

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

## Dataset:

Num of genes in input gene set: 6

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.



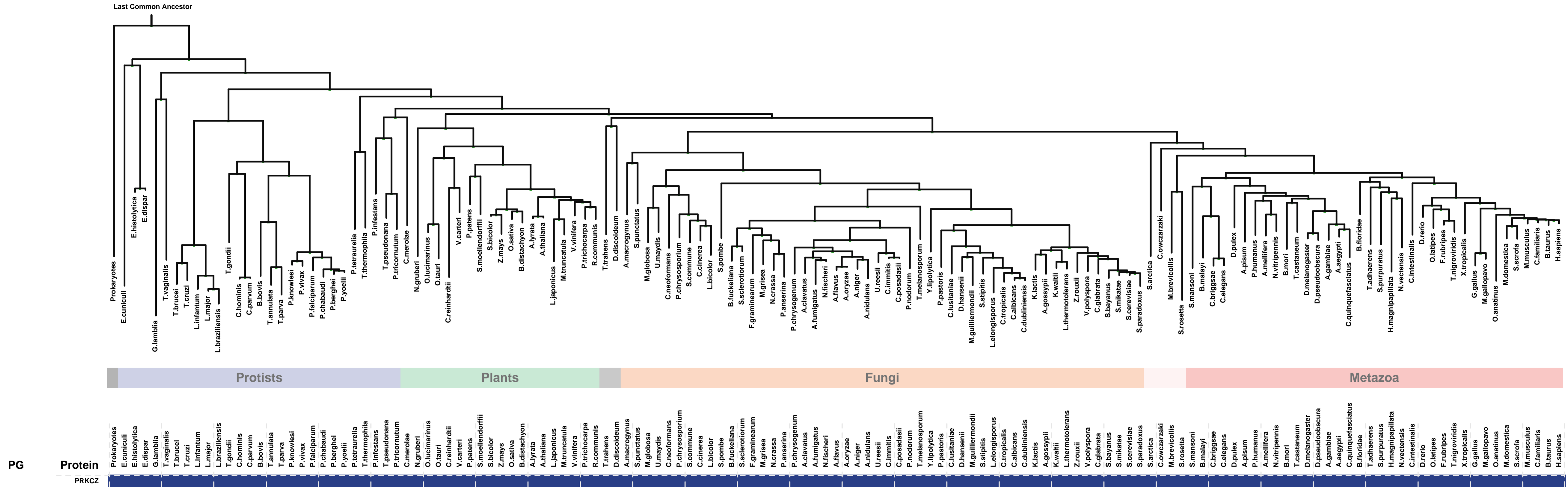
ECM 1, Gene set "myelin sheath abaxonal region", Page 1

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

PRESENCE ——— ABSENCE ———  
GAIN ——— LOSS ———

Log-likelihood Ratio Scale

0 10 20 30 40 50 60

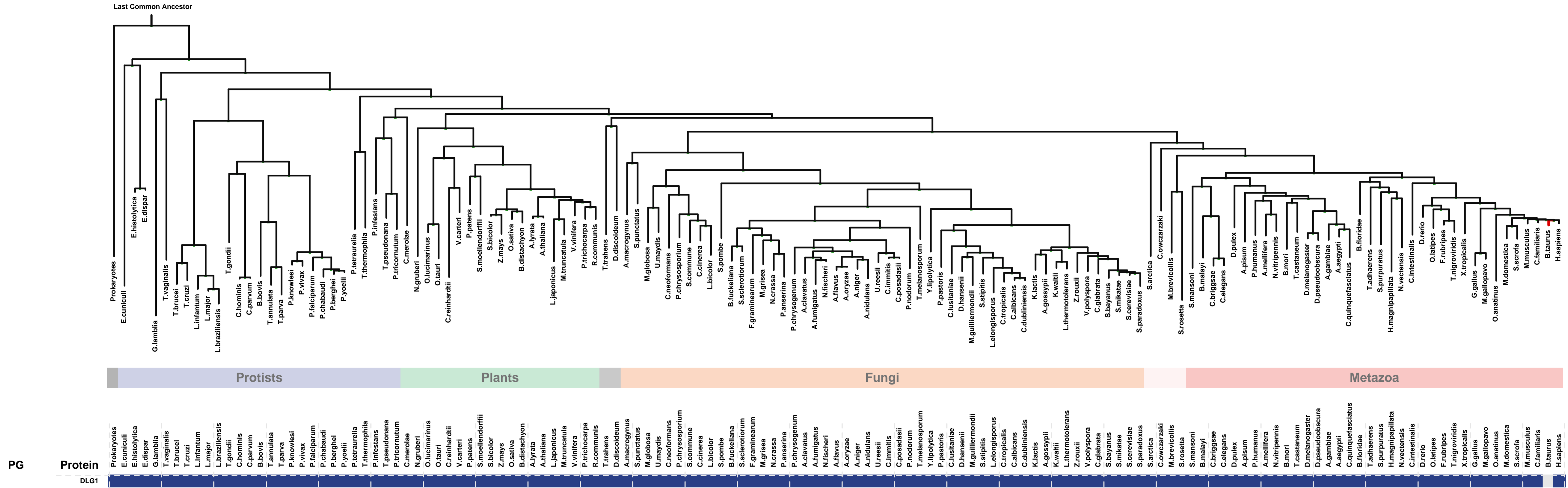


LLR Notes

1/2/3/4/5/6/7

ECM 2, Gene set "myelin sheath abaxonal region", Page 1

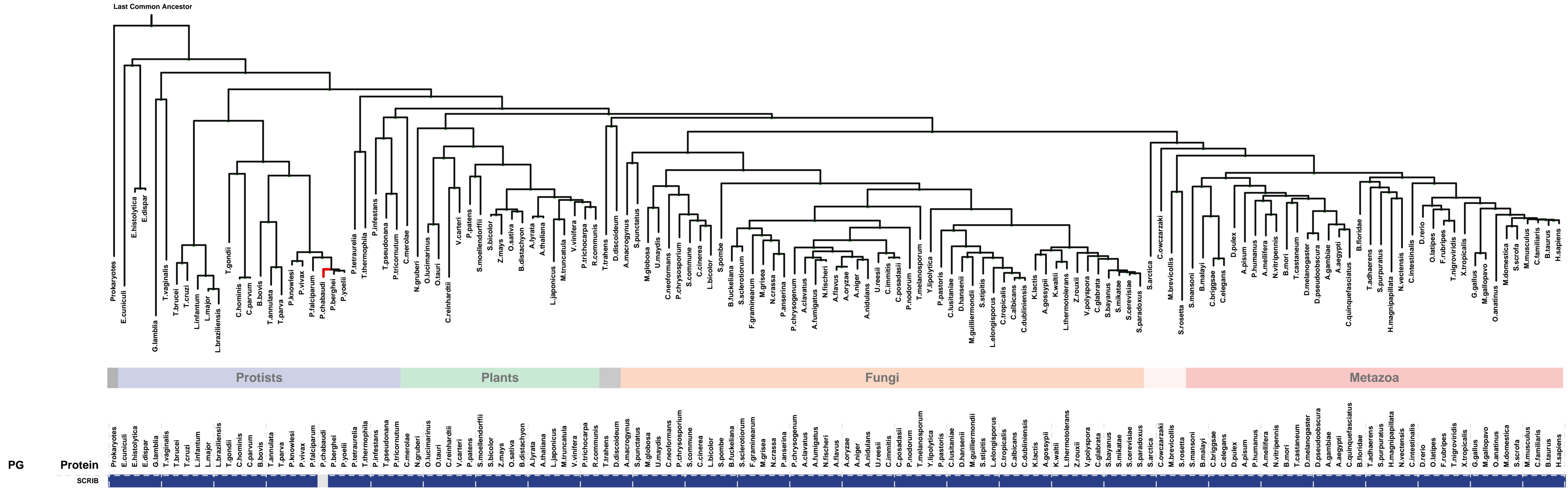
Num of ECM Genes: 1. Num of Predicted Genes: 0



1: basolateral plasma membrane || 2: cell projection membrane || 3: cell-cell junction || 4: immunological synapse || 5: internal side of plasma membrane || 6: lateral loop || 7: lateral plasma membrane || 8: membrane raft || 9: MPP7-DLG1-LIN7 complex || 10: myelin sheath abaxonal region || 11: neuromuscular junction || 12: node of Ranvier || 13: postsynaptic density || 14: postsynaptic membrane || 15: sarcolemma || 16: tight junction

ECM 3, Gene set "myelin sheath abaxonal region", Page 1

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

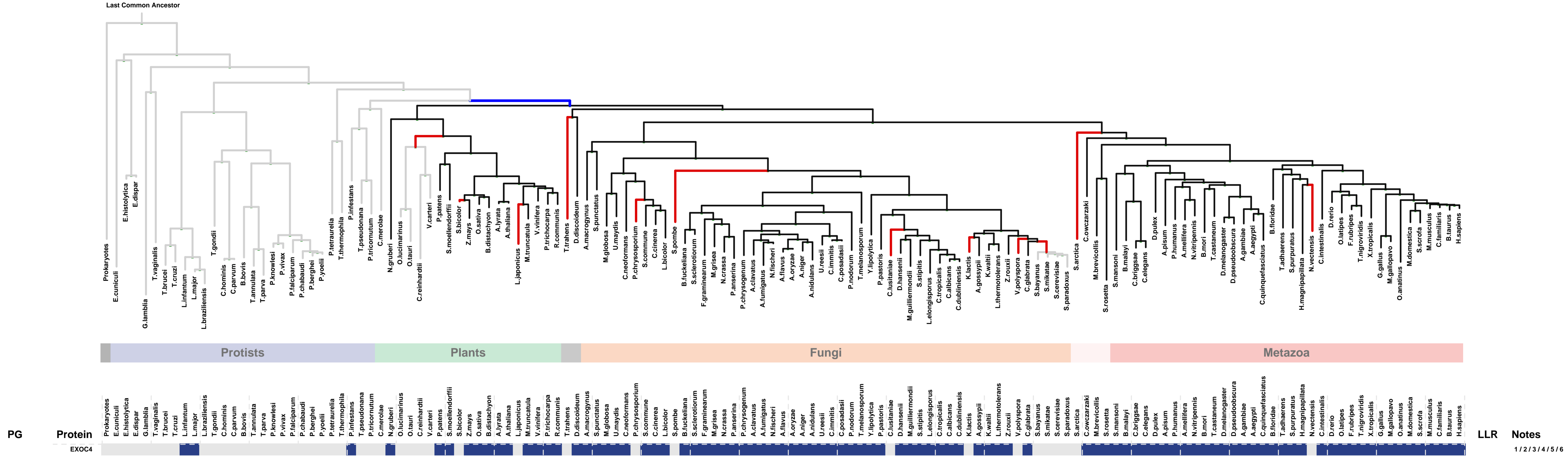


1: basolateral plasma membrane || 2: cell leading edge || 3: cell-cell adherens junction || 4: cell-cell junction || 5: myelin sheath abaxonal region || 6: postsynaptic membrane || 7: presynaptic membrane || 8: Scrib-APC-beta-catenin complex



ECM 4, Gene set "myelin sheath abaxonal region", Page 1

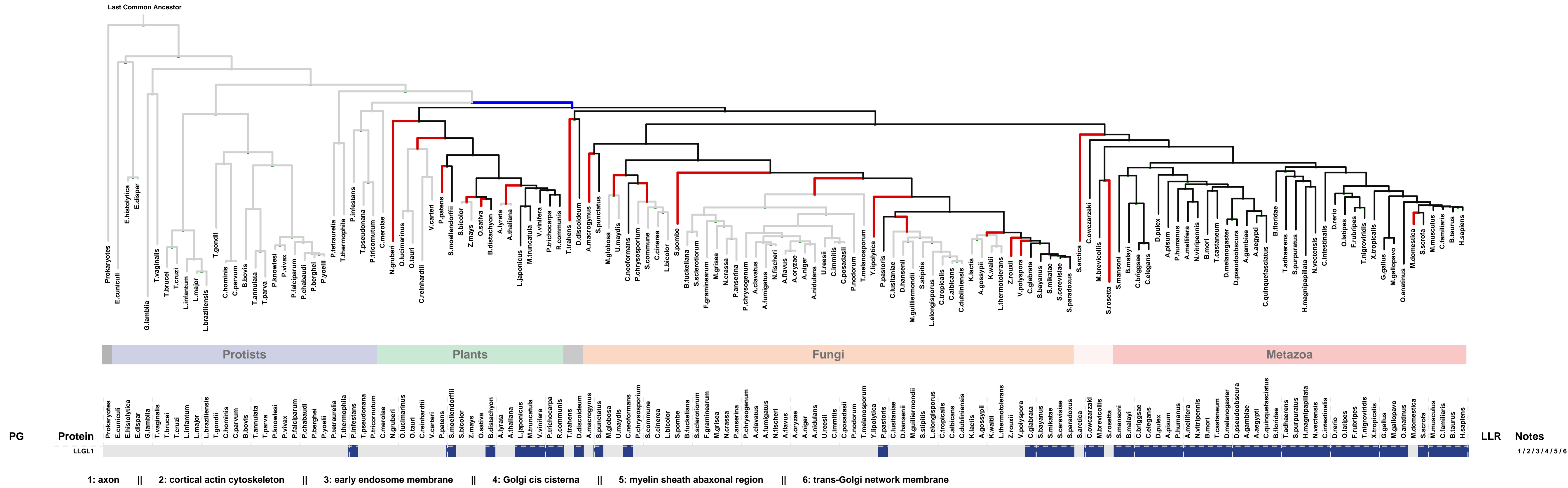
Num of ECM Genes: 1. Num of Predicted Genes: 0



1: dendritic shaft || 2: endosome || 3: exocyst || 4: growth cone membrane || 5: myelin sheath abaxonal region || 6: postsynaptic density

# ECM 5, Gene set "myelin sheath abaxonal region", Page 1

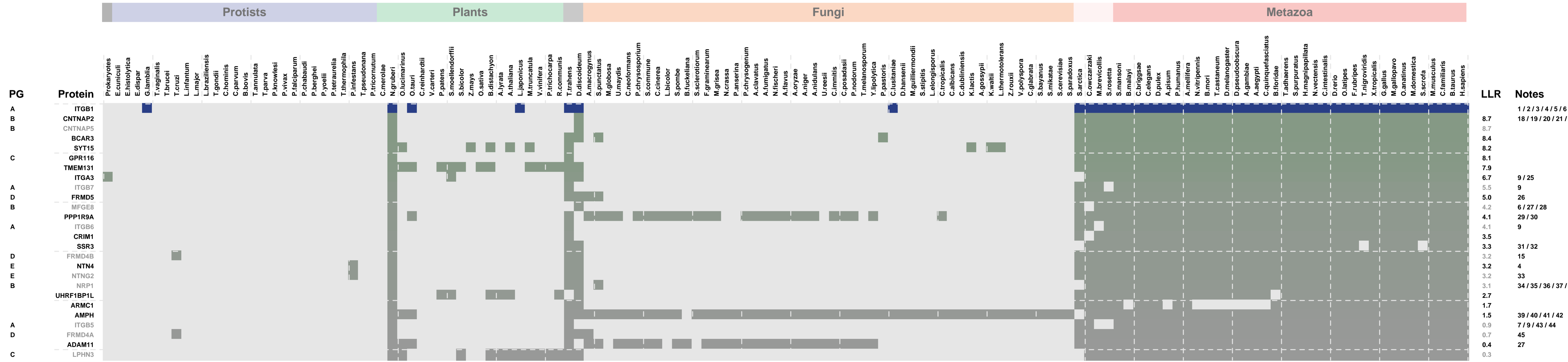
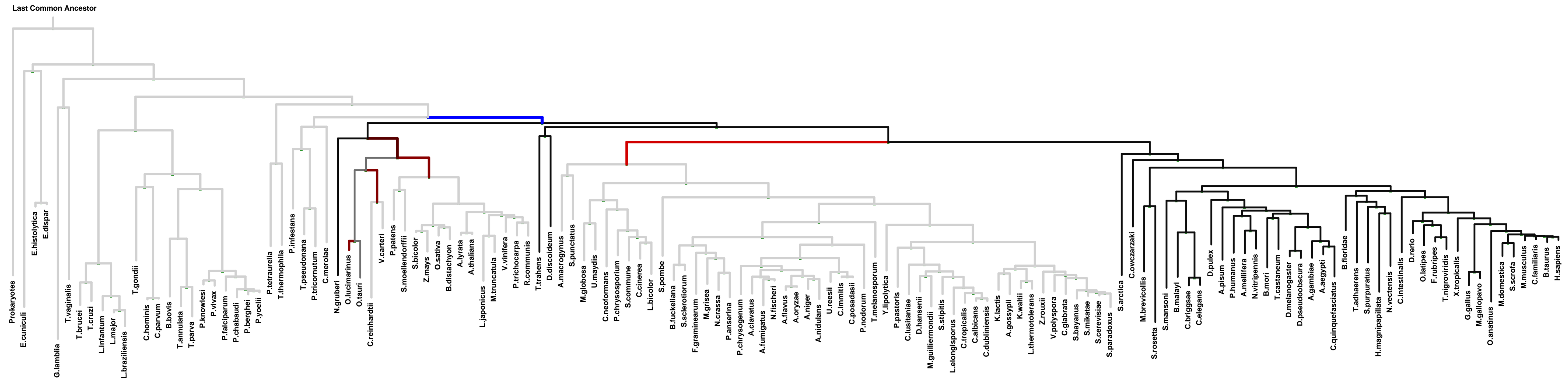
Num of ECM Genes: 1. Num of Predicted Genes: 0



LLR Notes  
1/2/3/4/5/6

# ECM 6, Gene set "myelin sheath abaxonal region", Page 1

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



1: acrosomal vesicle || 2: alpha8-beta1 integrin complex || 3: alpha9-beta1 integrin complex || 4: basement membrane || 5: cleavage furrow || 6: external side of plasma membrane || 7: focal adhesion || 8: hemidesmosome || 9: integrin complex || 10: intercalated disc || 11: melanosome || 12: membrane raft || 13: myelin sheath abaxonal region || 14: neuromuscular junction || 15: ruffle || 16: ruffle membrane || 17: sarcolemma || 18: axolemma || 19: axon || 20: dendrite || 21: early endosome || 22: juxtaparanode region of axon || 23: perikaryon || 24: voltage-gated potassium channel complex || 25: basolateral plasma membrane || 26: extrinsic to membrane || 27: extracellular matrix || 28: extrinsic to plasma membrane || 29: neuron projection || 30: synapse || 31: integral to endoplasmic reticulum membrane || 32: Sec61 translocon complex || 33: anchored to plasma membrane || 34: cytoplasmic vesicle || 35: growth cone || 36: neurofilament || 37: receptor complex || 38: semaphorin receptor complex || 39: actin cytoskeleton || 40: axon terminus || 41: synaptic vesicle || 42: synaptic vesicle membrane || 43: cell leading edge || 44: phagocytic vesicle || 45: tight junction