

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:

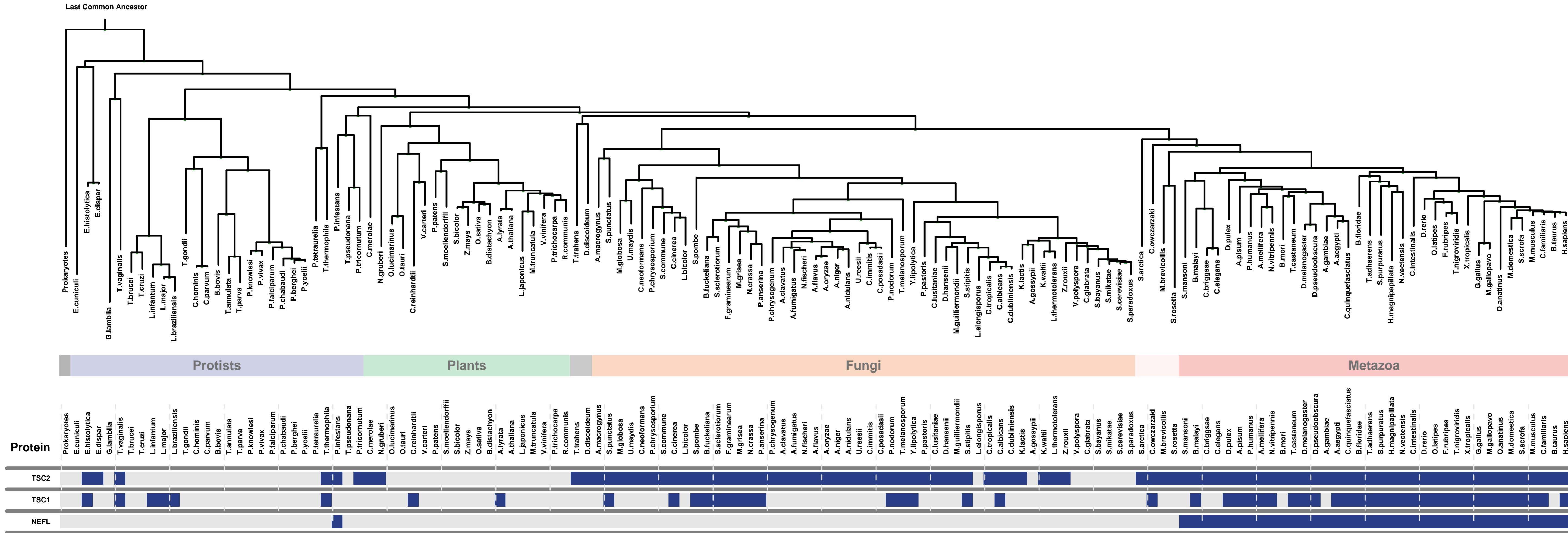
1) Overview of Evolutionarily Conserved Modules (ECMs)

- 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+

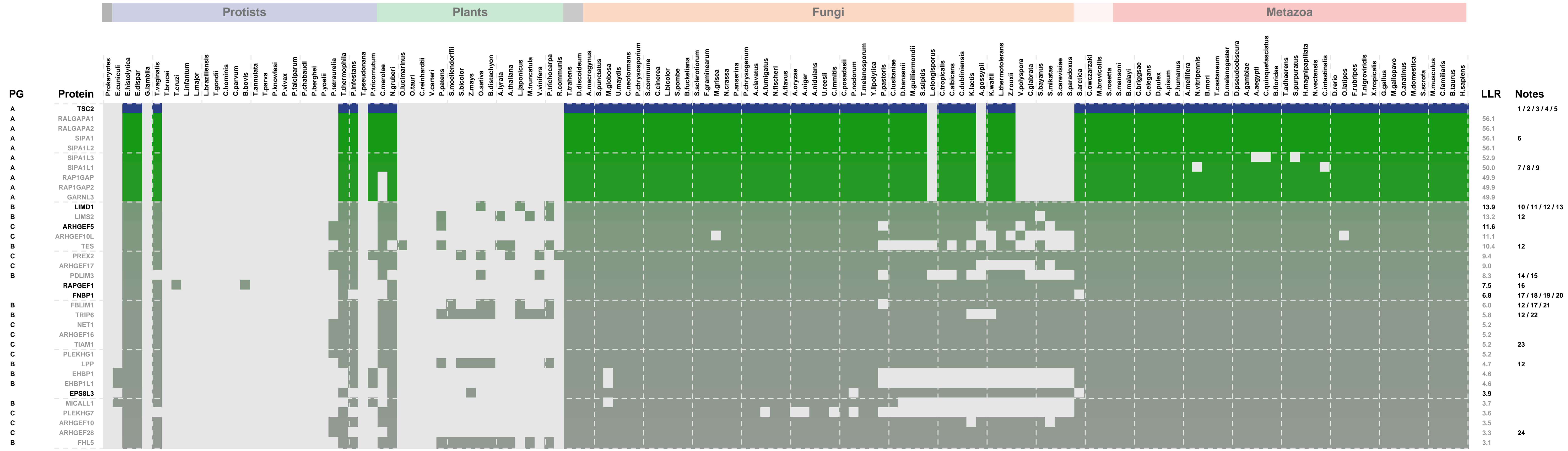
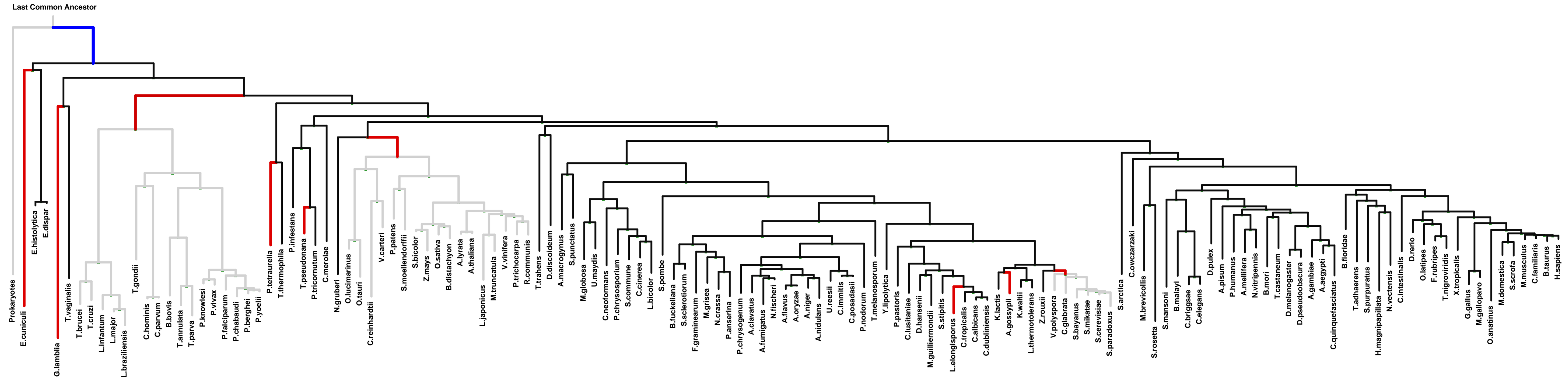
- Top panel shows the inferred evolutionary history on the predefined species tree. Branch color shows the gain event (blue) and loss events (red color, with brighter color indicating higher confidence in loss). Branches before the gain or after a loss are shown in gray.
- Bottom panel shows the input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

Overview of Evolutionarily Conserved Modules (ECMs)



ECM 1, Gene set "TSC1-TSC2 complex", Page 1

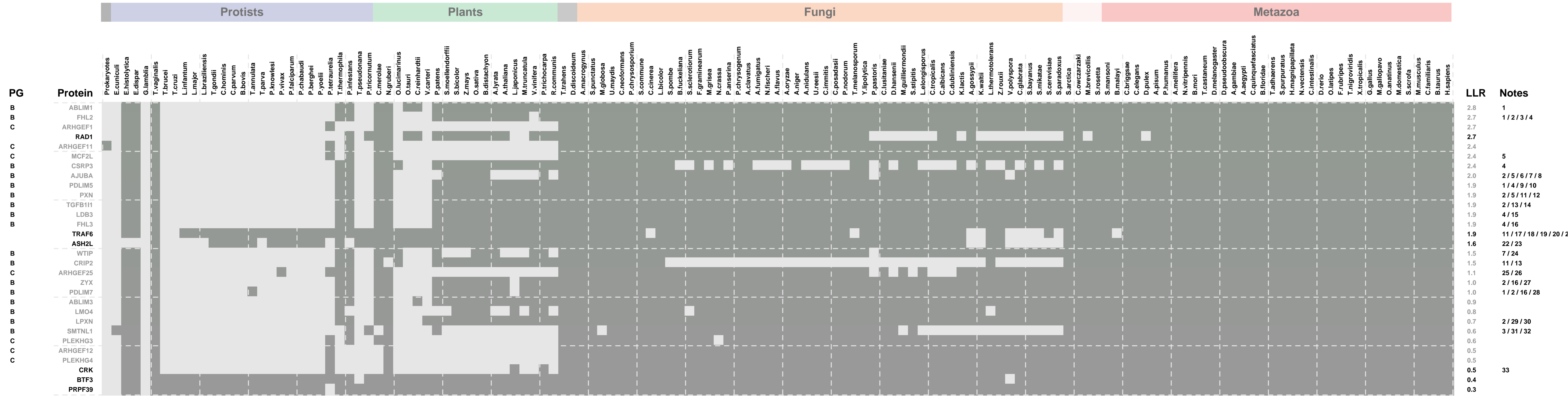
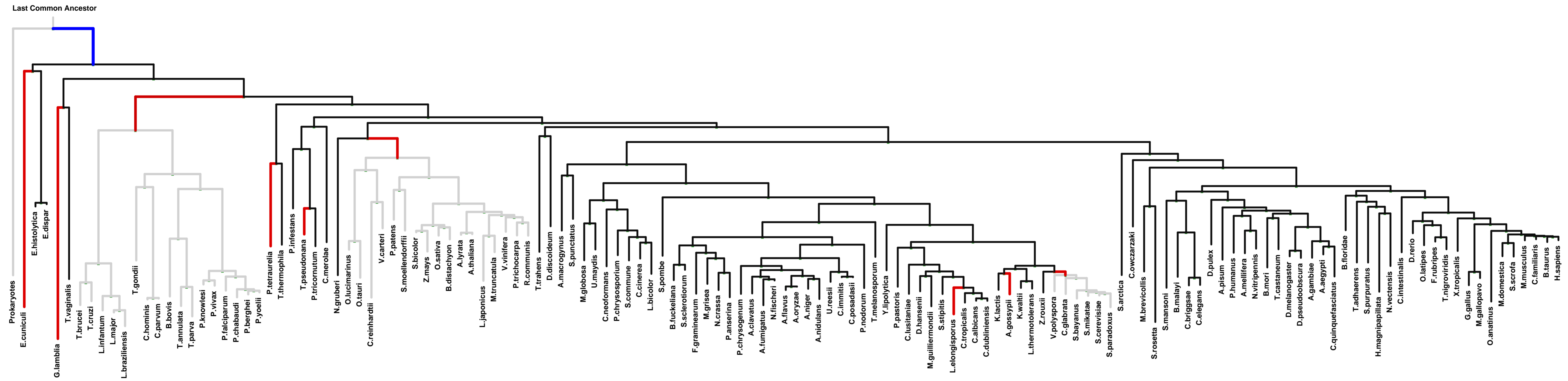
Num of ECM Genes: 1. Num of Predicted Genes: 64



1: caveola || 2: cytoskeletal part || 3: dendrite || 4: growth cone || 5: TSC1-TSC2 complex || 6: endomembrane system || 7: dendritic spine || 8: postsynaptic density || 9: postsynaptic membrane || 10: adherens junction || 11: cytoplasmic mRNA processing body || 12: focal adhesion || 13: RNA-induced silencing complex || 14: actin cytoskeleton || 15: Z disc || 16: endosome || 17: cell cortex || 18: coated pit || 19: cytoplasmic membrane-bounded vesicle || 20: lysosome || 21: stress fiber || 22: interleukin-1 receptor complex || 23: cell-cell junction || 24: microtubule cytoskeleton

ECM 1, Gene set "TSC1-TSC2 complex", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 64



- 1: actin cytoskeleton || 2: focal adhesion || 3: M band || 4: Z disc || 5: lamellipodium || 6: cell-cell junction || 7: cytoplasmic mRNA processing body || 8: microtubule organizing center || 9: postsynaptic density || 10: postsynaptic membrane ||
- 11: cell cortex || 12: microtubule associated complex || 13: extracellular matrix || 14: nuclear matrix || 15: pseudopodium || 16: stress fiber || 17: CD40 receptor complex || 18: endosome membrane || 19: internal side of plasma membrane ||
- 20: lipid particle || 21: nuclear membrane || 22: histone methyltransferase complex || 23: Set1C/COMPASS complex || 24: adherens junction || 25: myofibril || 26: sarcomere || 27: cell-cell adherens junction || 28: ruffle ||
- 29: cell projection || 30: podosome || 31: contractile fiber || 32: I band || 33: endosome

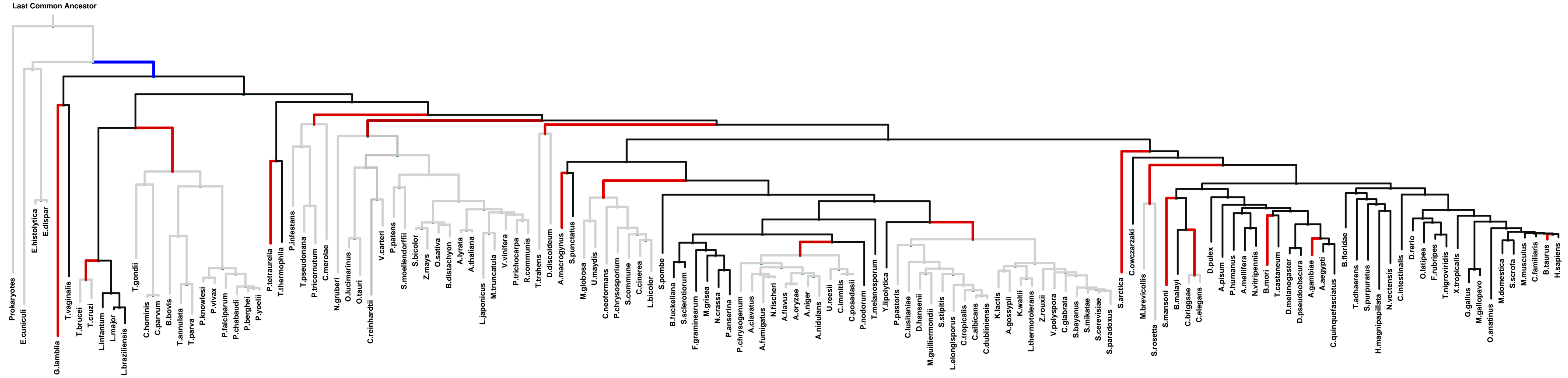
ECM 2, Gene set "TSC1-TSC2 complex", Page 1

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

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

Log-likelihood Ratio Scale

0 10 20 30 40 50 60



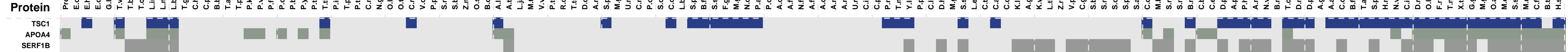
Protists

Plants

Fungi

Metazoa

PG



LLR Notes
5.6 1/2/3/4/5
1.1 6/7/8/9

1: actin filament || 2: cell cortex || 3: growth cone || 4: lamellipodium || 5: TSC1-TSC2 complex || 6: chylomicron || 7: endoplasmic reticulum lumen || 8: high-density lipoprotein particle || 9: very-low-density lipoprotein particle

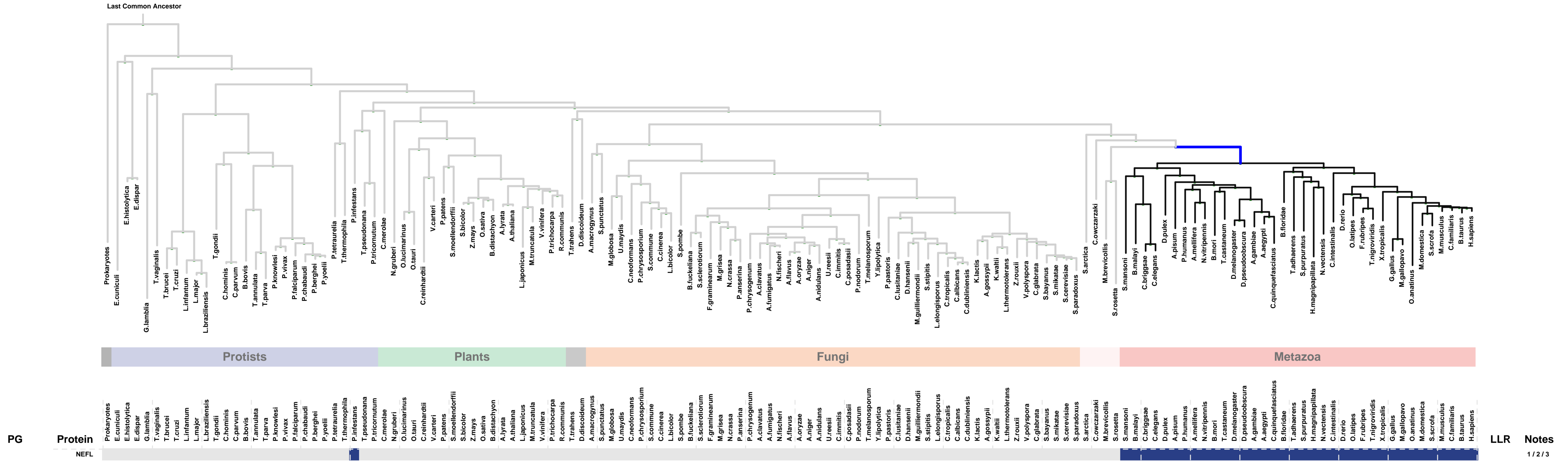
ECM 3, Gene set "TSC1-TSC2 complex", Page 1

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

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

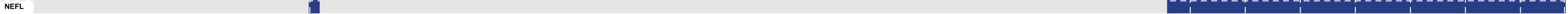
Log-likelihood Ratio Scale

0 10 20 30 40 50 60



PG

Protein



1: axon || 2: neurofilament || 3: TSC1-TSC2 complex

LLR Notes