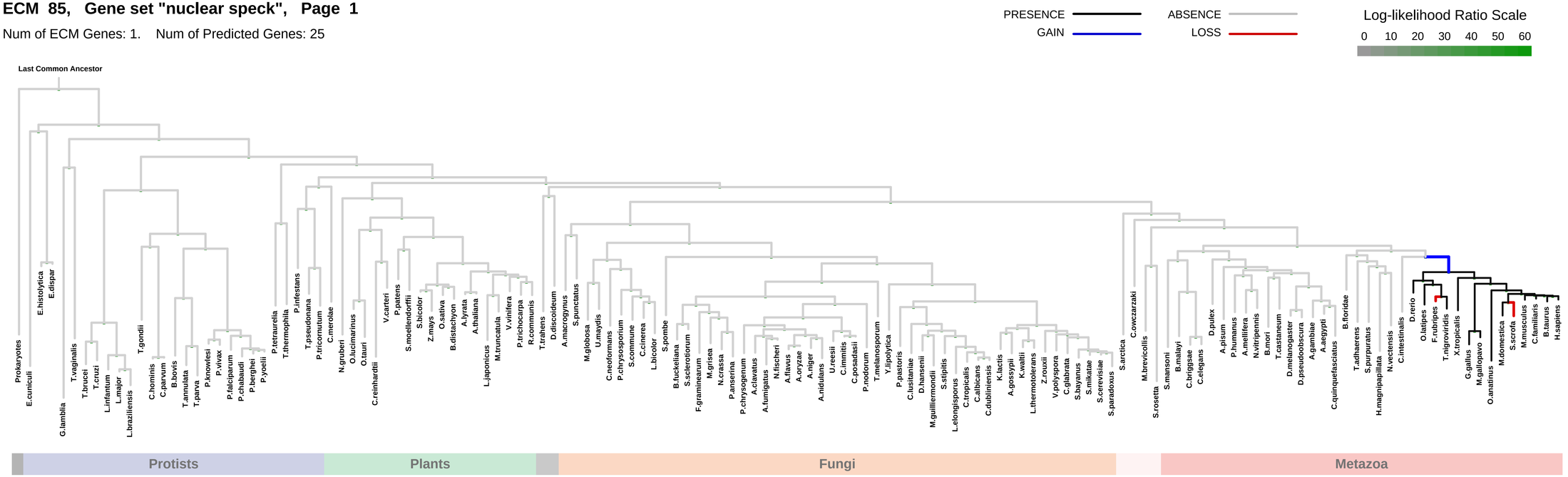
ECM 84, Gene set "nuclear speck", Page 2

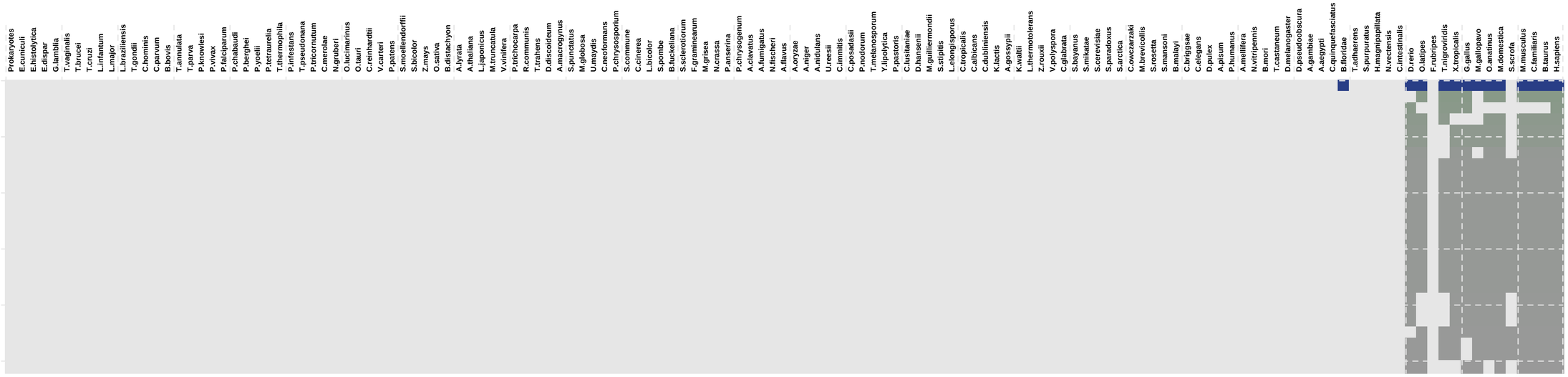
Num of ECM Genes: 1. Num of Predicted Genes: 63



ECM 85, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 25

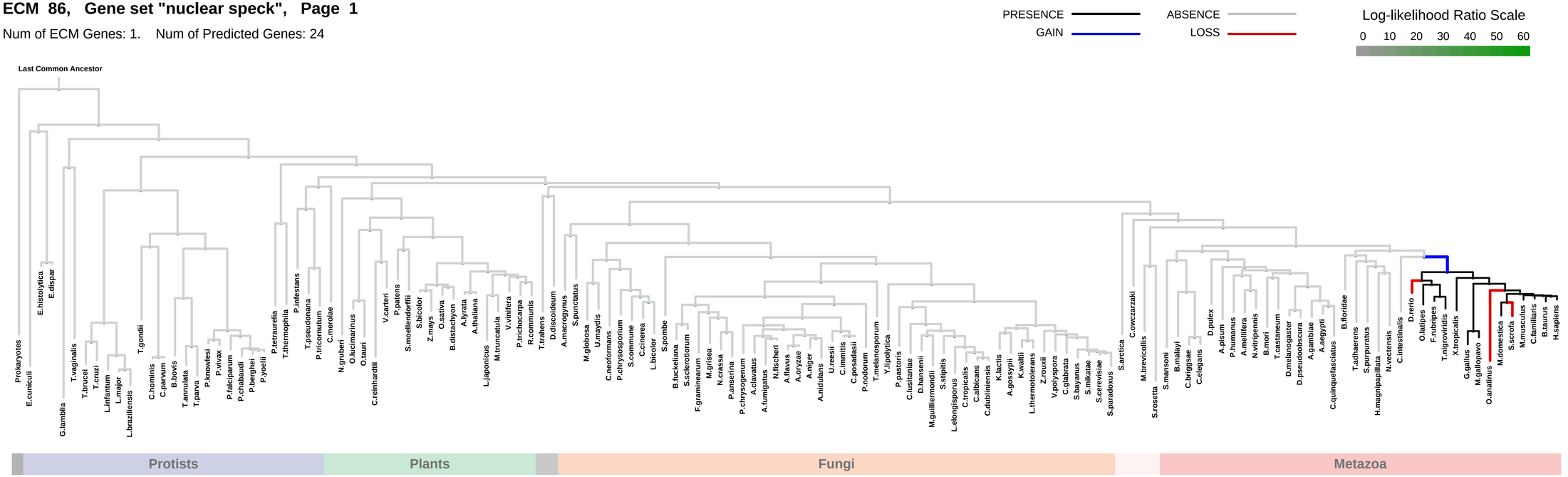


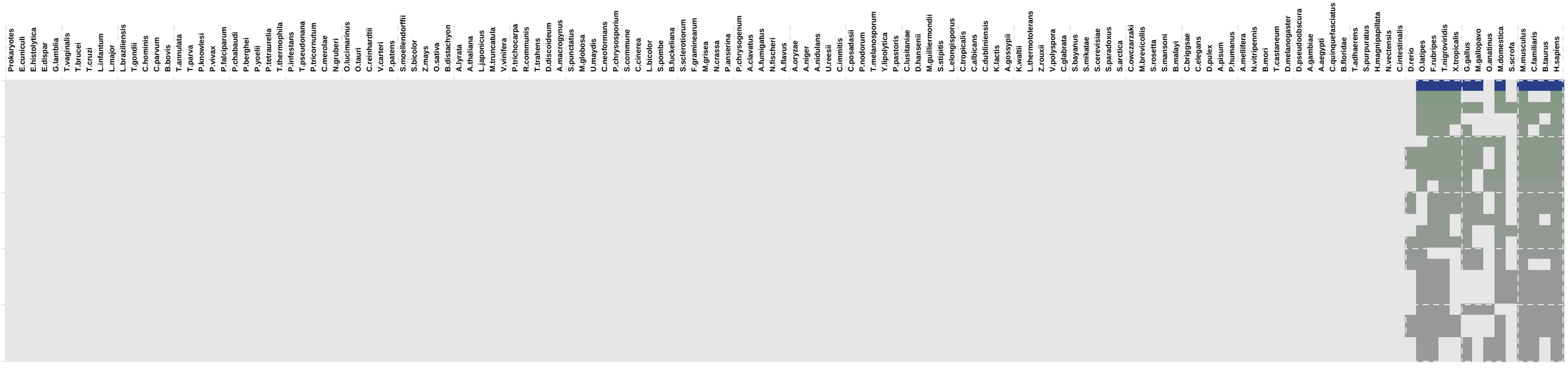


1: nuclear speck || 2: adherens junction || 3: basolateral plasma membrane || 4: chloride channel complex || 5: actin cytoskeleton || 6: microfibril || 7: clathrin-coated endocytic vesicle membrane || 8: endocytic vesicle membrane || 9: ER to Golgi transport vesicle membrane || 10: external side of plasma membrane || 11: integral to lumenal side of endoplasmic reticulum membrane || 12: lysosomal lumen || 13: lysosomal membrane || 14: MHC class II protein complex || 15: multivesicular body || 16: trans-Golgi network membrane || 17: transport vesicle membrane || 18: vacuole || 19: sodium:potassium-exchanging ATPase complex || 20: mitochondrial outer membrane || 21: intrinsic to plasma membrane || 22: synapse

ECM 86, Gene set "nuclear speck", Page 1

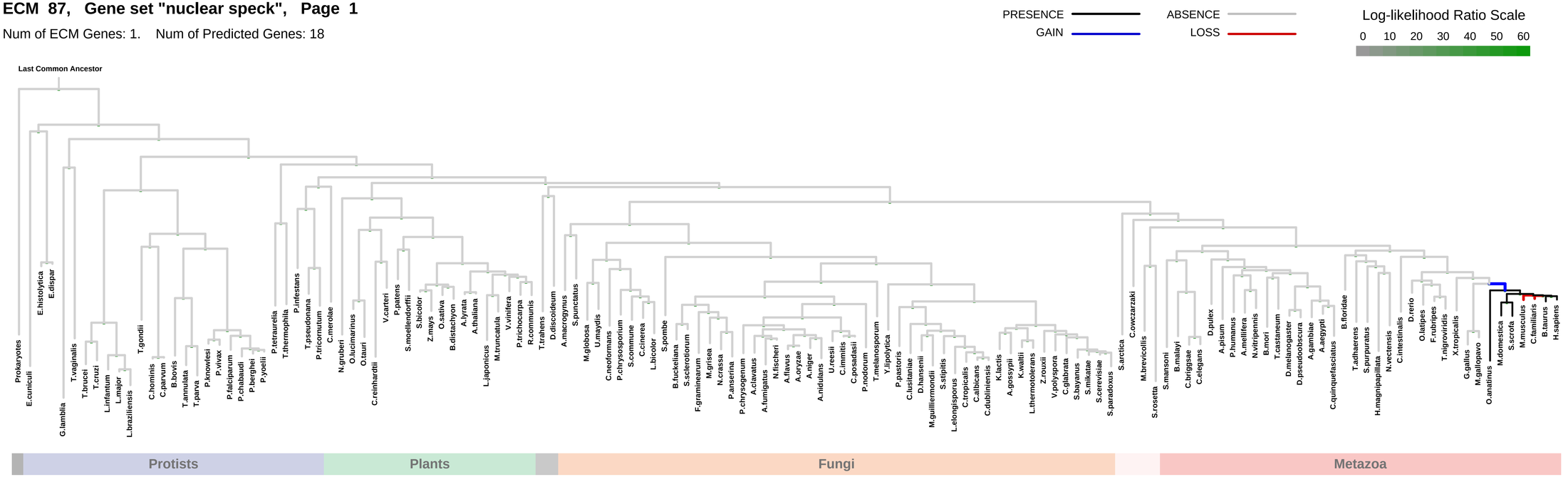
Num of ECM Genes: 1. Num of Predicted Genes: 24





ECM 87, Gene set "nuclear speck", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 18



PG	Protein	LLR	Notes
	BASP1		1 / 2 / 3
	LSMEM2	1.9	
	LOC388849	0.7	
	LOC100289187	0.3	
	LOC100289187	0.3	
	IFI27	0.3	4
	C16orf90	0.1	
A	KRTAP2-4	0.1	5
B	KRTAP3-1	0.1	5
B	KRTAP3-2	0.1	5
B	KRTAP3-3	0.1	5
	C19orf71	0.1	
	AHSP	0.1	6
C	LOC100505798	0.1	
	C6orf47	0.1	
A	KRTAP2-3	0.1	5
	RNASE11	0.1	
	SCGB3A2	0.1	
C	642511	0.1	

1: growth cone || 2: nuclear speck || 3: signalosome || 4: mitochondrial outer membrane || 5: keratin filament || 6: hemoglobin complex