

# 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:

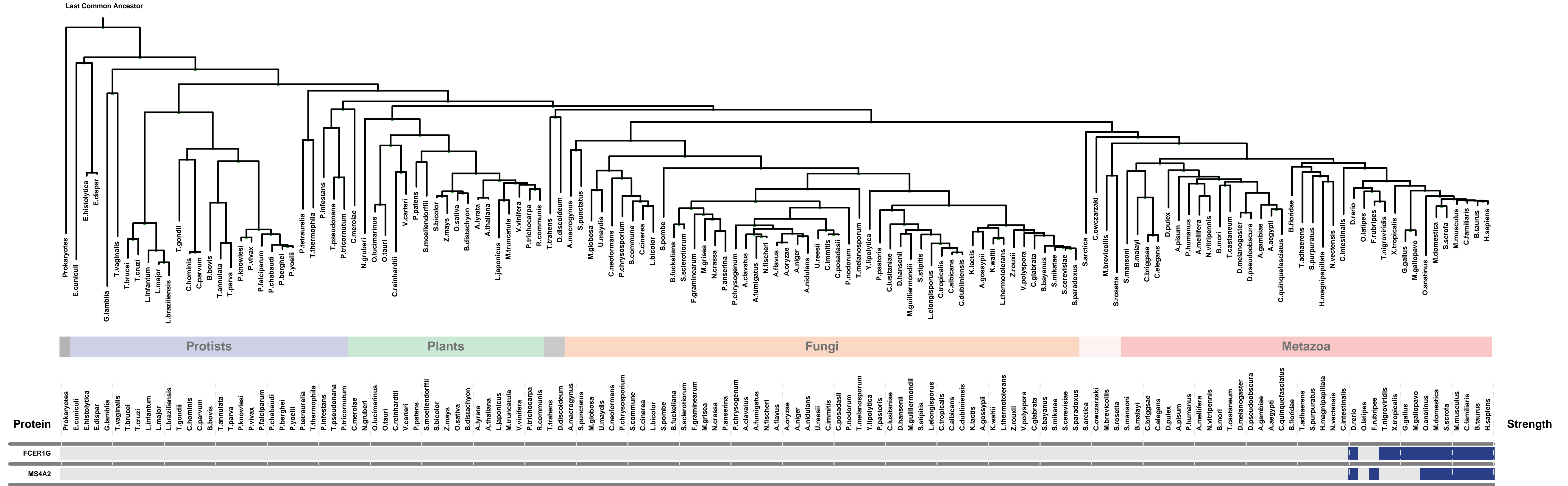
### 1) Overview of Evolutionarily Conserved Modules (ECMs)

- 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+

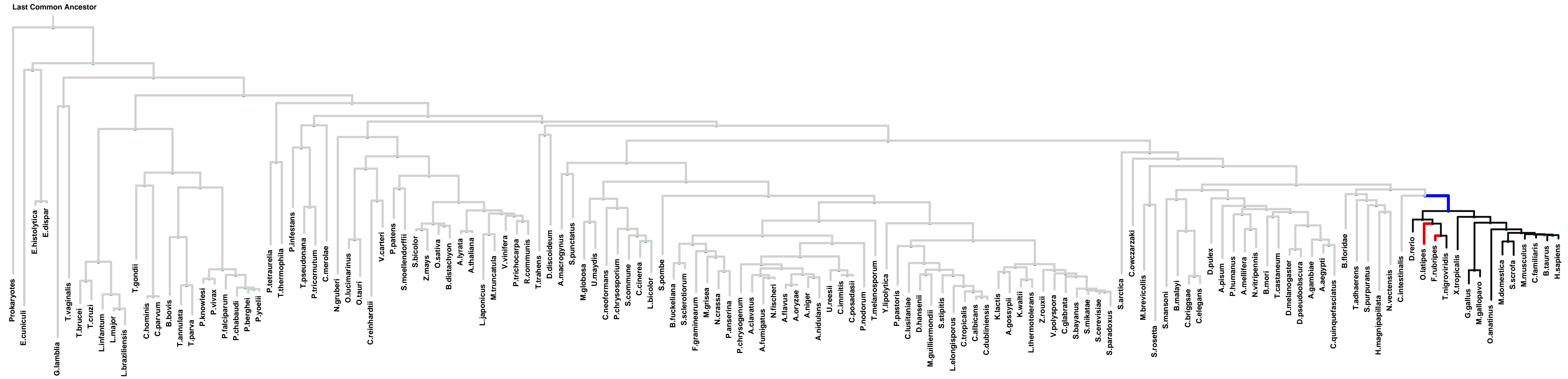
- Top panel shows the inferred evolutionary history on the predefined species tree. Branch color shows the gain event (blue) and loss events (red color, with brighter color indicating higher confidence in loss). Branches before the gain or after a loss are shown in gray.
- Bottom panel shows the input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

Num of ECM Genes: 1. Num of Predicted Genes: 59



PG	Protein	Protists	Plants	Fungi	Metazoa	LLR	Notes
A	FCER1G					14.6	1 / 2
	LOC646543					11.3	
B	RIPPLY3					11.3	3
C	FXFD1					11.3	
	LILRA1					11.3	
	LILRB2					11.3	
	CEP68					11.3	
D	TMSB15A					11.3	
D	TMSB15B					11.3	
	100287712					11.3	
C	100510144					11.3	
C	100510200					11.3	
	RAET1E					8.4	4
	C1orf172					8.4	
	CENPW					5.7	5 / 6 / 7 / 8
	SRGN					4.3	9 / 10 / 11
E	TOMM5					2.9	12
E	LOC100129626					2.9	
E	100510530					2.9	
	LSP1					1.4	13
	MFAP2					1.4	14
	MUSTN1					1.4	
B	FXFD3					1.4	3
B	FXFD6					1.4	
	HLA-DPB2					1.4	
	KIAA1671					1.4	
	LCN1					1.4	
	C9orf91					1.4	
	CD74					1.4	
	PROSER2					1.4	1 / 15 / 16 / 17 / 18 / 19 / 20
B	FXFD2					1.4	26
	AHDC1					0.6	
	ARMCX5					0.6	
	C2orf40					0.6	27
	KIAA1211L					0.6	

1: external side of plasma membrane || 2: Fc-epsilon receptor I complex || 3: chloride channel complex || 4: MHC class I protein complex || 5: chromosome, centromeric region || 6: condensed chromosome kinetochore || 7: kinetochore || 8: nuclear matrix || 9: mast cell granule || 10: platelet alpha granule lumen || 11: zymogen granule || 12: mitochondrial outer membrane translocase complex || 13: actin cytoskeleton || 14: microfilament || 15: clathrin-coated endocytic vesicle membrane || 16: endocytic vesicle membrane || 17: ER to Golgi transport vesicle membrane || 18: integral to luminal side of endoplasmic reticulum membrane || 19: lysosomal lumen || 20: lysosomal membrane || 21: MHC class II protein complex ||

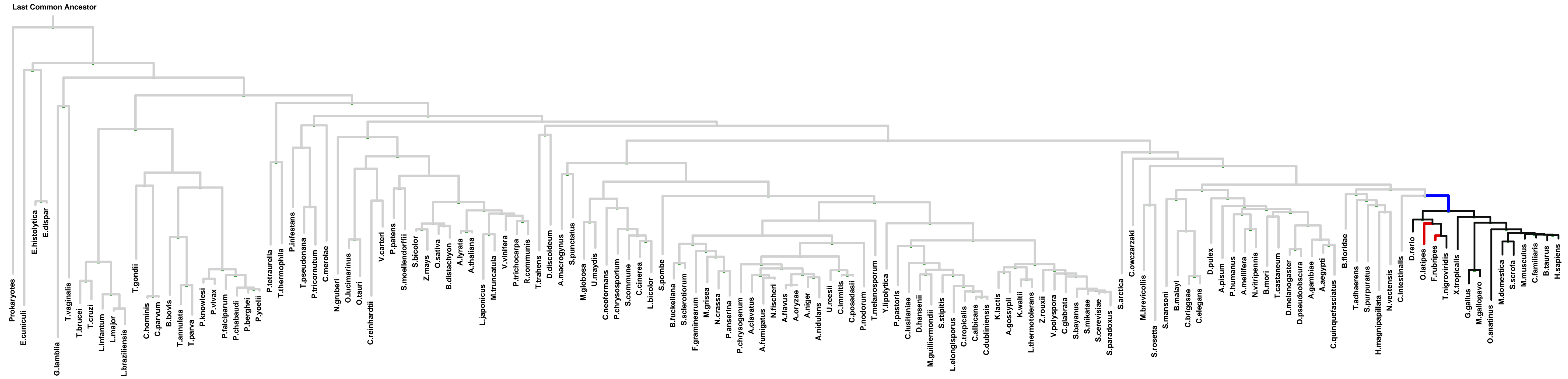
# ECM 1, Gene set "Fc-epsilon receptor I complex", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 59

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

Log-likelihood Ratio Scale

0 10 20 30 40 50 60



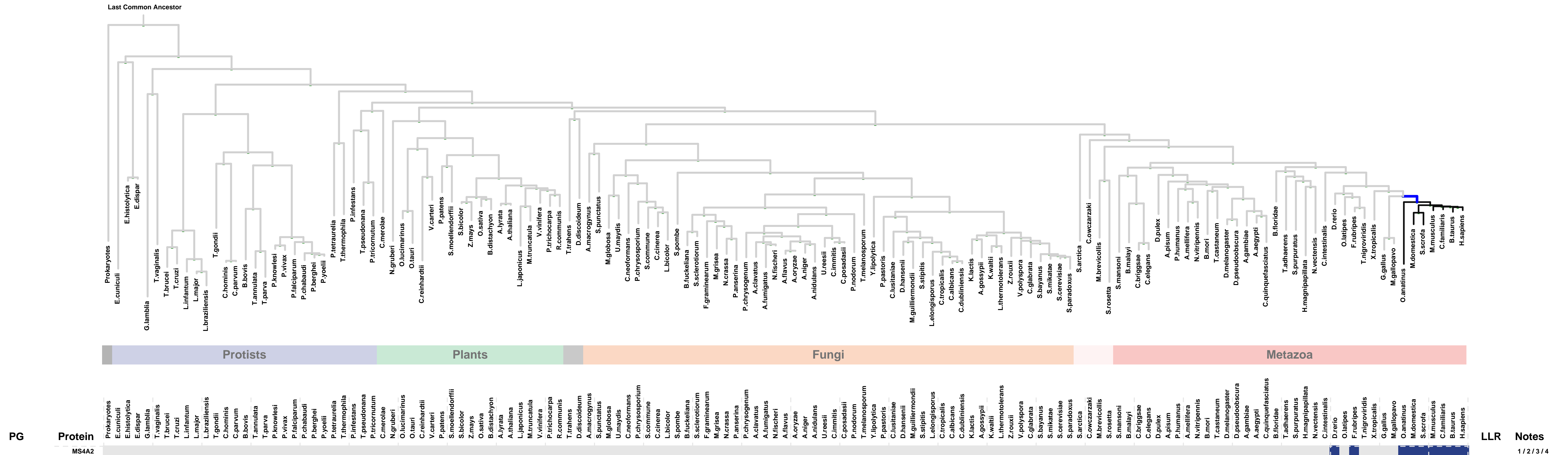
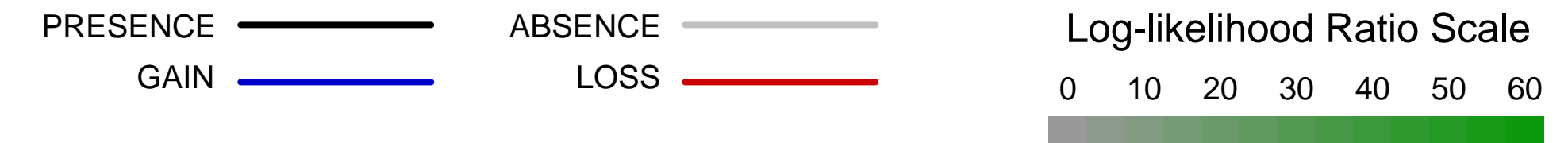
PG	Protein	LLR	Notes
	AKAP12	0.6	1
	CCSER2	0.6	
F	FCAMR	0.6	
G	CCL23	0.6	
G	CCL26	0.6	
A	CD247	0.6	2 / 3
	RCSD1	0.6	4
	SLAMF8	0.6	
	SPOCK2	0.6	5
F	CD300A	0.6	
	TAC1	0.6	6
	TMEM108	0.6	
F	CD300LD	0.6	
	IL17RC	0.6	
	IL22	0.6	
F	TREML4	0.6	
G	XCL1	0.6	
G	XCL2	0.6	
H	KCNE1	0.6	7 / 8 / 9
	100508317	0.6	
H	KCNE4	0.6	
	CD3D	0.6	2 / 3
	KITLG	0.6	
	GMNC	0.3	
	FNDC9	0.3	

1: cell cortex || 2: alpha-beta T cell receptor complex || 3: T cell receptor complex || 4: actin filament || 5: proteinaceous extracellular matrix || 6: axon || 7: lysosome || 8: voltage-gated potassium channel complex || 9: Z disc



# ECM 2, Gene set "Fc-epsilon receptor I complex", Page 1

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



1: endosome || 2: external side of plasma membrane || 3: Fc-epsilon receptor I complex || 4: membrane raft