

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

Dataset:

Num of genes in input gene set: 2

Total number of genes: 20834

Prediction LLR threshold: 0

The CLIME PDF output two sections:

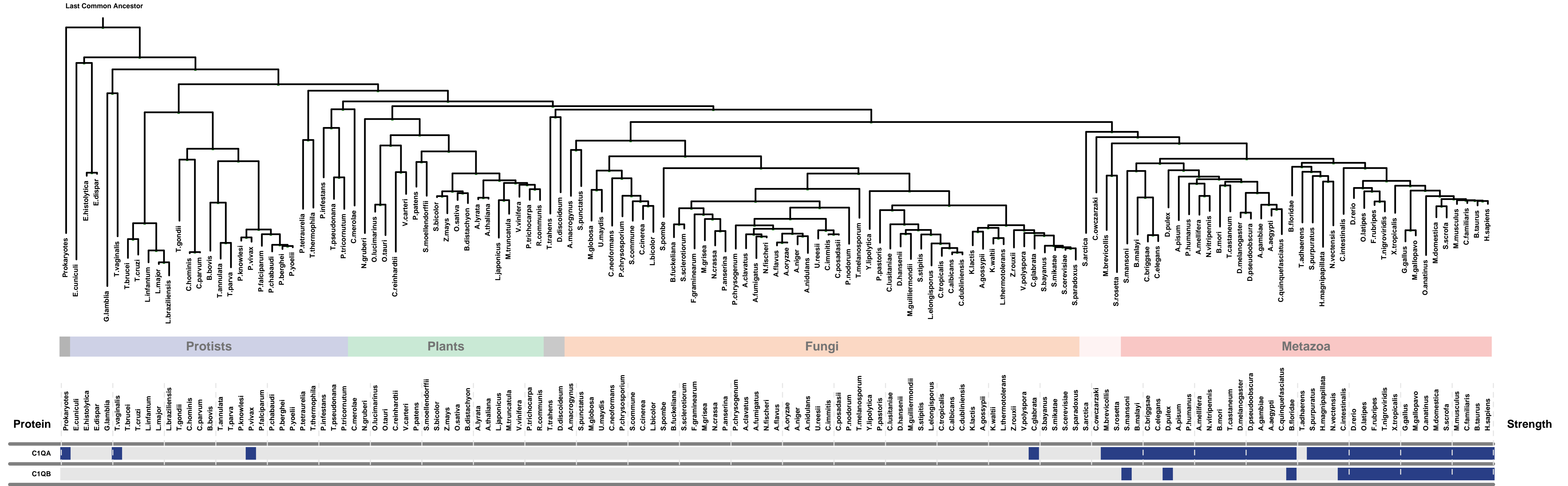
1) Overview of Evolutionarily Conserved Modules (ECMs)

- 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+

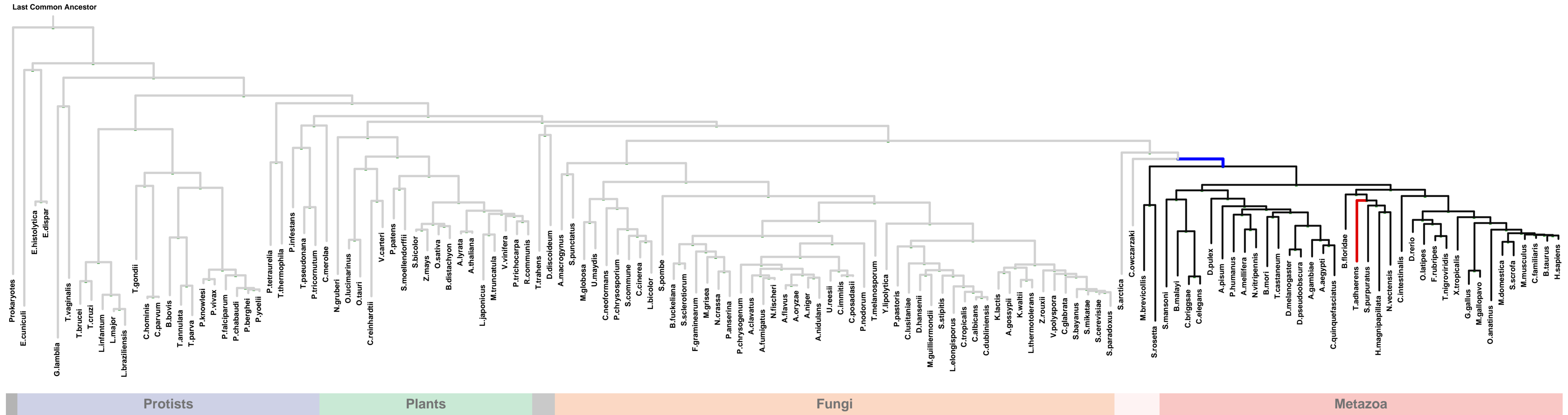
- Top panel shows the inferred evolutionary history on the predefined species tree. Branch color shows the gain event (blue) and loss events (red color, with brighter color indicating higher confidence in loss). Branches before the gain or after a loss are shown in gray.
- Bottom panel shows the input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



ECM 1, Gene set "complement component C1 complex", Page 1

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

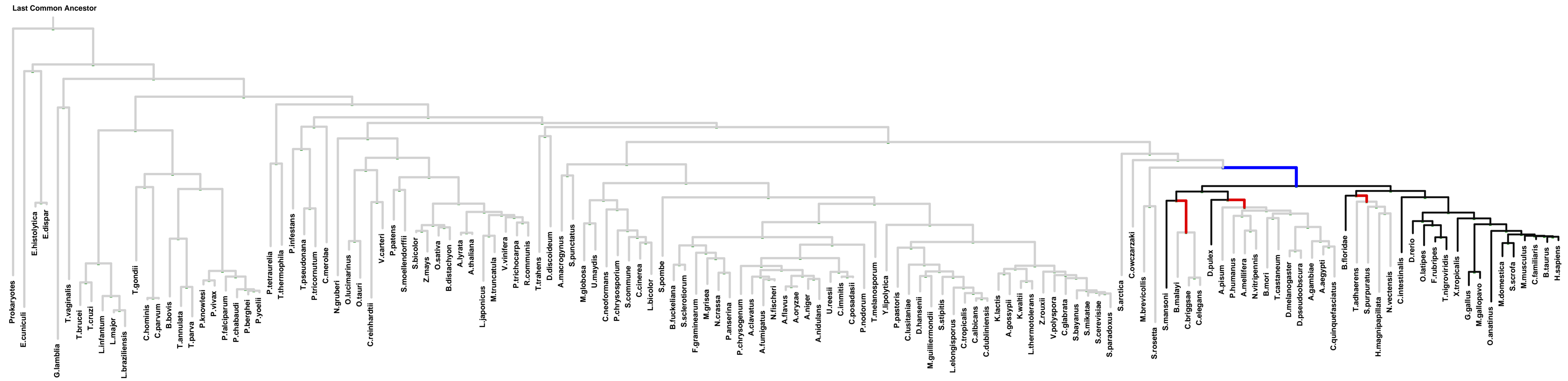


PG	Protein	LLR	Notes
	C1QA	3.7	1/2
	COL1A1	3.5	3/4/5
	TMEM39A	3.5	
A	TMEM39B	2.6	6/7
B	CHRNA2	2.6	6/7/8/9
B	CHRNA3	2.6	6/7/8
B	CHRNA4	2.6	6/7
B	CHRNA5	2.6	6/7/11
B	CHRNA7	2.6	6/7
B	CHRN1	2.6	6/7/11
B	CHRN3	2.6	6/7
B	CHRNA10	2.6	6/7
B	CHRFAM7A	2.6	7
B	CHRNA1	2.6	6/7/12
B	CHRNA10	2.6	7
C	FRS2	1.7	13/14
C	FRS3	1.7	
C	DOK1	1.7	
C	DOK2	1.7	

1: collagen || 2: complement component C1 complex || 3: collagen type I || 4: endoplasmic reticulum lumen || 5: extracellular matrix || 6: acetylcholine-gated channel complex || 7: postsynaptic membrane || 8: dendrite || 9: postsynaptic density || 10: external side of plasma membrane || 11: synapse || 12: neuromuscular junction || 13: endomembrane system || 14: endosome

ECM 2, Gene set "complement component C1 complex", Page 1

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

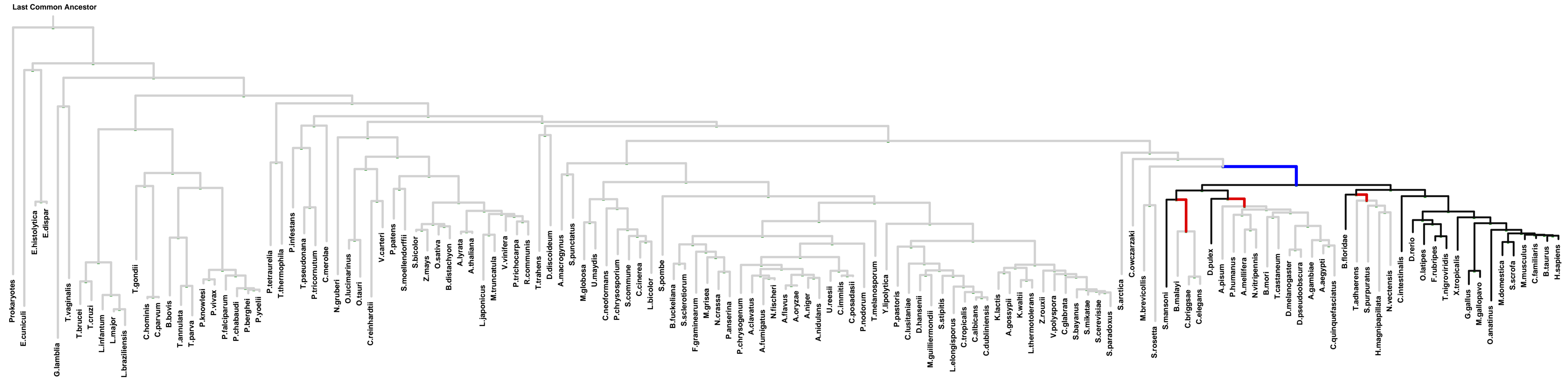


PG	Protein	LLR	Notes
A	C1QB		1/2
A	EMILIN1	19.7	1/3
A	MMRN2	19.7	4
A	TOR1AIP1	17.8	5
A	C1QL3	14.7	1
A	C1QL4	14.7	1
A	C1QTNF2	14.7	1
A	C1QTNF3	14.7	1
A	C1QTNF4	14.7	1
A	C1QTNF5	14.7	1
A	C1QTNF6	14.7	1
A	C1QTNF7	14.7	1
A	C1QTNF8	14.7	1
A	CBLN2	14.7	
A	CBLN3	14.7	6
A	CBLN4	14.7	6
A	COL10A1	14.7	1/7/8
A	COL8A1	14.7	3/4/8
A	COL8A2	14.7	1/3/4/8/9
A	C1QC	14.7	1
A	C1QL1	14.7	1
A	TEDDM1	14.7	
A	C1QL2	14.7	1
A	CBLN1	14.6	6
A	PLP2	10.3	
B	CDC42EP3	9.6	10/11
C	GP2	9.2	12
C	TECTB	9.2	9/12
B	CDC42EP1	8.3	10/11
D	TSHZ2	7.3	
A	TMEM248	6.3	
D	ZNF839	5.9	
D	TSHZ3	5.3	13
D	NOS1AP	5.1	
D	IGF1	5.1	14/15

1: collagen || 2: complement component C1 complex || 3: extracellular matrix || 4: basement membrane || 5: nuclear inner membrane || 6: synapse || 7: cell cortex || 8: endoplasmic reticulum lumen || 9: proteinaceous extracellular matrix || 10: actin cytoskeleton || 11: endomembrane system || 12: anchored to membrane || 13: growth cone || 14: insulin-like growth factor binding protein complex || 15: platelet alpha granule lumen

ECM 2, Gene set "complement component C1 complex", Page 2

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



Protists

Plants

Fungi

Metazoa

PG	Protein	Prokaryotes	Protists	Plants	Fungi	Metazoa	LLR	Notes
	ATP5J2P4						4.9	
	PANX2						4.8	1
	EPGN						4.3	
	PLP1						3.7	2
	GMNN						3.3	
	SMIM15						3.3	
	FOSL1						2.7	3
	TNNT3						2.3	4
	CPLX1						2.2	5 / 6 / 7
	BAMBI						1.9	
	TMEM211						1.6	
	TNNT1						1.5	4
E	EMILIN2						1.3	8
A	LYPD6						1.2	
F	LYPD6B						1.2	9
	SMDT1						0.8	
G	TNFSF12-TNFSF13						0.7	
G	TNFSF13						0.7	10
	TBC1D29						0.6	
D	TSHZ1						0.4	
	CBY1						0.3	11 / 12 / 13
	IL17D						0.2	
	TJAP1						0.0	14

1: gap junction || 2: compact myelin || 3: presynaptic membrane || 4: troponin complex || 5: dendrite || 6: synapse || 7: synaptobrevin 2-SNAP-25-syntaxin-1a-complexin I complex || 8: collagen || 9: anchored to membrane || 10: external side of plasma membrane || 11: microtubule basal body || 12: nuclear speck || 13: trans-Golgi network || 14: tight junction