

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

Dataset:

Num of genes in input gene set: 3
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+

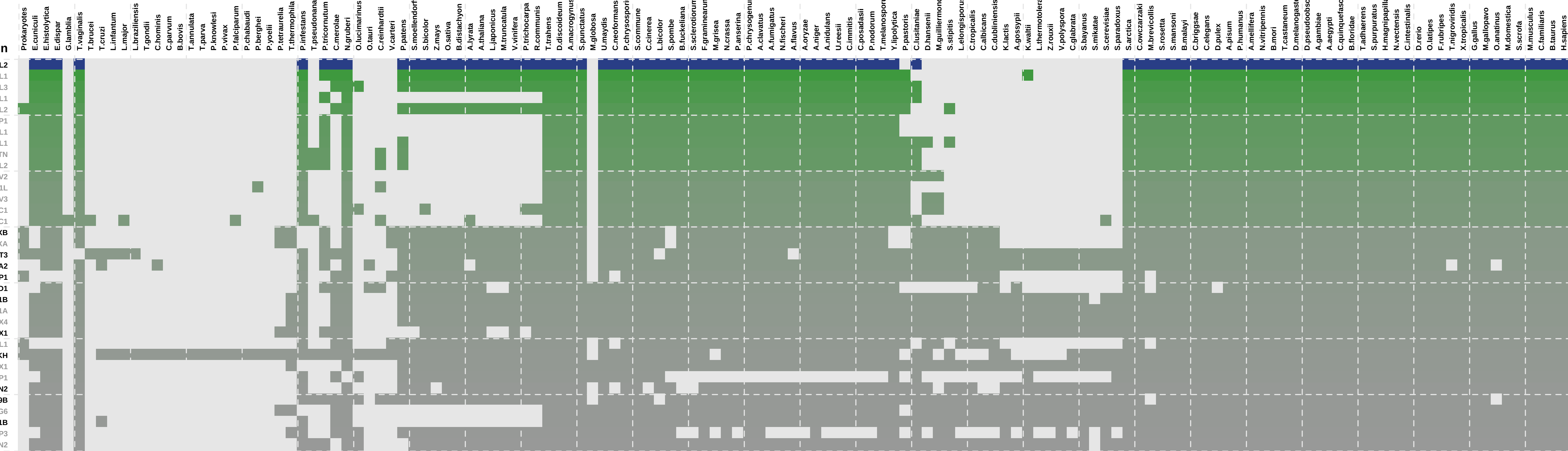
- Top panel shows the inferred evolutionary history on the predefined species tree. Branch color shows the gain event (blue) and loss events (red color, with brighter color indicating higher confidence in loss). Branches before the gain or after a loss are shown in gray.
- Bottom panel shows the input 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.

Last Common Ancestor



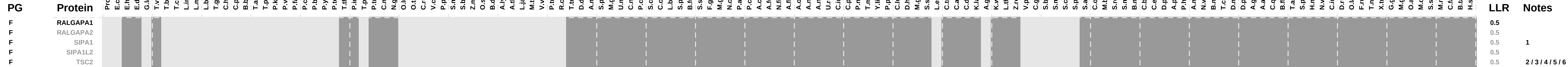
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	Prokaryotes	E.cuniculi	E.histolytica	Edispar	G.lambia	T.vaginalis	T.brucei	T.cruzi	L.infantum	L.major	L.braziliensis	T.gondii	C.hominis	C.parvum	B.bovis	T.annulata	P.knowlesi	P.vivax	P.falciparum	P.chabaudi	P.berghel	P.yoeli	P.tetraurelia	T.thermophila	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.neofornans	P.chrysosporium	S.commune	C.cinerea	L.bicolor	S.pombe	B.fuckeliana	S.sclerotium	F.graminearum	M.grisea	N.crassa	P.anserina	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.lusitanae	D.hansenii	M.quilliermondii	S.stipitis	L.elongisporus	C.tropicalis	C.alicans	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.owczarzakii	M.brevicollis	S.rosetta	S.manoni	B.malaiyi	C.briggsae	C.elegans	D.pulex	A.apisum	P.humanus	A.melilifera	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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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Num of ECM Genes: 1. Num of Predicted Genes: 39

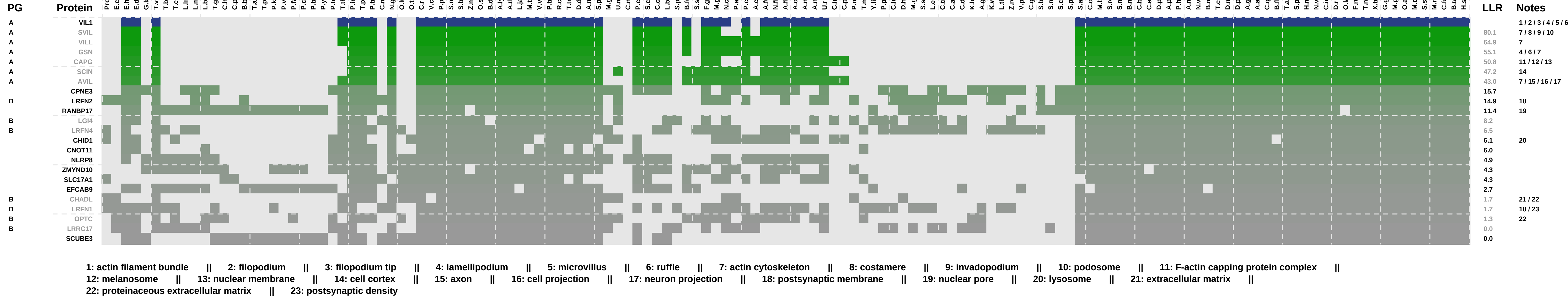


1: actin filament bundle || 2: tight junction || 3: intermediate filament || 4: contractile fiber || 5: I band || 6: M band || 7: actin cytoskeleton || 8: interstitial matrix || 9: gap junction || 10: spindle || 11: nuclear outer membrane ||
12: axon terminus || 13: cell cortex || 14: focal adhesion || 15: acrosomal vesicle || 16: lysosomal lumen || 17: intrinsic to internal side of plasma membrane || 18: microtubule cytoskeleton || 19: endosome || 20: nuclear membrane ||
21: cell-cell junction || 22: stress fiber || 23: transcription factor TFIIID complex || 24: transcription factor TFTC complex || 25: cleavage furrow || 26: spindle pole || 27: early endosome || 28: late endosome || 29: Z disc ||

Num of ECM Genes: 1. Num of Predicted Genes: 39

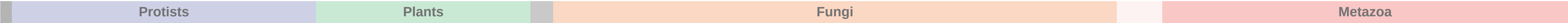
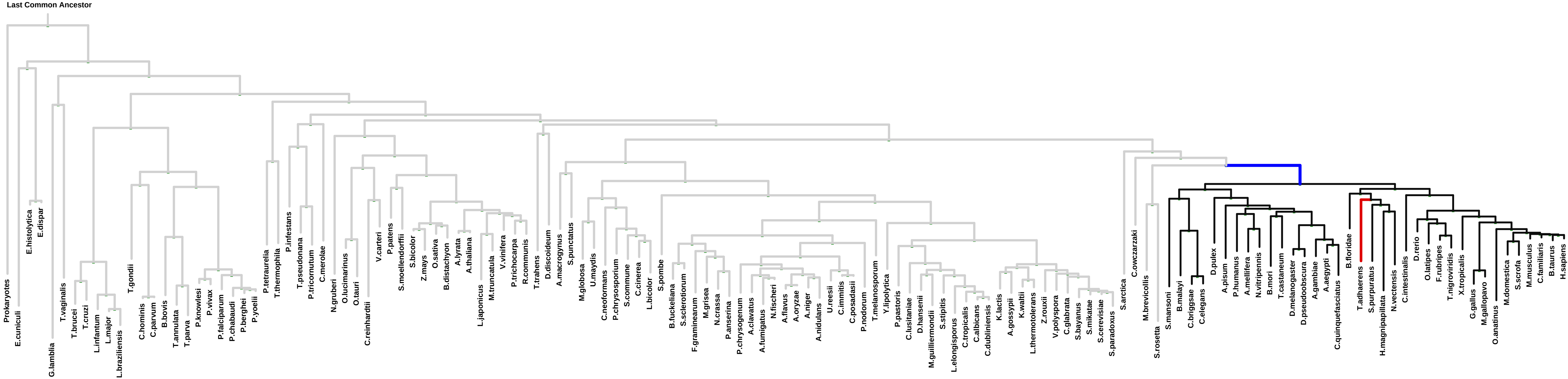


Num of ECM Genes: 1. Num of Predicted Genes: 22



ECM 3, Gene set "actin filament bundle", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 45

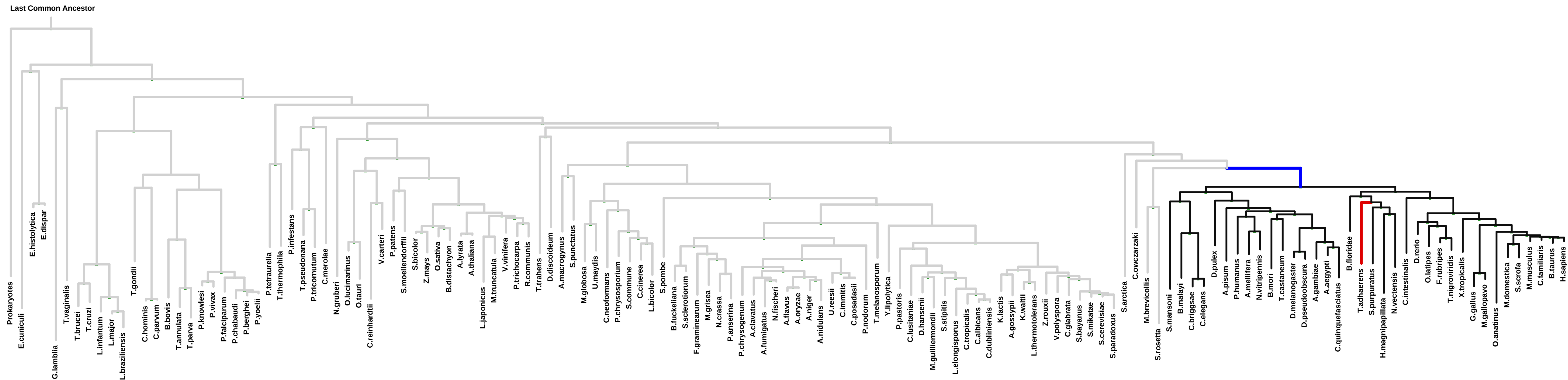


PG	Protein		LLR	Notes
A	CRYAB		4.7	1 / 2 / 3
	AMH		4.7	
	BTN1A1		4.7	
	CMTM4		4.7	
B	GABRA5		4.7	4 / 5 / 6 / 7
A	HSPB3		4.7	
A	HSPB6		4.7	
B	HTR3B		4.7	
B	HTR3D		4.7	7 / 8
C	KRT13		4.7	
C	KRT15		4.7	
C	KRT16		4.7	
D	SPARCL1		4.7	9
	STAU2		4.7	
	TMEM55A		4.7	
	TMEM55B		4.7	
D	TMEM55B		4.7	12 / 13
D	100509754		4.7	
B	100509754		4.7	
B	100510141		4.7	
E	NRXN3		4.6	14
	UBAP2		3.2	
	UBAP2L		3.2	
	TPD52L1		2.8	
F	TPD52L3		2.8	15 / 16
F	TPD52		2.8	
F	PDGFRL		2.0	
F	TMEM9B		2.0	
G	MAB21L1		1.8	17 / 18
G	MAB21L2		1.8	
G	EIF4ENIF1		1.4	
G	OTOP2		1.2	
H	100510667		1.2	10
	GPR142		1.1	
	100509729		0.5	
	EFNB1		0.5	
C	KRT25		0.5	

1: actin filament bundle 2: microtubule cytoskeleton 3: Z disc 4: chloride channel complex 5: dendrite 6: neuronal cell body membrane 7: postsynaptic membrane 8: axon 9: keratin filament 10: intermediate filament 11: proteinaceous extracellular matrix 12: late endosome membrane 13: lysosomal membrane 14: Ada2/Gcn5/Ada3 transcription activator complex 15: nuclear speck 16: PML body 17: membrane raft 18: synapse

ECM 3, Gene set "actin filament bundle", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 45

[illegible]

1: nuclear heterochromatin || 2: nuclear matrix || 3: PML body || 4: histone deacetylase complex || 5: sarcomere || 6: troponin complex || 7: striated muscle thin filament