

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:

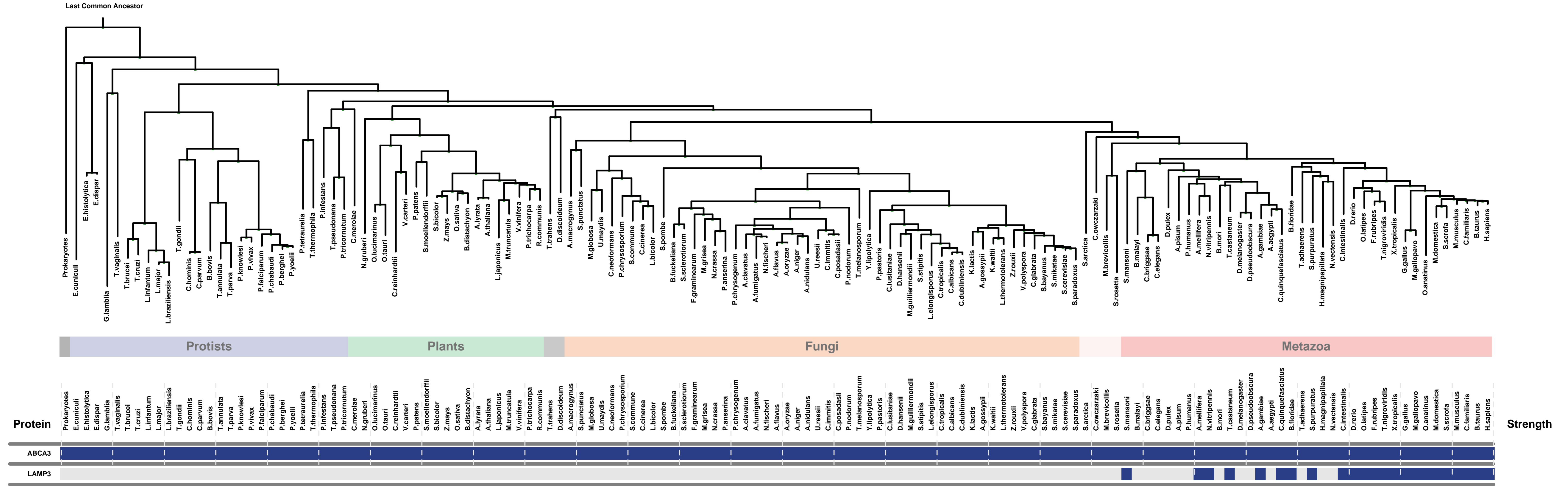
1) Overview of Evolutionarily Conserved Modules (ECMs)

- 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+

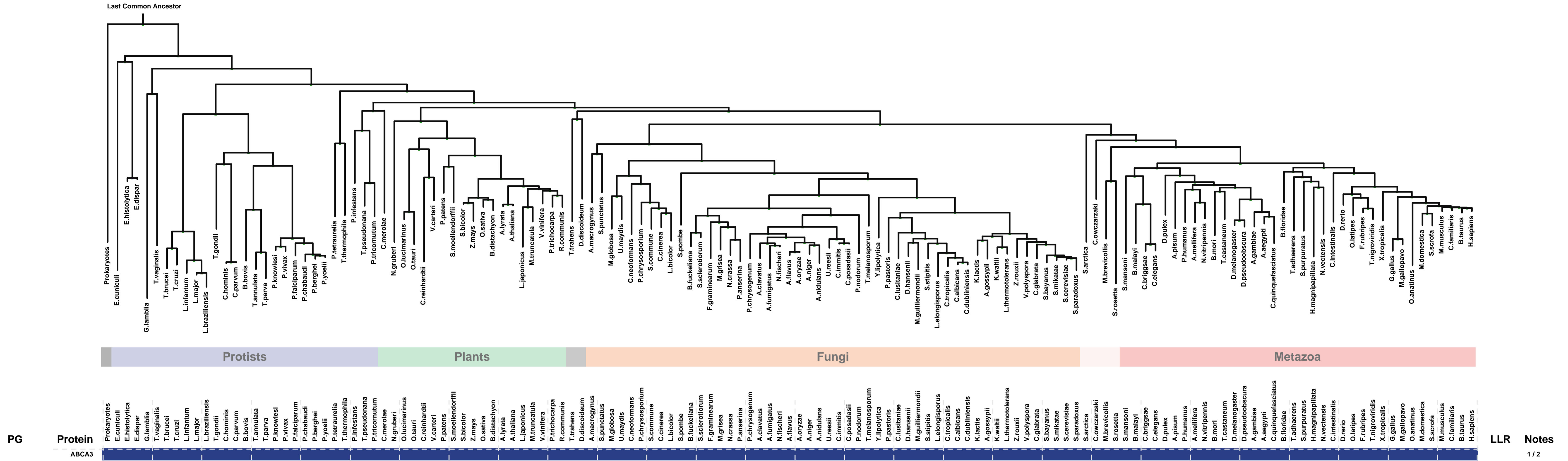
- Top panel shows the inferred evolutionary history on the predefined species tree. Branch color shows the gain event (blue) and loss events (red color, with brighter color indicating higher confidence in loss). Branches before the gain or after a loss are shown in gray.
- Bottom panel shows the input 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 "alveolar lamellar body membrane", Page 1

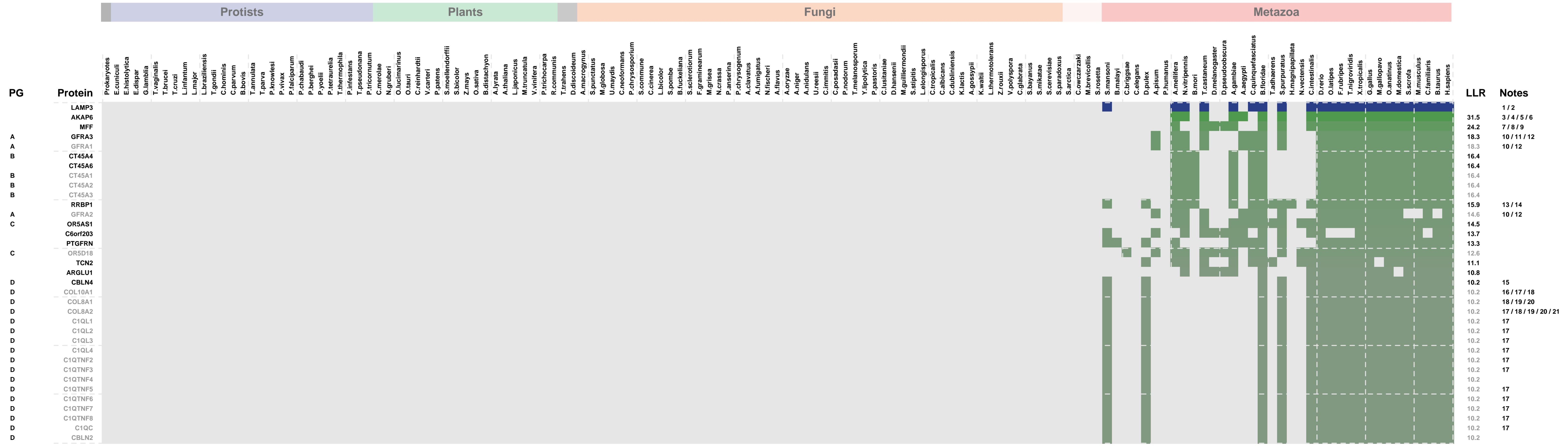
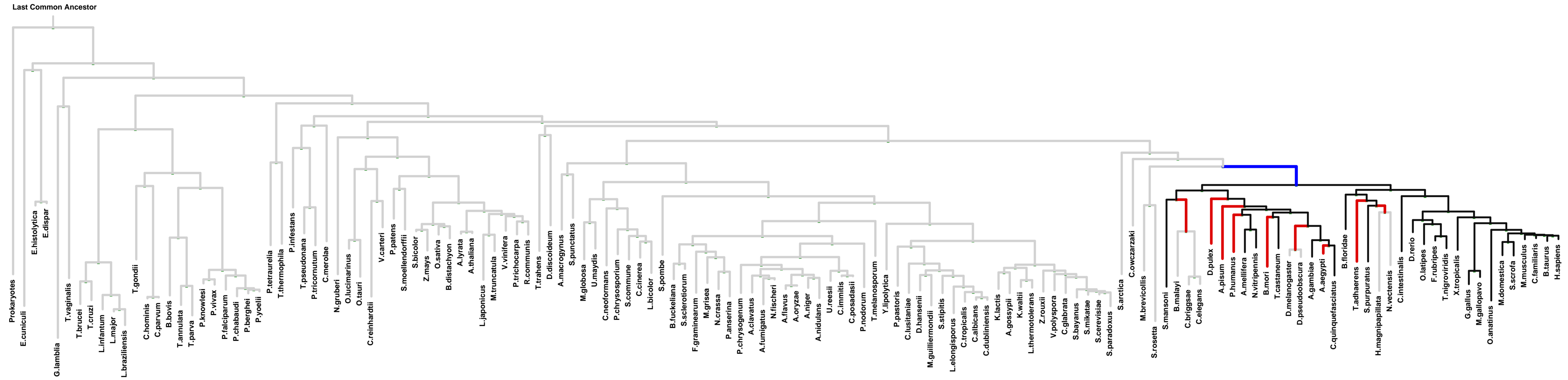
Num of ECM Genes: 1. Num of Predicted Genes: 0



1: alveolar lamellar body || 2: alveolar lamellar body membrane

ECM 2, Gene set "alveolar lamellar body membrane", Page 1

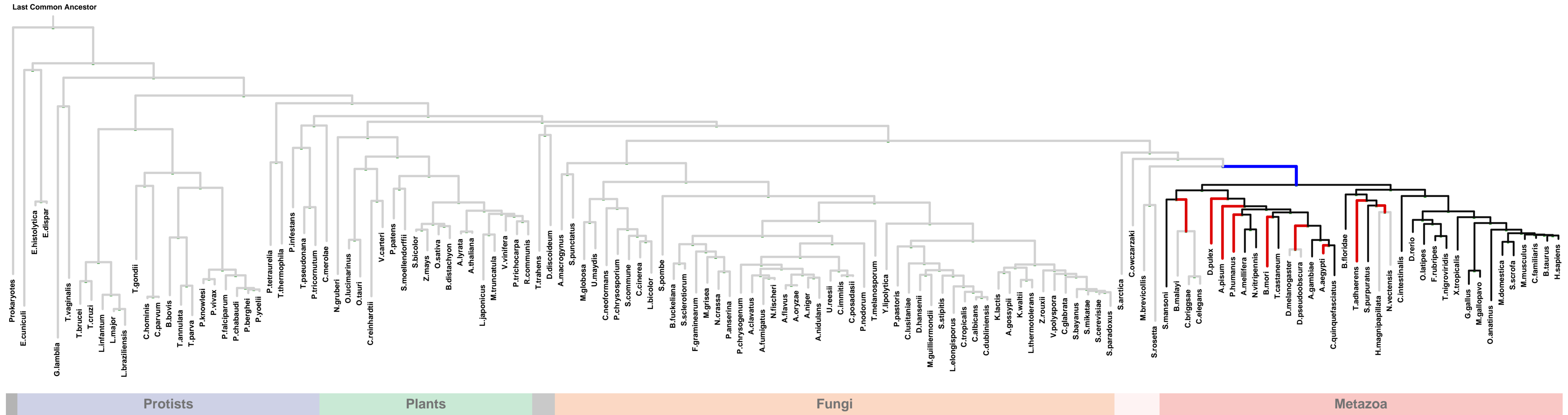
Num of ECM Genes: 1. Num of Predicted Genes: 87



1: alveolar lamellar body membrane || 2: lysosomal membrane || 3: calcium channel complex || 4: nuclear envelope || 5: nuclear outer membrane || 6: sarcoplasmic reticulum || 7: integral to mitochondrial membrane || 8: mitochondrial outer membrane || 9: peroxisome || 10: anchored to membrane || 11: external side of plasma membrane || 12: extrinsic to membrane || 13: integral to endoplasmic reticulum membrane || 14: ribosome || 15: synapse || 16: cell cortex || 17: collagen || 18: endoplasmic reticulum lumen || 19: basement membrane || 20: extracellular matrix || 21: proteinaceous extracellular matrix

ECM 2, Gene set "alveolar lamellar body membrane", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 87

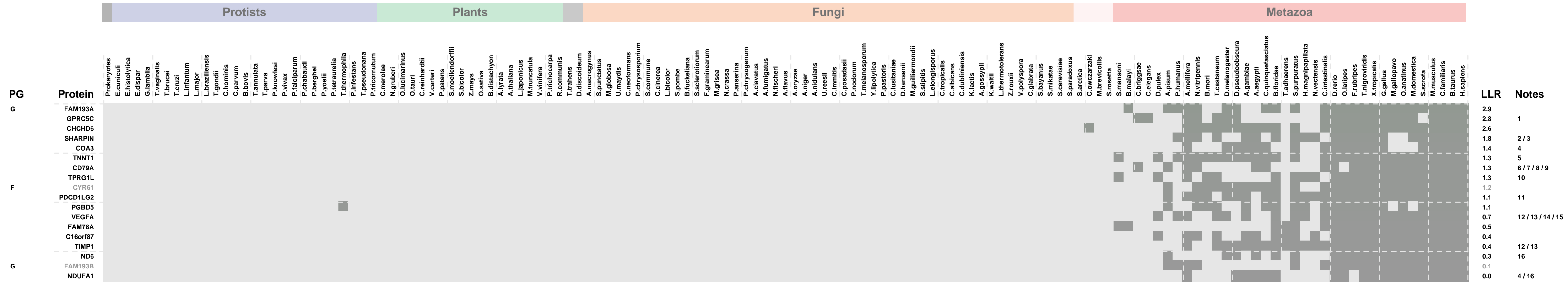
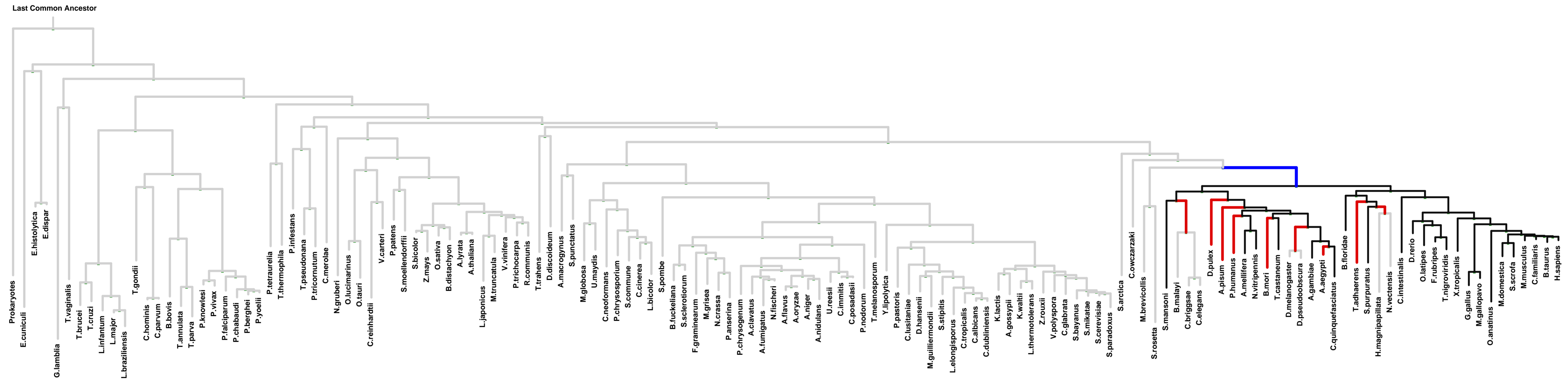


PG	Protein	Protists	Plants	Fungi	Metazoa	LLR	Notes
D	CBLN3					10.2	1
D	TEDDM1					10.2	
D	CBLN1					10.1	1
C	OR51H					9.5	
C	PLP1					9.1	2
C	CBY1					9.0	3/4/5
E	TMEM150C					9.0	
E	COBLL1					8.9	
E	COBL					8.9	6/7/8/9/10/11/12
C	OR52D1					8.8	
C	MYF6					8.7	
C	ARL14EP					7.0	
C	CD200R1L					6.6	
B	CT45A5					6.6	
B	CD80					6.1	13
B	PCP2					6.0	
B	SPATA18					5.8	14
B	ZNF839					5.8	
B	MYRIP					5.8	1/15/16/17/18/19/20
B	COX16					5.7	21
B	MRP63					5.6	22
B	PLP2					5.6	
B	SLC7A6OS					5.3	
B	LOC646644					4.9	
B	MYEOV2					4.7	
B	BAK1					4.6	14/23/24
B	NCR3LG1					4.4	25
B	EBI3					4.2	
B	MEA1					4.0	
F	WISP2					3.8	
F	ANAPC15					3.3	26
C	OR11L1					3.1	
C	OR5AR1					3.0	
C	HDAC9					3.0	27/28
C	GOLIM4					3.0	29/30/31/32/33

1: synapse || 2: compact myelin || 3: microtubule basal body || 4: nuclear speck || 5: trans-Golgi network || 6: actin filament || 7: axon || 8: axonal growth cone || 9: cell cortex || 10: dendrite || 11: dendritic growth cone || 12: ruffle || 13: external side of plasma membrane || 14: mitochondrial outer membrane || 15: actin cytoskeleton || 16: dense core granule || 17: exocyst || 18: melanosome || 19: photoreceptor outer segment || 20: transport vesicle || 21: mitochondrial membrane || 22: mitochondrial ribosome || 23: integral to mitochondrial outer membrane || 24: pore complex || 25: viral capsid || 26: anaphase-promoting complex || 27: histone deacetylase complex || 28: histone methyltransferase complex ||

ECM 2, Gene set "alveolar lamellar body membrane", Page 3

Num of ECM Genes: 1. Num of Predicted Genes: 87



1: cytoplasmic vesicle membrane || 2: LUBAC complex || 3: postsynaptic density || 4: mitochondrial membrane || 5: troponin complex || 6: B cell receptor complex || 7: external side of plasma membrane || 8: membrane raft || 9: multivesicular body || 10: synaptic vesicle || 11: endomembrane system || 12: basement membrane || 13: platelet alpha granule lumen || 14: proteinaceous extracellular matrix || 15: secretory granule || 16: mitochondrial respiratory chain complex I