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

Dataset:

Num of genes in input gene set: 4
Total number of genes: 20834
Prediction LLR threshold: 0

The CLIME PDF output two sections:

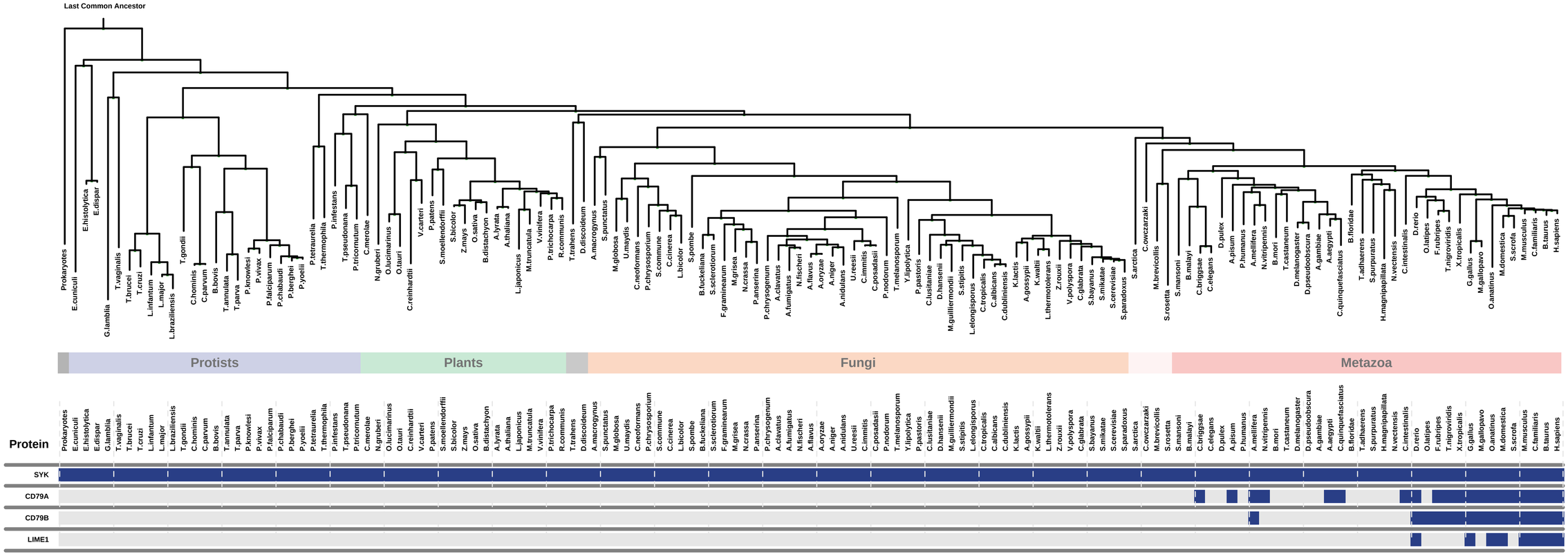
1) Overview of Evolutionarily Conserved Modules (ECMs)

- 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+

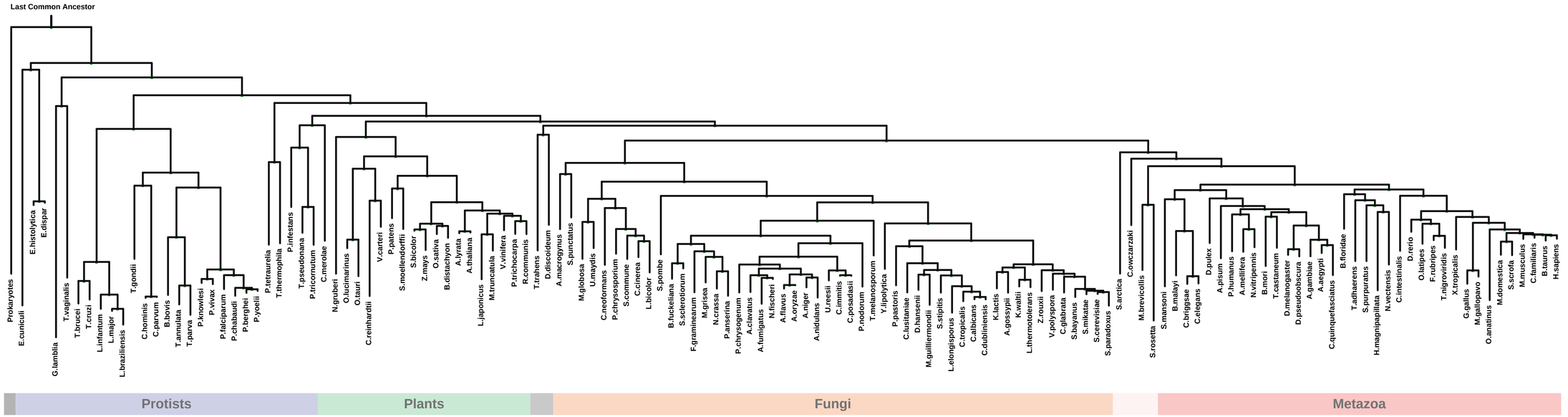
- Top panel shows the inferred evolutionary history on the predefined species tree. Branch color shows the gain event (blue) and loss events (red color, with brighter color indicating higher confidence in loss). Branches before the gain or after a loss are shown in gray.
- Bottom panel shows the input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

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

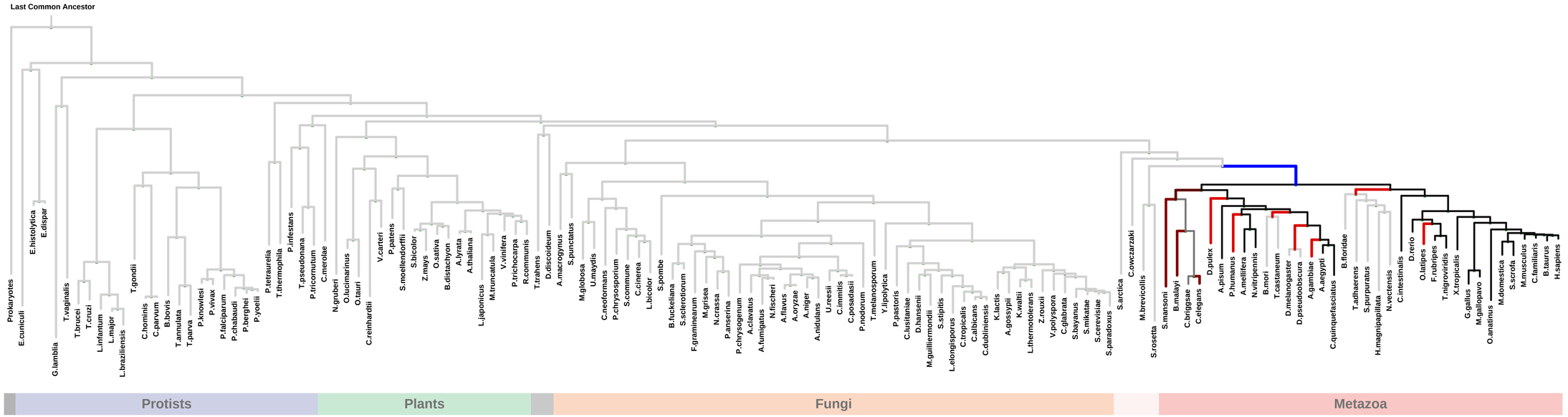


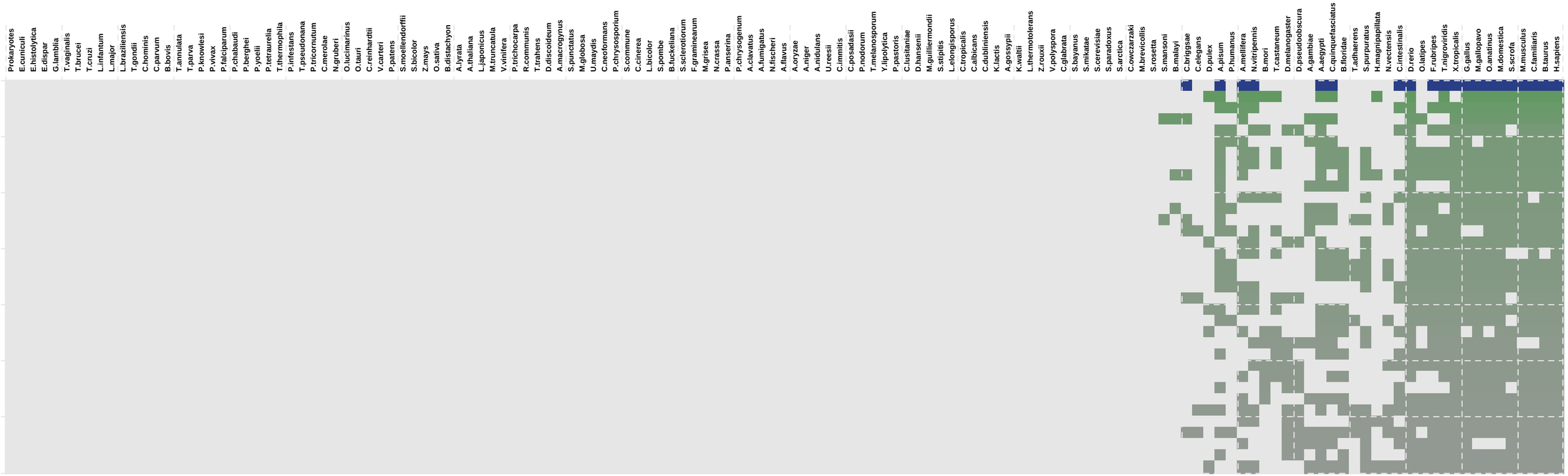
PG	Protein	LLR	Notes
	SYK		1 / 2 / 3

1: B cell receptor complex || 2: early phagosome || 3: T cell receptor complex

ECM 2, Gene set "B cell receptor complex", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 61



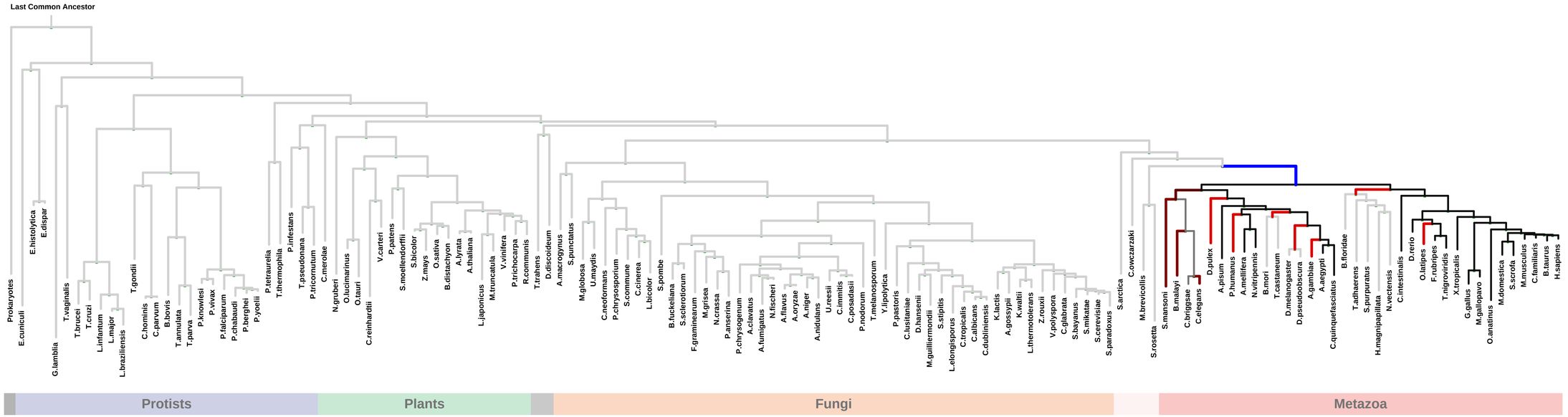


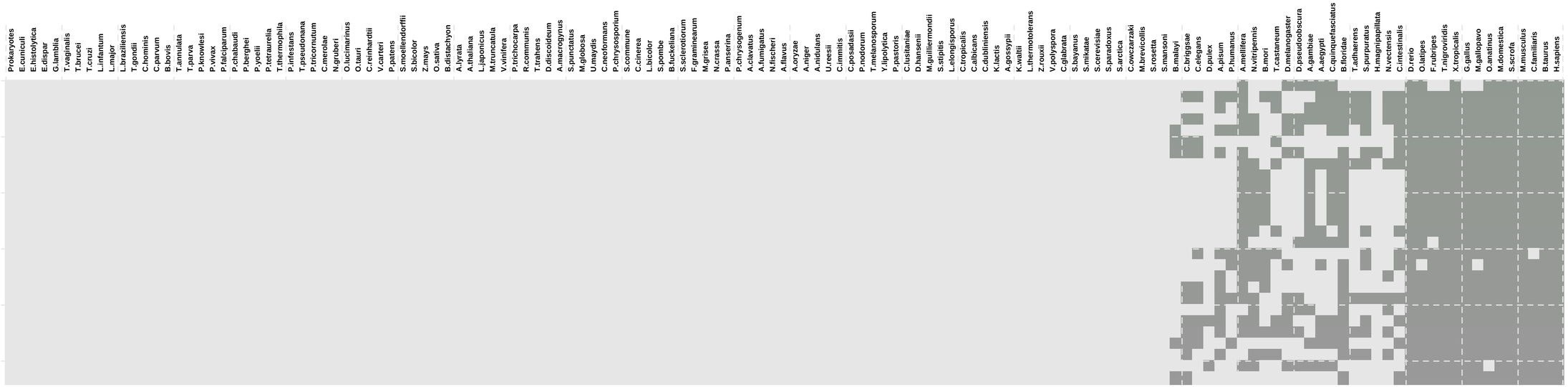
PG	Protein	LLR	Notes
	CD79A		1 / 2 / 3 / 4
	UQCR11	23.3	5
	MLLT4	20.3	6 / 7 / 8
	CD200R1L	18.5	
	SUSD3	14.2	
	PKIB	13.6	
A	GFRA1	13.2	9 / 10
A	GFRA3	13.2	2 / 9 / 10
	C1orf106	12.9	
	TICAM2	12.0	11
B	LOC646644	11.2	
	LILRA3	11.0	
	FCGR3A	10.5	2
	IGSF23	10.1	
	HAVCR2	10.1	
A	GFRA2	9.4	9 / 10
C	OR6B2	8.9	
C	OR6B3	8.9	
D	FAM193B	8.4	
	GPRC5C	7.6	12
	ATF4	7.5	13
	HSF2BP	6.7	
	ANAPC15	6.1	14
	NDUFB1	5.3	15
	WISP3	5.1	
	RILP	4.9	16 / 17 / 18 / 19 / 20
	CD164	4.8	11 / 18 / 19 / 21
	MSANTD3	4.8	
E	CT45A5	4.4	
	GPR151	4.2	
	INIP	3.4	22
	TMEM138	3.3	23 / 24
	COA3	3.1	25
	ND6	3.1	15
	ARL14EP	3.0	

1: B cell receptor complex || 2: external side of plasma membrane || 3: membrane raft || 4: multivesicular body || 5: respiratory chain || 6: apical part of cell || 7: cell-cell adherens junction || 8: cell-cell junction || 9: anchored to membrane ||
10: extrinsic to membrane || 11: endosome membrane || 12: cytoplasmic vesicle membrane || 13: microtubule organizing center || 14: anaphase-promoting complex || 15: mitochondrial respiratory chain complex I || 16: late endosome ||
17: late endosome membrane || 18: lysosomal membrane || 19: lysosome || 20: phagocytic vesicle membrane || 21: endosome || 22: SOSS complex || 23: cilium || 24: vacuolar membrane || 25: mitochondrial membrane

ECM 2, Gene set "B cell receptor complex", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 61



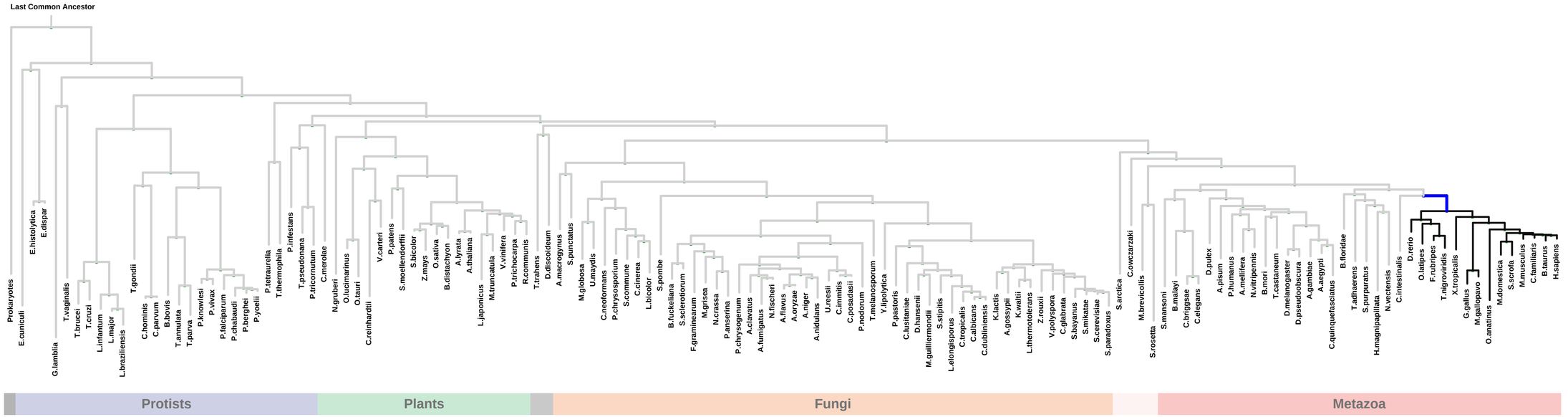


PG	Protein	LLR	Notes
	ARL6IP6	2.9	
C	OR6N2	2.8	
	GOLIM4	2.7	1 / 2 / 3 / 4 / 5
C	OR51B6	2.4	
D	FAM193A	2.4	
	ATP6V1G2	2.4	6 / 7
	FGF19	2.0	
C	OR5AS1	2.0	
E	CT45A2	2.0	
E	CT45A3	2.0	
E	CT45A4	2.0	
E	CT45A1	2.0	
	CT45A6	2.0	
	AKAP6	1.9	8 / 9 / 10 / 11
	NDUFA1	1.8	12 / 13
B	LLPH	1.4	
	DAPL1	1.4	
C	OR5AP2	1.3	
	QSER1	1.3	
	CD302	0.9	14 / 15 / 16
	MRGPRX3	0.9	
	FABP6	0.7	
C	OR4C16	0.6	
	TMEM200A	0.5	
C	OR10X1	0.2	
	FAM162B	0.1	
	IL17D	0.1	

1: cis-Golgi network || 2: endocytic vesicle || 3: endosome membrane || 4: Golgi cisterna membrane || 5: Golgi lumen || 6: melanosome || 7: vacuolar proton-transporting V-type ATPase complex || 8: calcium channel complex ||
9: nuclear envelope || 10: nuclear outer membrane || 11: sarcoplasmic reticulum || 12: mitochondrial membrane || 13: mitochondrial respiratory chain complex I || 14: cell cortex || 15: filopodium || 16: microvillus

ECM 3, Gene set "B cell receptor complex", Page 1

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

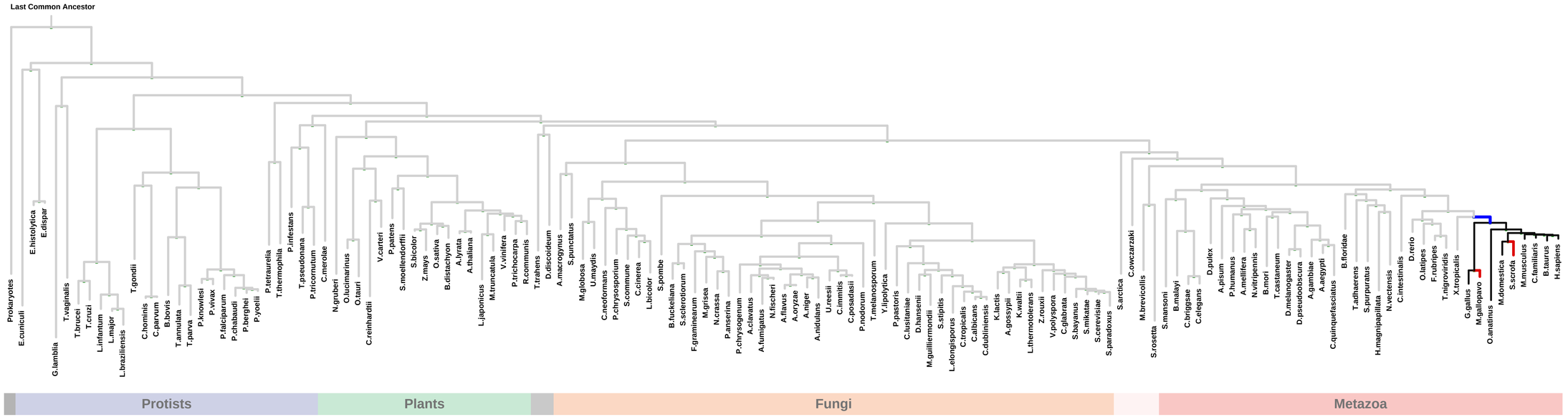


PG	Protein	LLR	Notes
	CD79B		1 / 2

1: B cell receptor complex || 2: external side of plasma membrane

ECM 4, Gene set "B cell receptor complex", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 4



PG	Protein	LLR	Notes
	LIME1		1
	SMIM3	7.1	
	RNASE13	4.0	
	DEFB108B	2.9	
	COX14	2.2	2

1: B cell receptor complex || 2: mitochondrial membrane