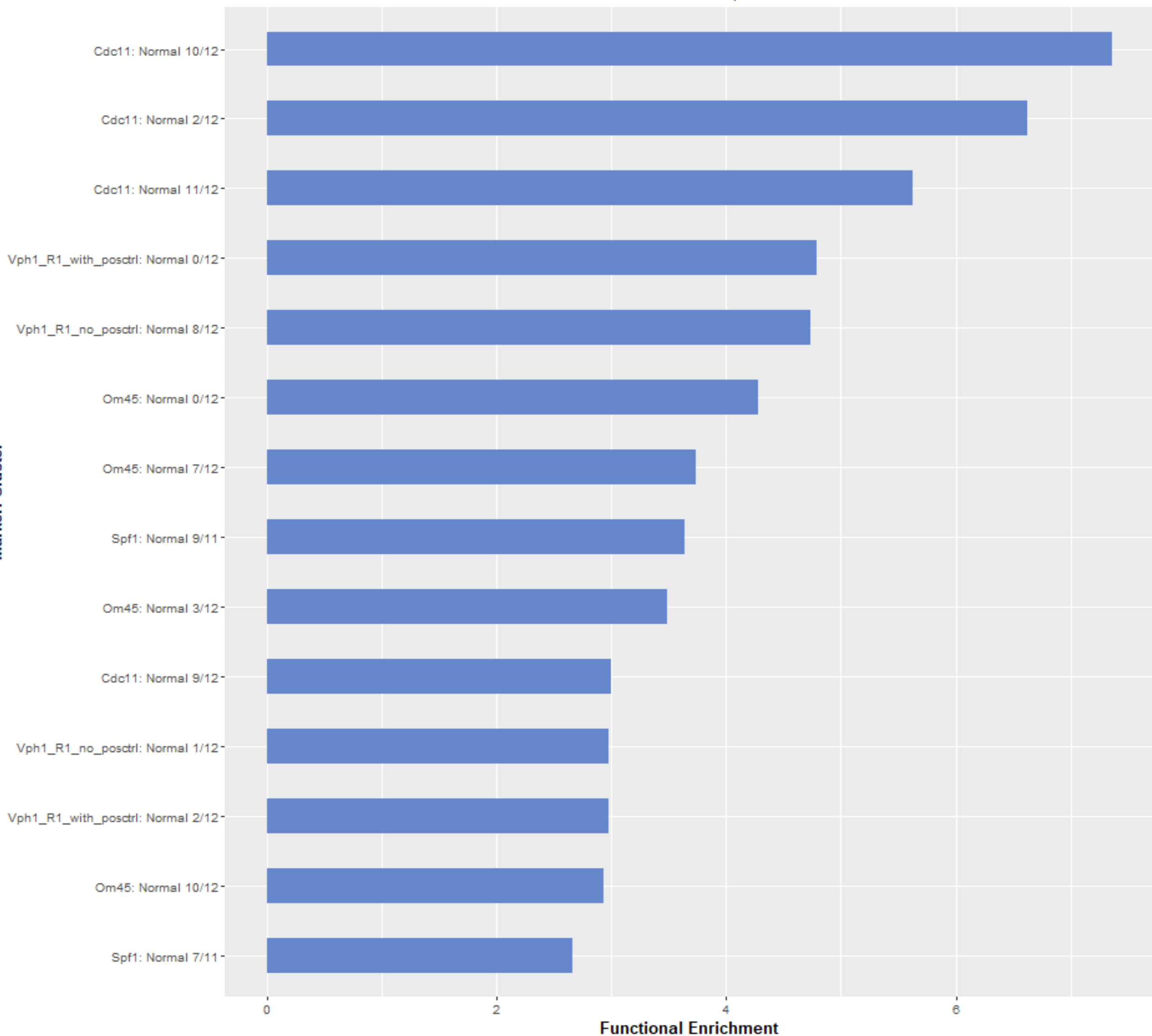


**cell budding**  
Without AreaShape

**Marker: Cluster**



# cell wall organization or biogenesis

Without AreaShape

Marker: Cluster

Vph1\_R1\_with\_posctrl: Normal 0/12

Vph1\_R1\_no\_posctrl: Normal 2/12

Vph1\_R1\_with\_posctrl: Normal 6/12

Vph1\_R1\_no\_posctrl: Normal 8/12

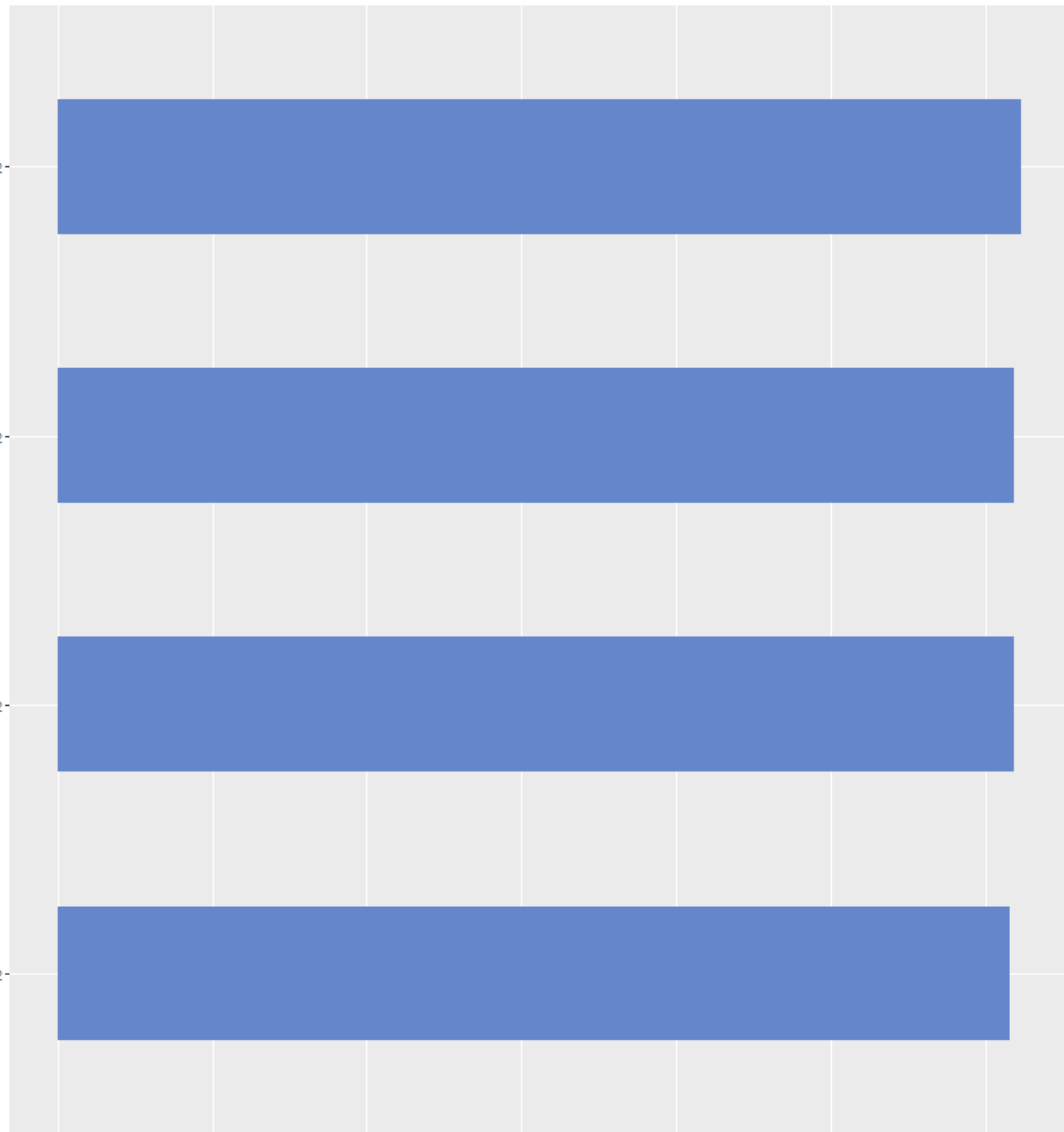
0

1

2

3

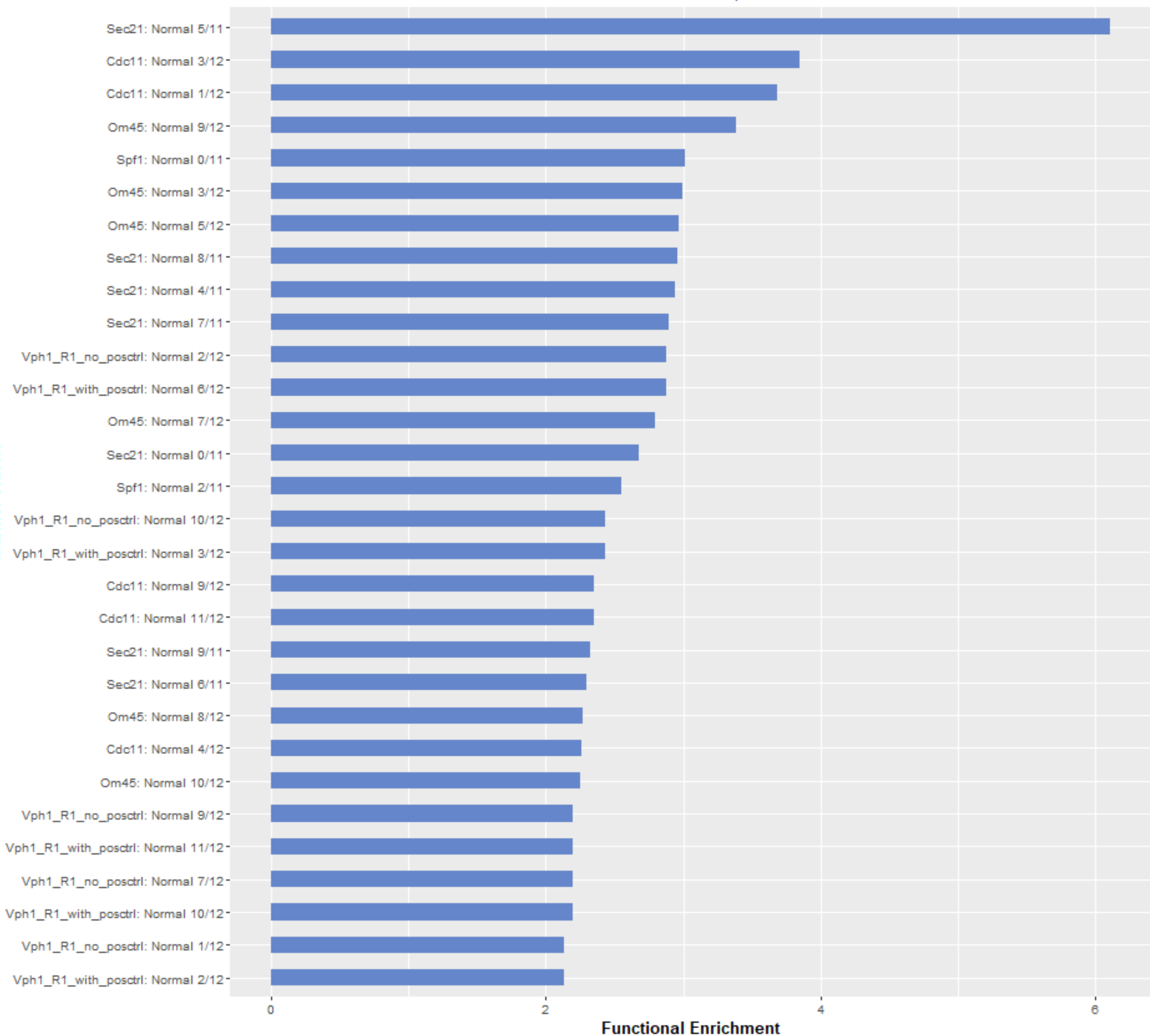
Functional Enrichment



# cellular response to DNA damage stimulus

Without AreaShape

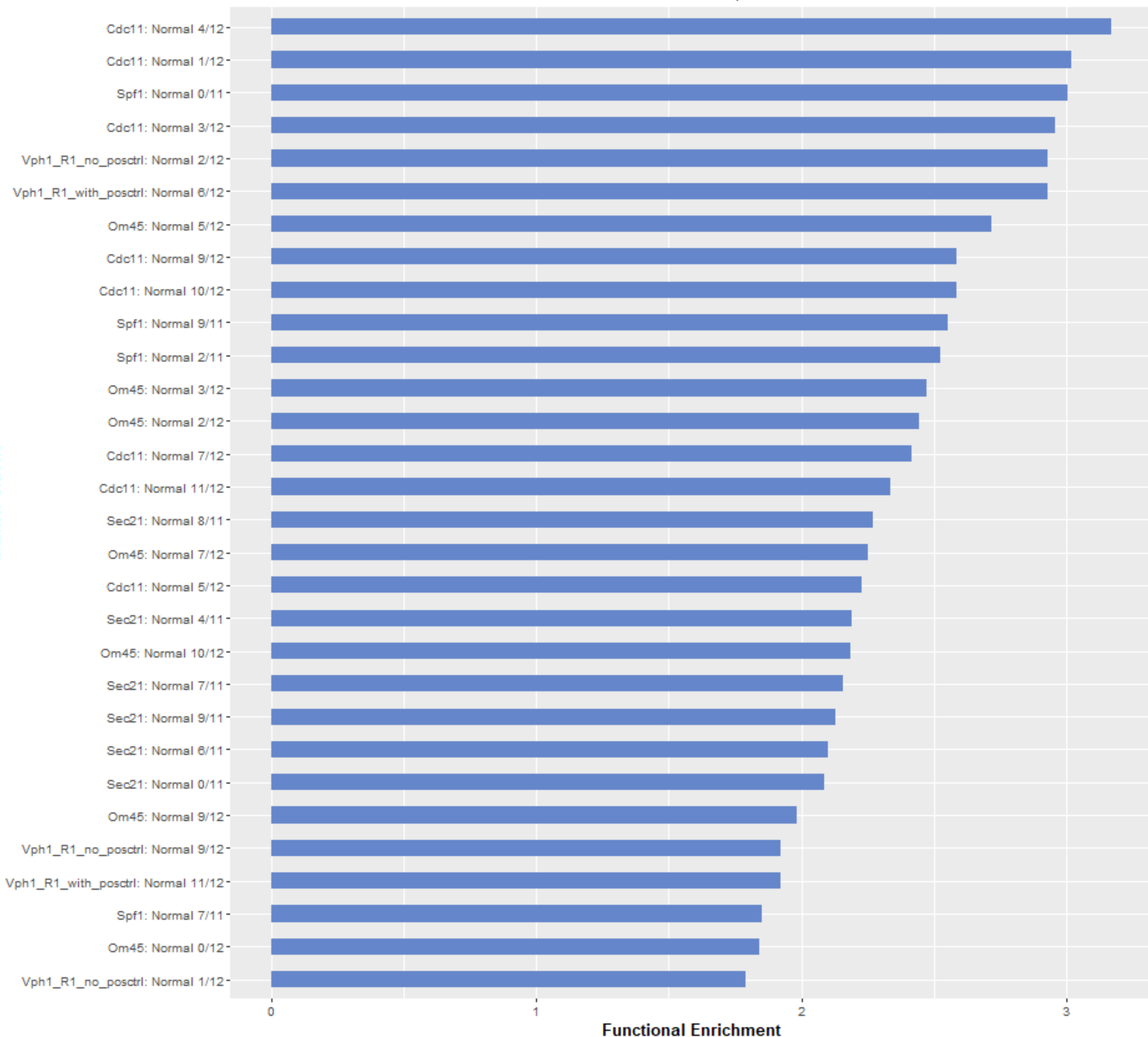
Marker: Cluster



# chromatin organization

Without AreaShape

Marker: Cluster



# chromosome segregation

Without AreaShape

Marker: Cluster

Om45: Normal 9/12  
Cdc11: Normal 3/12  
Cdc11: Normal 1/12  
Om45: Normal 8/12  
Spf1: Normal 9/11  
Cdc11: Normal 11/12  
Sec21: Normal 9/11  
Om45: Normal 3/12  
Sec21: Normal 7/11  
Cdc11: Normal 7/12  
Sec21: Normal 0/11  
Om45: Normal 5/12  
Sec21: Normal 8/11  
Spf1: Normal 5/11  
Vph1\_R1\_no\_posctrl: Normal 10/12  
Vph1\_R1\_with\_posctrl: Normal 3/12  
Spf1: Normal 7/11  
Om45: Normal 7/12  
Cdc11: Normal 9/12  
Om45: Normal 1/12  
Vph1\_R1\_no\_posctrl: Normal 1/12  
Vph1\_R1\_with\_posctrl: Normal 2/12  
Sec21: Normal 6/11  
Sec21: Normal 3/11  
Spf1: Normal 8/11  
Vph1\_R1\_no\_posctrl: Normal 7/12  
Vph1\_R1\_with\_posctrl: Normal 10/12  
Vph1\_R1\_no\_posctrl: Normal 9/12  
Vph1\_R1\_with\_posctrl: Normal 11/12  
Cdc11: Normal 8/12

0

2

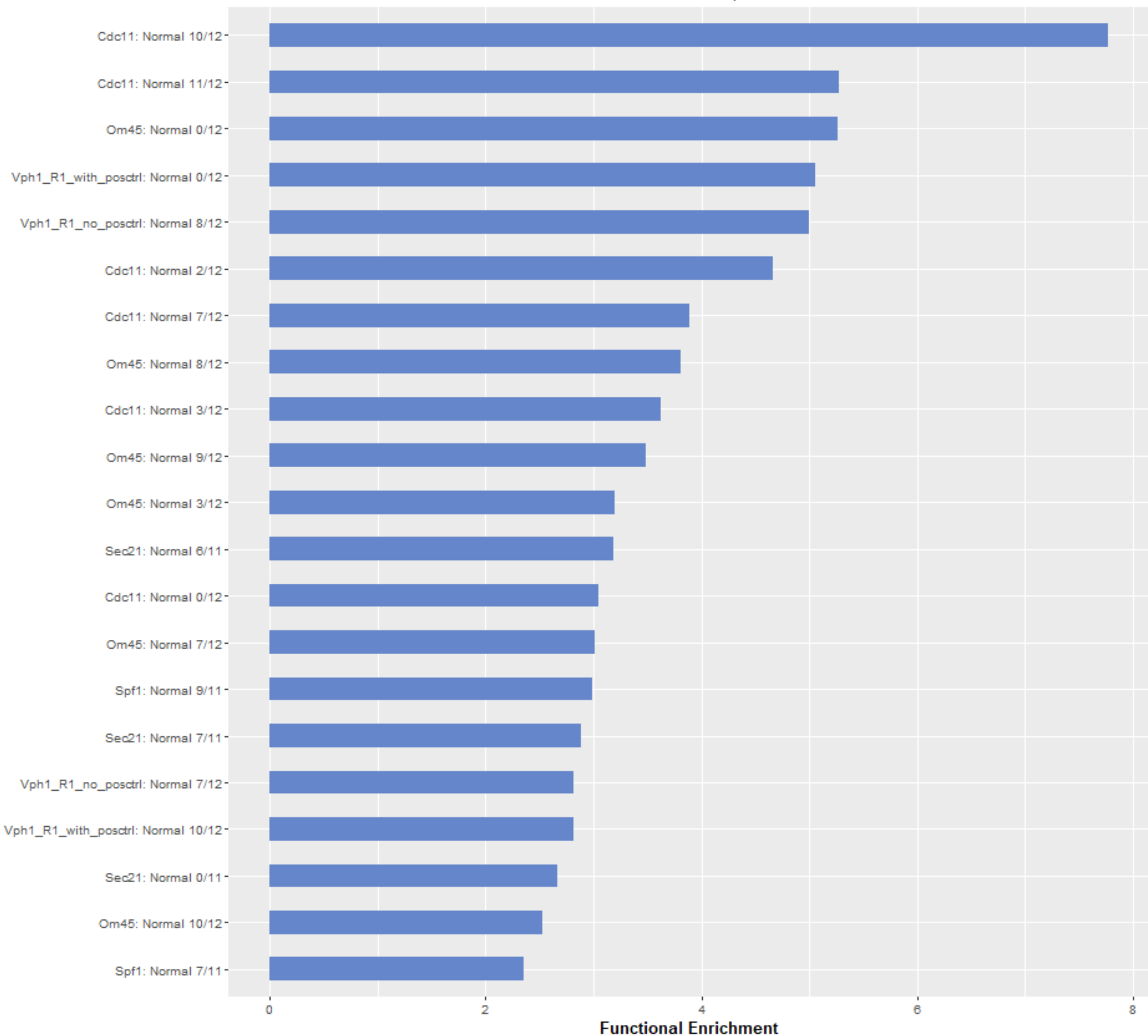
4

6

Functional Enrichment

**cytokinesis**  
Without AreaShape

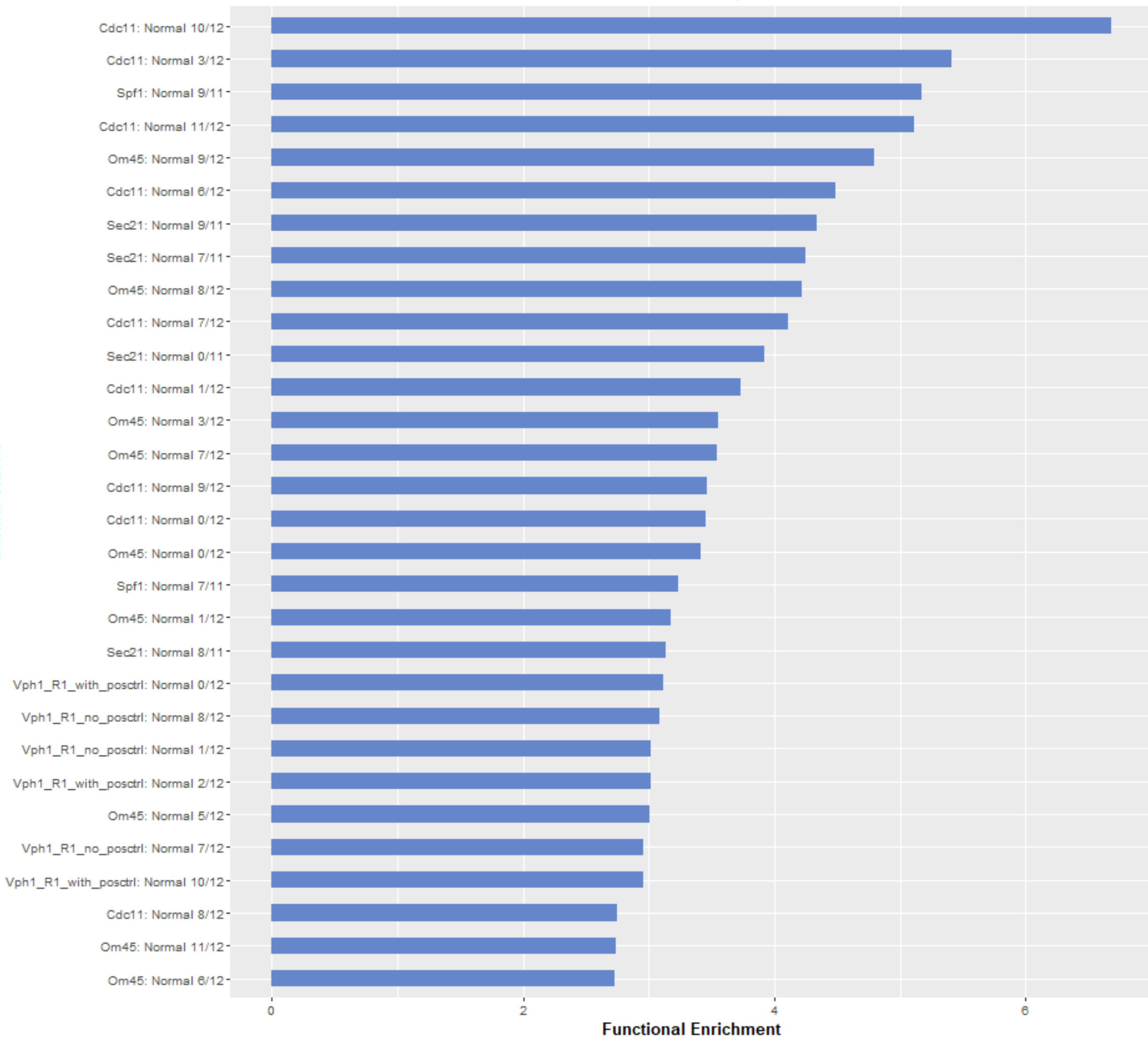
**Marker: Cluster**



# cytoskeleton organization

Without AreaShape

Marker: Cluster



# DNA recombination

Without AreaShape

Marker: Cluster

Cdc11: Normal 3/12

Sec21: Normal 4/11

Cdc11: Normal 1/12

Om45: Normal 9/12

Sec21: Normal 8/11

Sec21: Normal 7/11

Om45: Normal 3/12

0

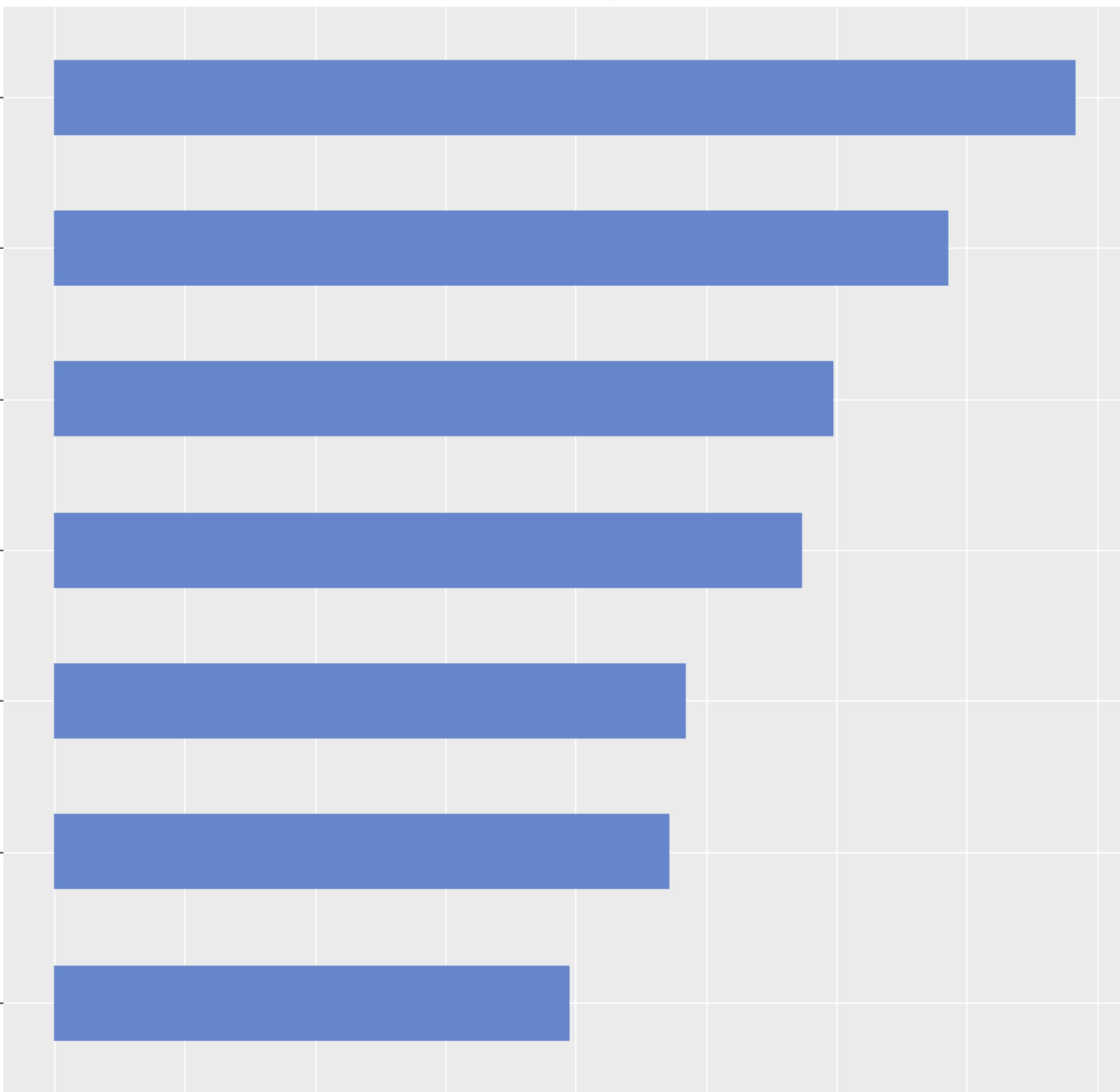
1

2

3

4

Functional Enrichment

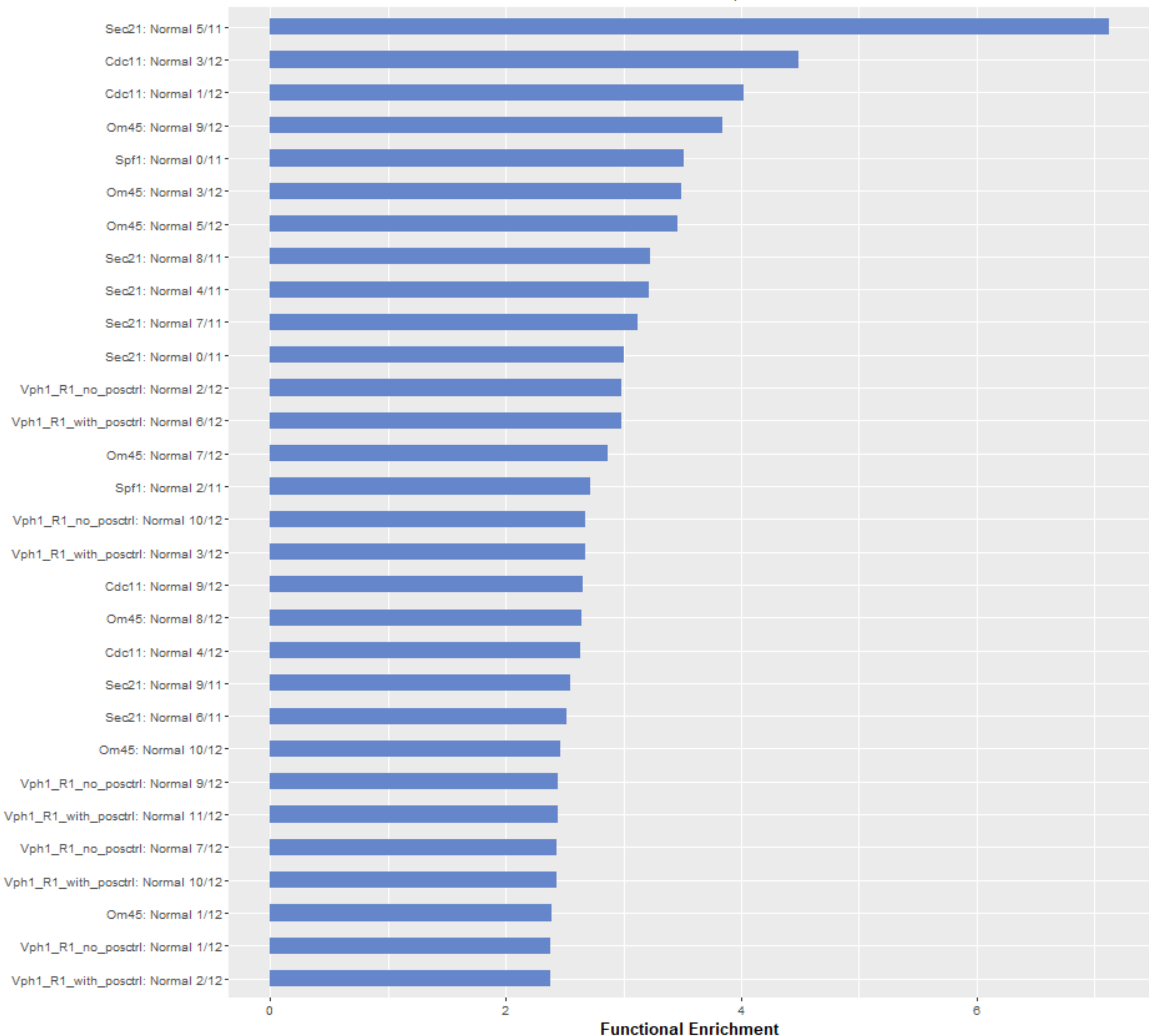




# DNA repair

Without AreaShape

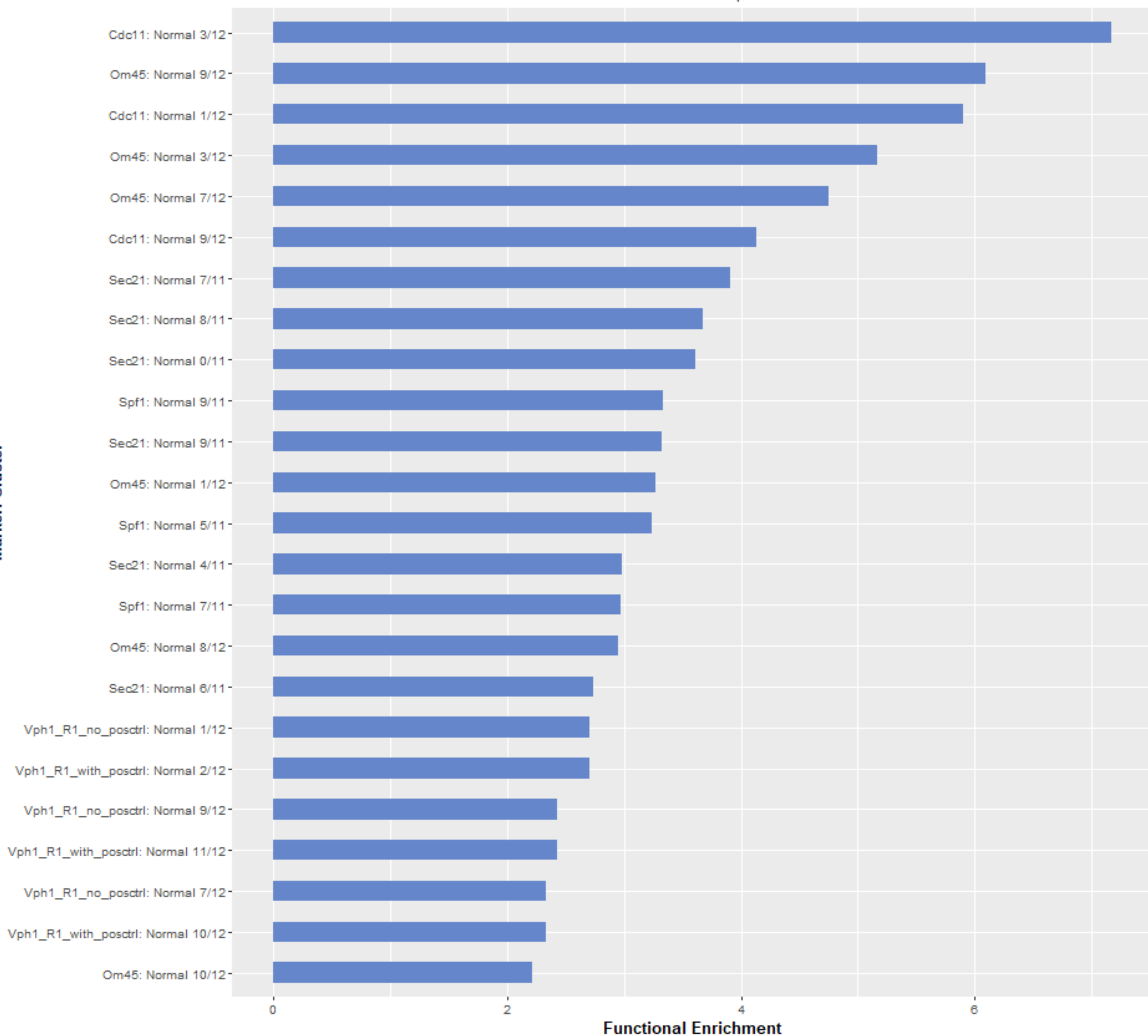
Marker: Cluster



# DNA replication

Without AreaShape

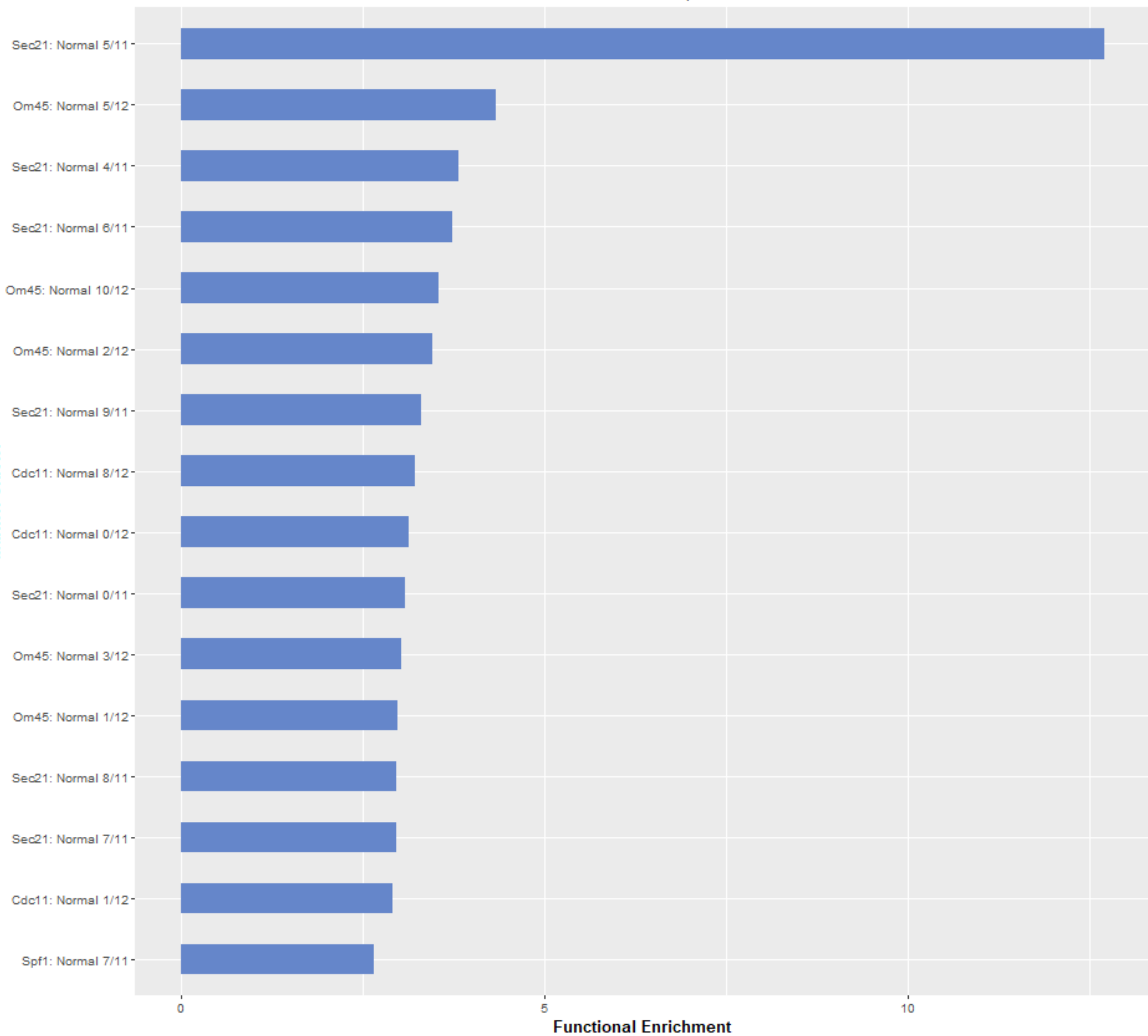
Marker: Cluster



# DNA-templated transcription, elongation

Without AreaShape

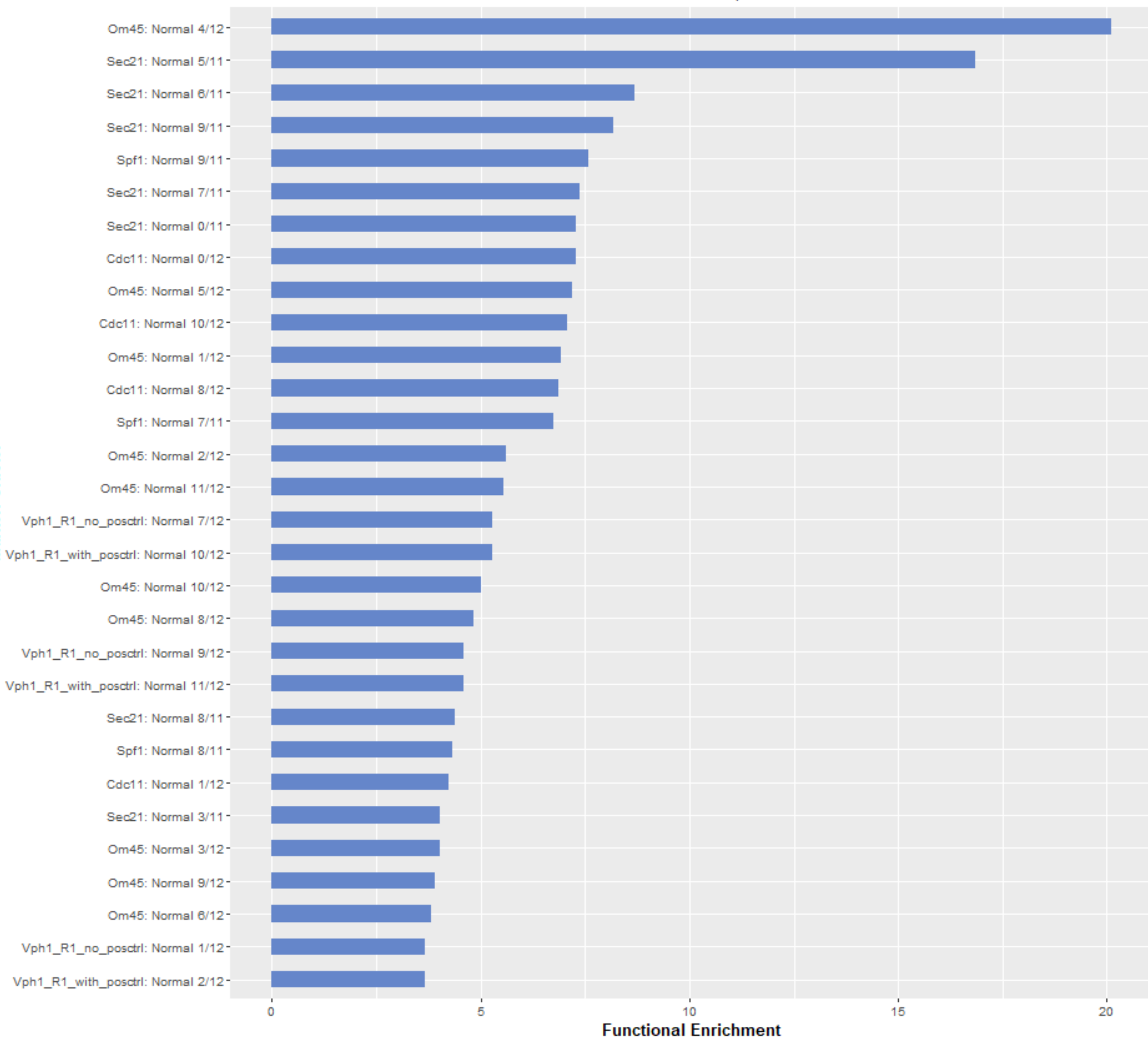
Marker: Cluster



# DNA-templated transcription, initiation

Without AreaShape

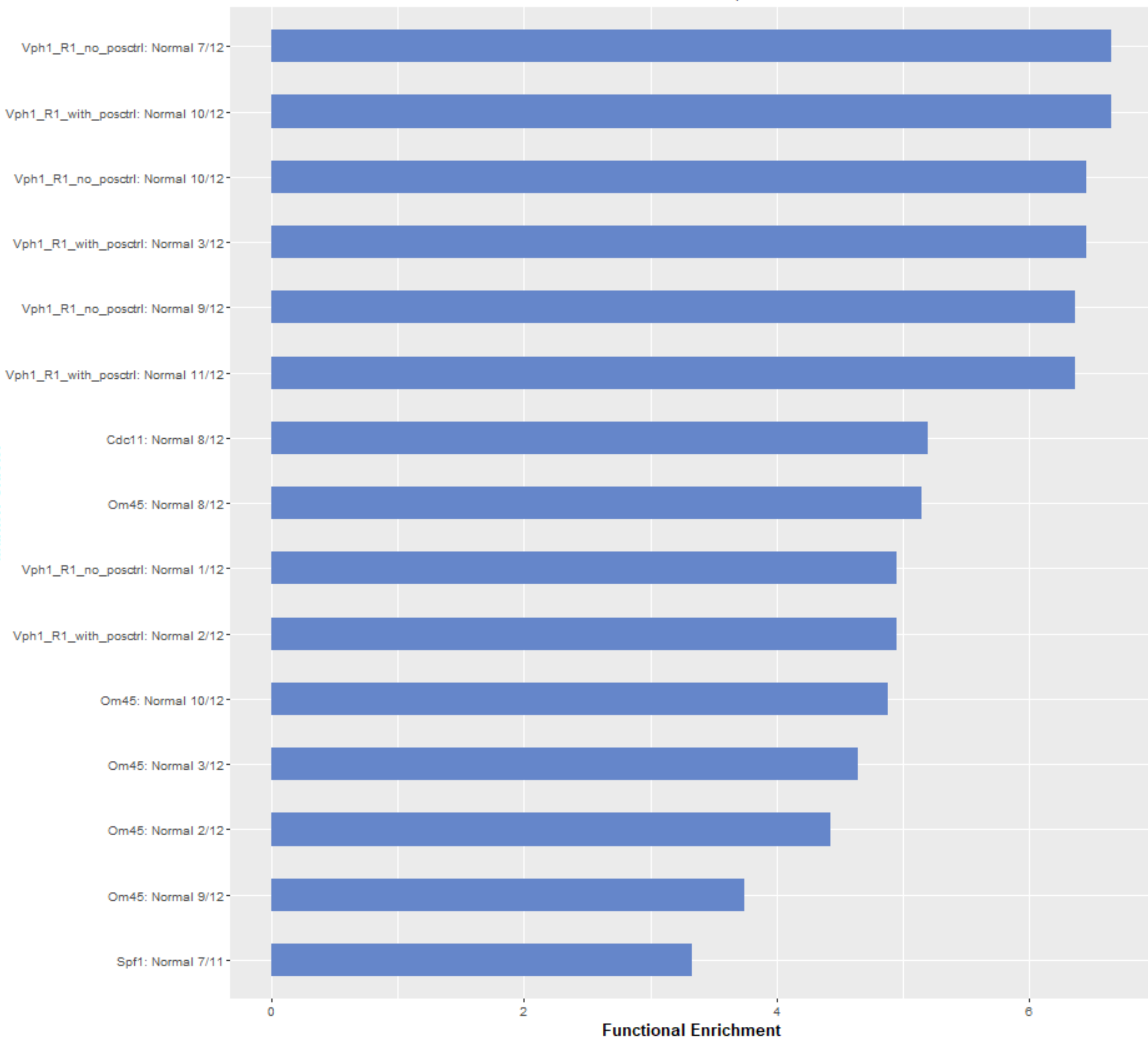
Marker: Cluster



# DNA-templated transcription, termination

Without AreaShape

Marker: Cluster



# endocytosis

Without AreaShape

Marker: Cluster

Cdc11: Normal 2/12

Cdc11: Normal 10/12

0

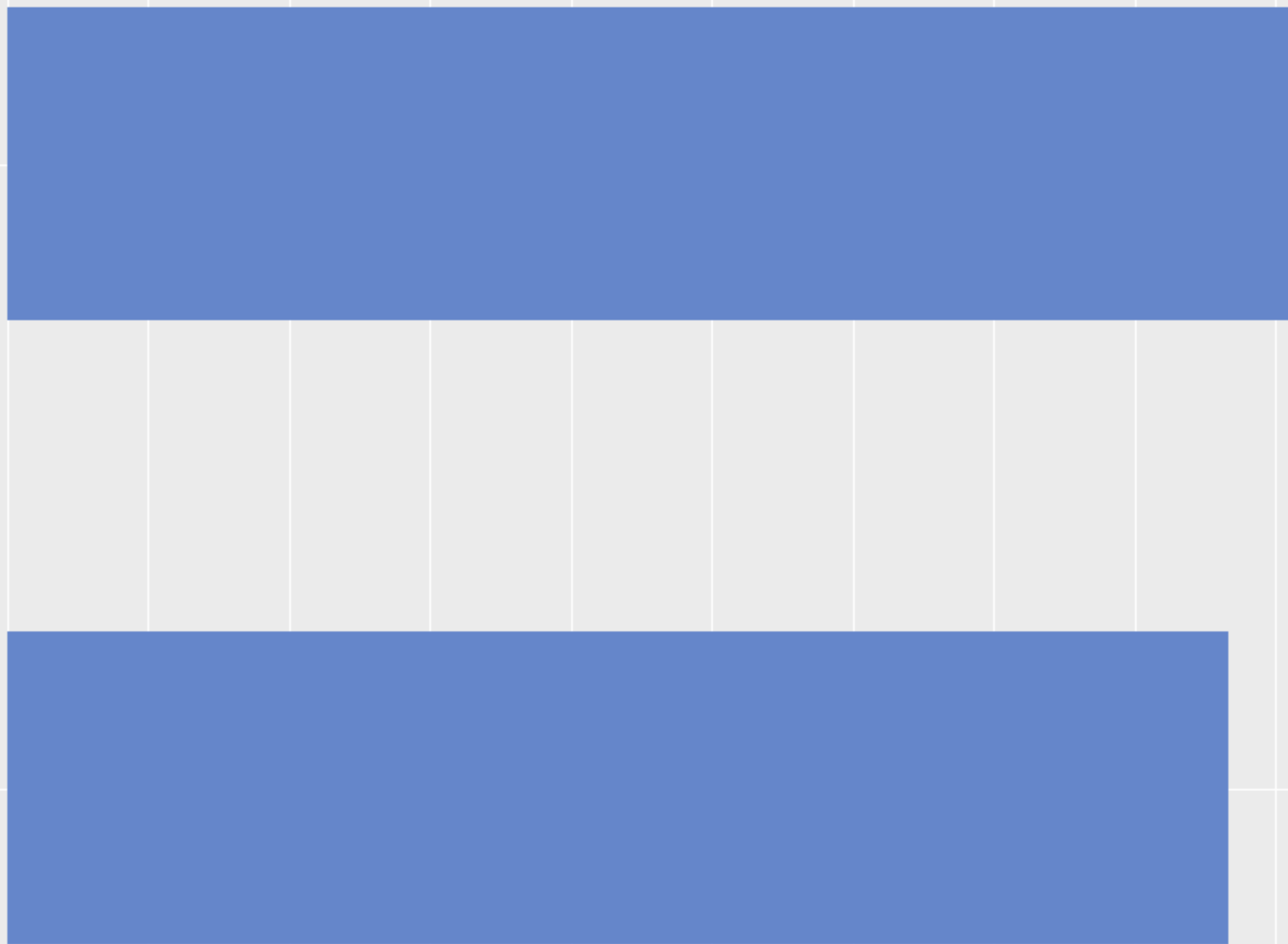
1

2

3

4

Functional Enrichment



# endosomal transport

Without AreaShape

Marker: Cluster

Vph1\_R1\_with\_posctrl: Normal 0/12

Vph1\_R1\_no\_posctrl: Normal 8/12

Vph1\_R1\_no\_posctrl: Normal 5/12

Vph1\_R1\_with\_posctrl: Normal 8/12

0

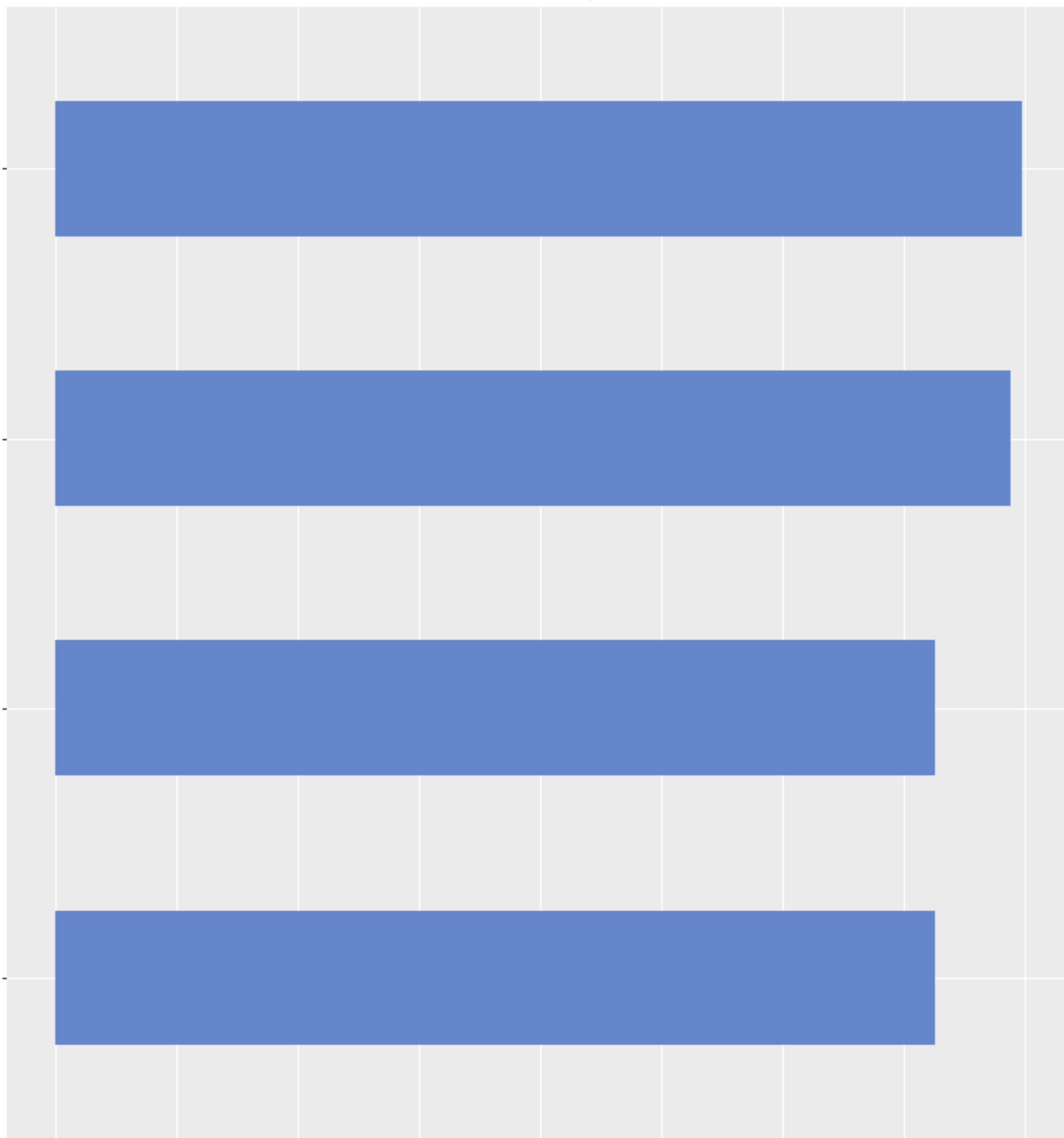
1

2

3

4

Functional Enrichment



# exocytosis

Without AreaShape

Marker: Cluster

Sec21: Normal 2/11  
Spf1: Normal 10/11  
Cdc11: Normal 2/12  
Spf1: Normal 8/11  
Om45: Normal 5/12  
Sec21: Normal 6/11  
Om45: Normal 11/12  
Cdc11: Normal 8/12  
Om45: Normal 2/12  
Cdc11: Normal 7/12  
Vph1\_R1\_no\_posctrl: Normal 7/12  
Vph1\_R1\_with\_posctrl: Normal 10/12  
Sec21: Normal 8/11  
Vph1\_R1\_no\_posctrl: Normal 10/12  
Vph1\_R1\_with\_posctrl: Normal 3/12  
Vph1\_R1\_no\_posctrl: Normal 9/12  
Vph1\_R1\_with\_posctrl: Normal 11/12  
Vph1\_R1\_no\_posctrl: Normal 1/12  
Vph1\_R1\_with\_posctrl: Normal 2/12  
Spf1: Normal 7/11  
Sec21: Normal 0/11  
Sec21: Normal 7/11  
Om45: Normal 10/12  
Cdc11: Normal 9/12

0

5

10

15

20

25

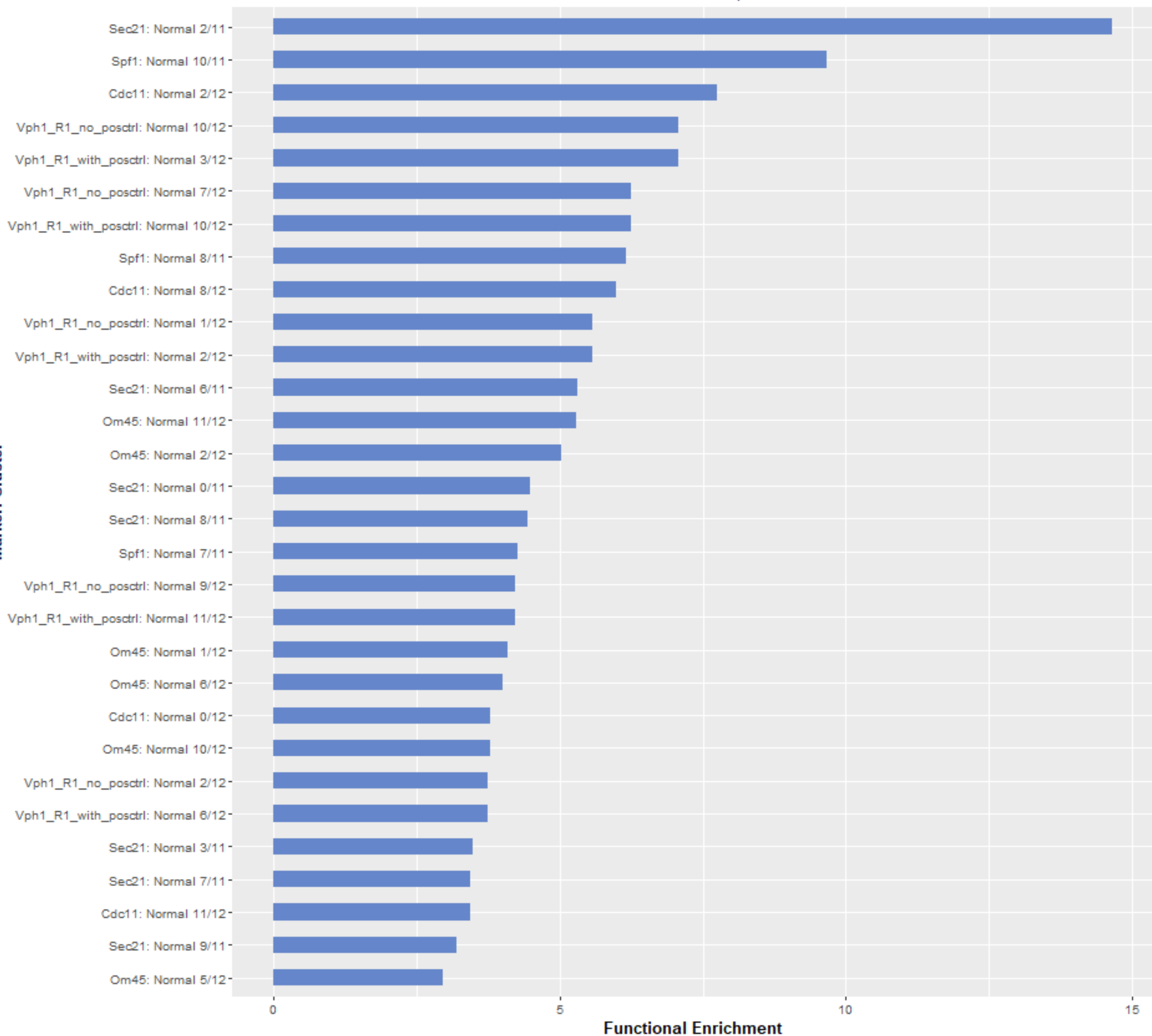
Functional Enrichment



# Golgi vesicle transport

Without AreaShape

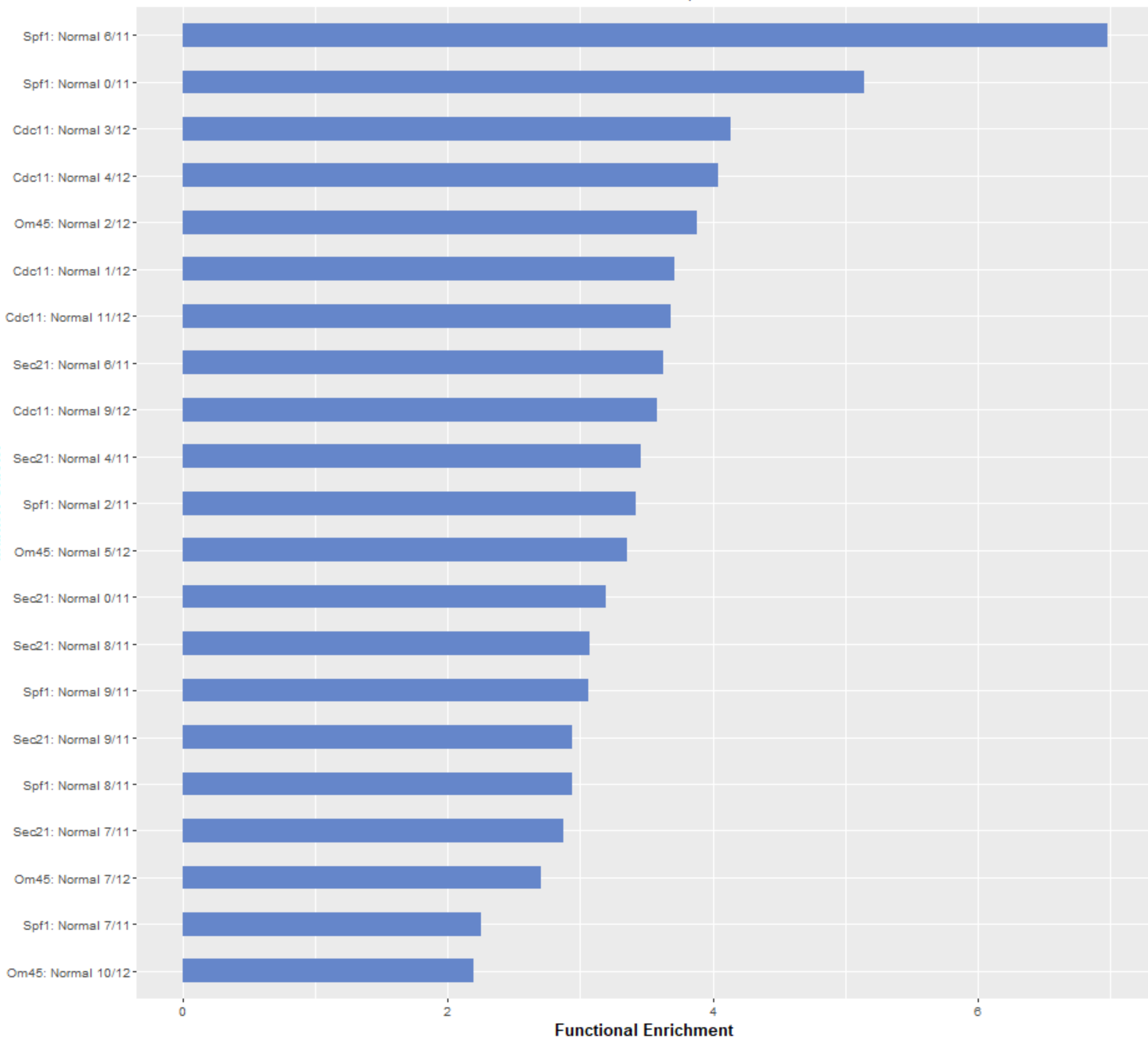
Marker: Cluster



# histone modification

Without AreaShape

Marker: Cluster



# invasive growth in response to glucose limitation

Without AreaShape

Marker: Cluster

Spf1: Normal 2/11

Cdc11: Normal 5/12

0

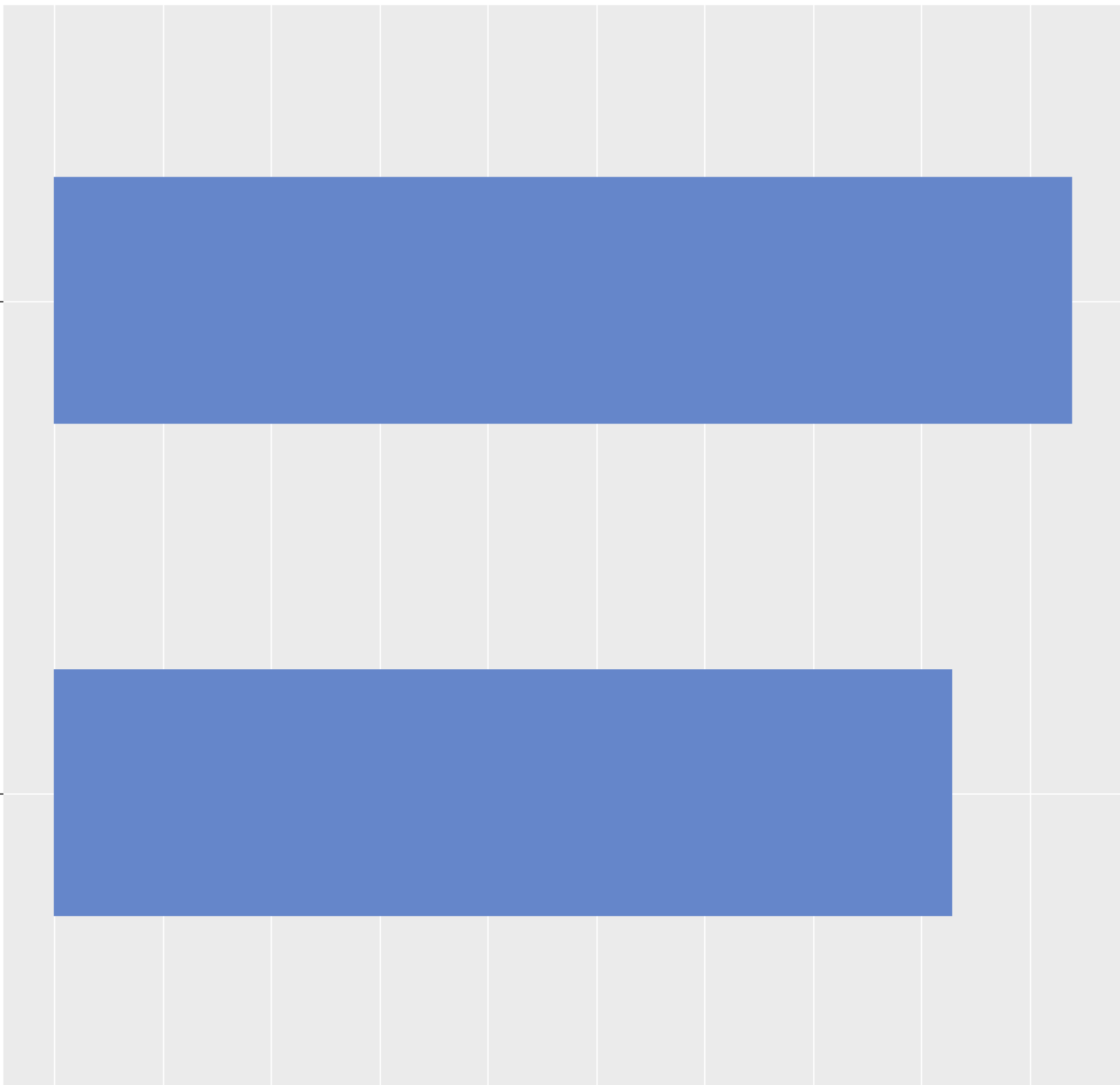
1

2

3

4

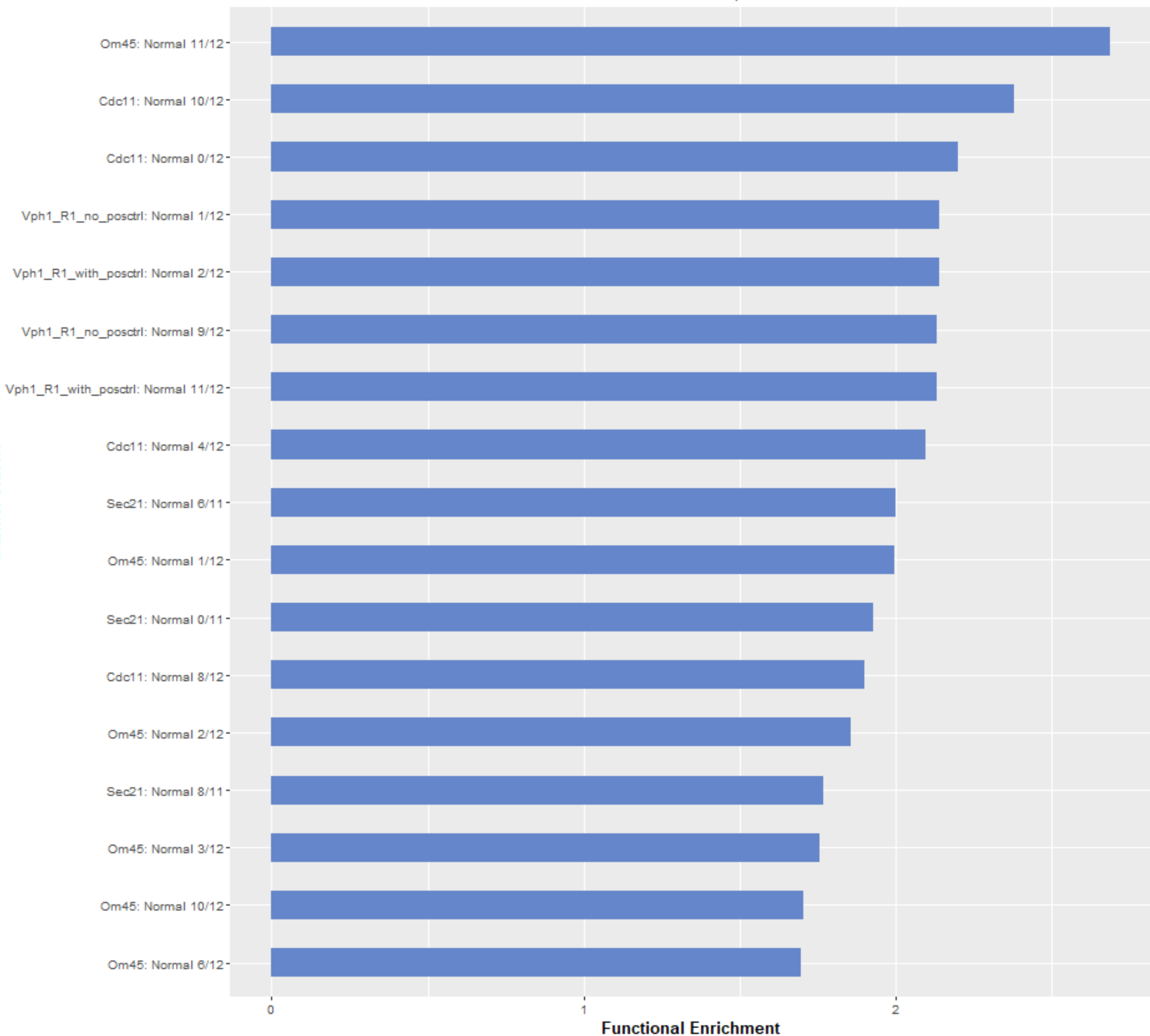
Functional Enrichment



# lipid metabolic process

Without AreaShape

Marker: Cluster



meiotic cell cycle

Without AreaShape

Marker: Cluster

Cdc11: Normal 11/12

0.0

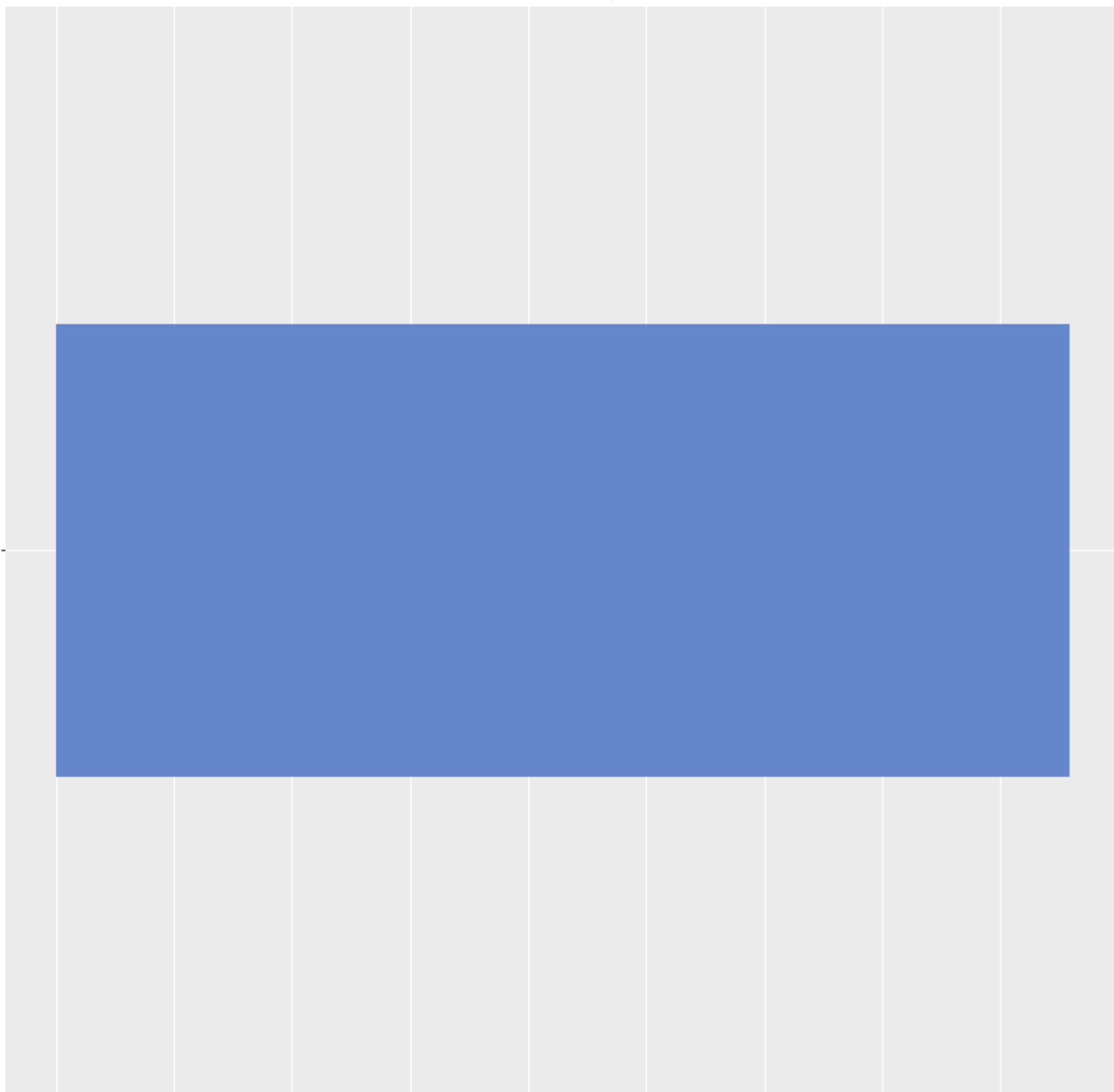
0.5

1.0

1.5

2.0

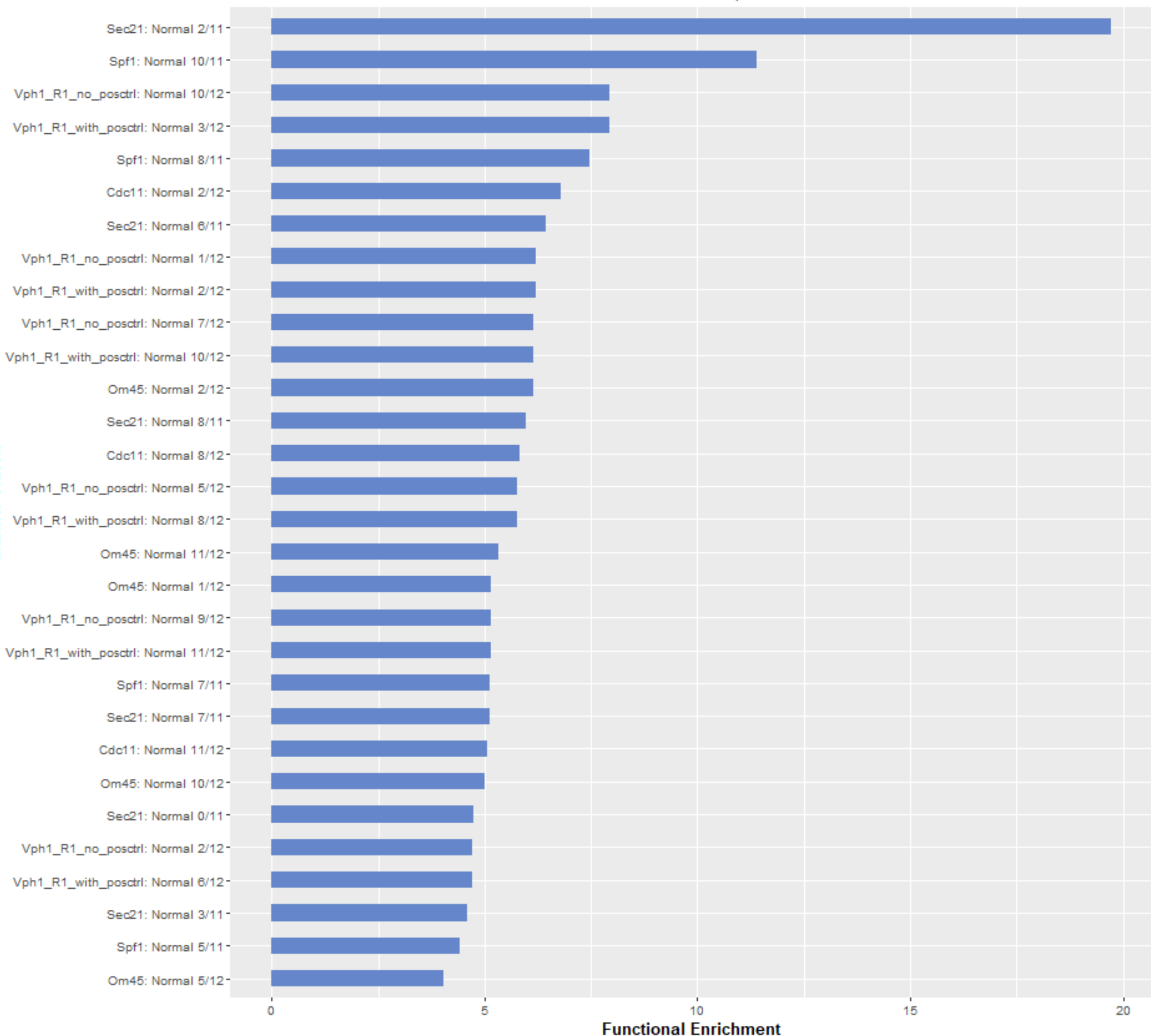
Functional Enrichment



# membrane fusion

Without AreaShape

Marker: Cluster



# mitochondrial translation

Without AreaShape

Marker: Cluster

Om45: Normal 0/12

Om45: Normal 6/12

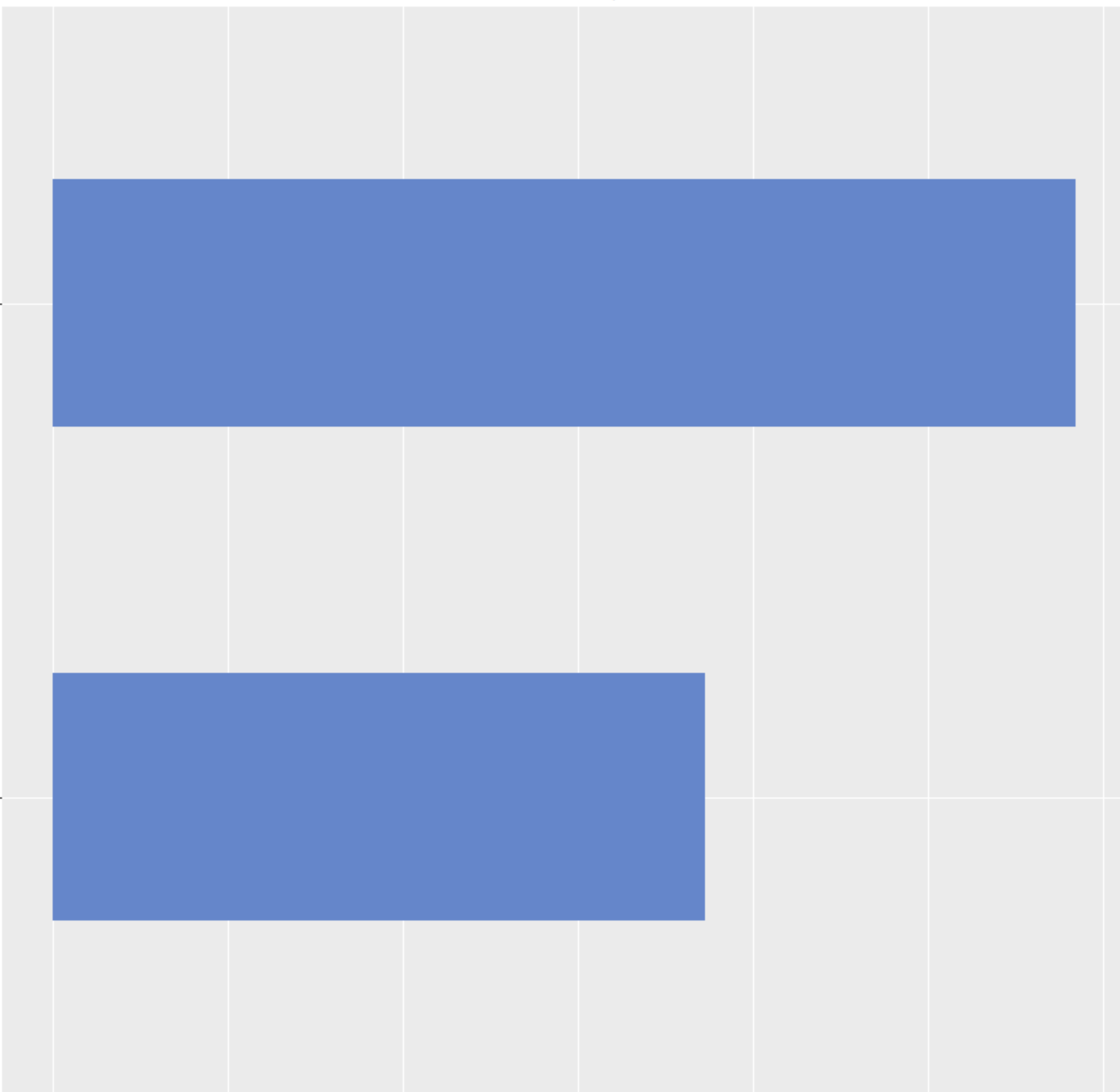
0

2

4

6

Functional Enrichment



# mitochondrion organization

Without AreaShape

Marker: Cluster

Om45: Normal 0/12

Om45: Normal 2/12

Om45: Normal 5/12

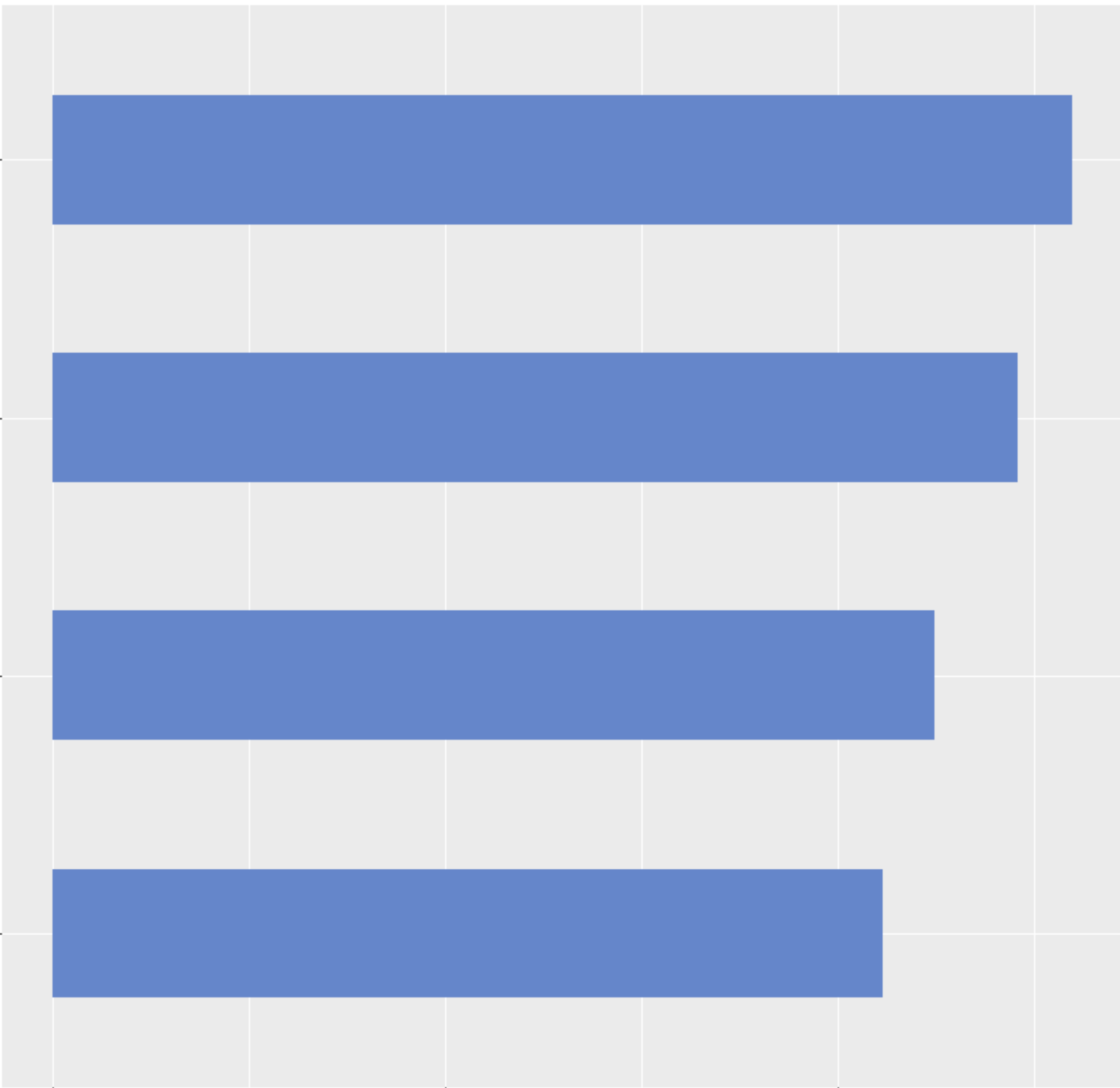
Om45: Normal 8/12

0

1

2

Functional Enrichment

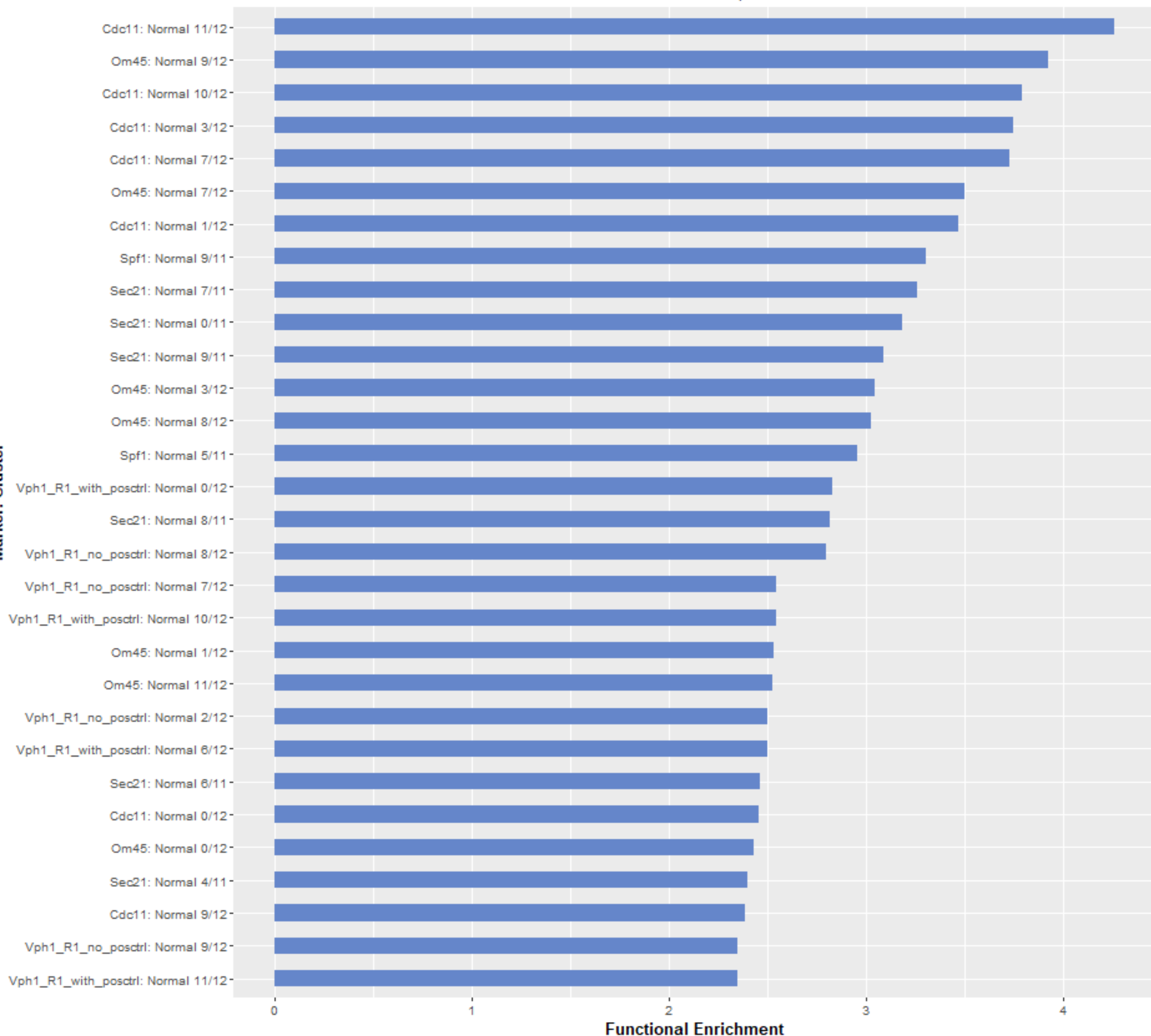




# mitotic cell cycle

Without AreaShape

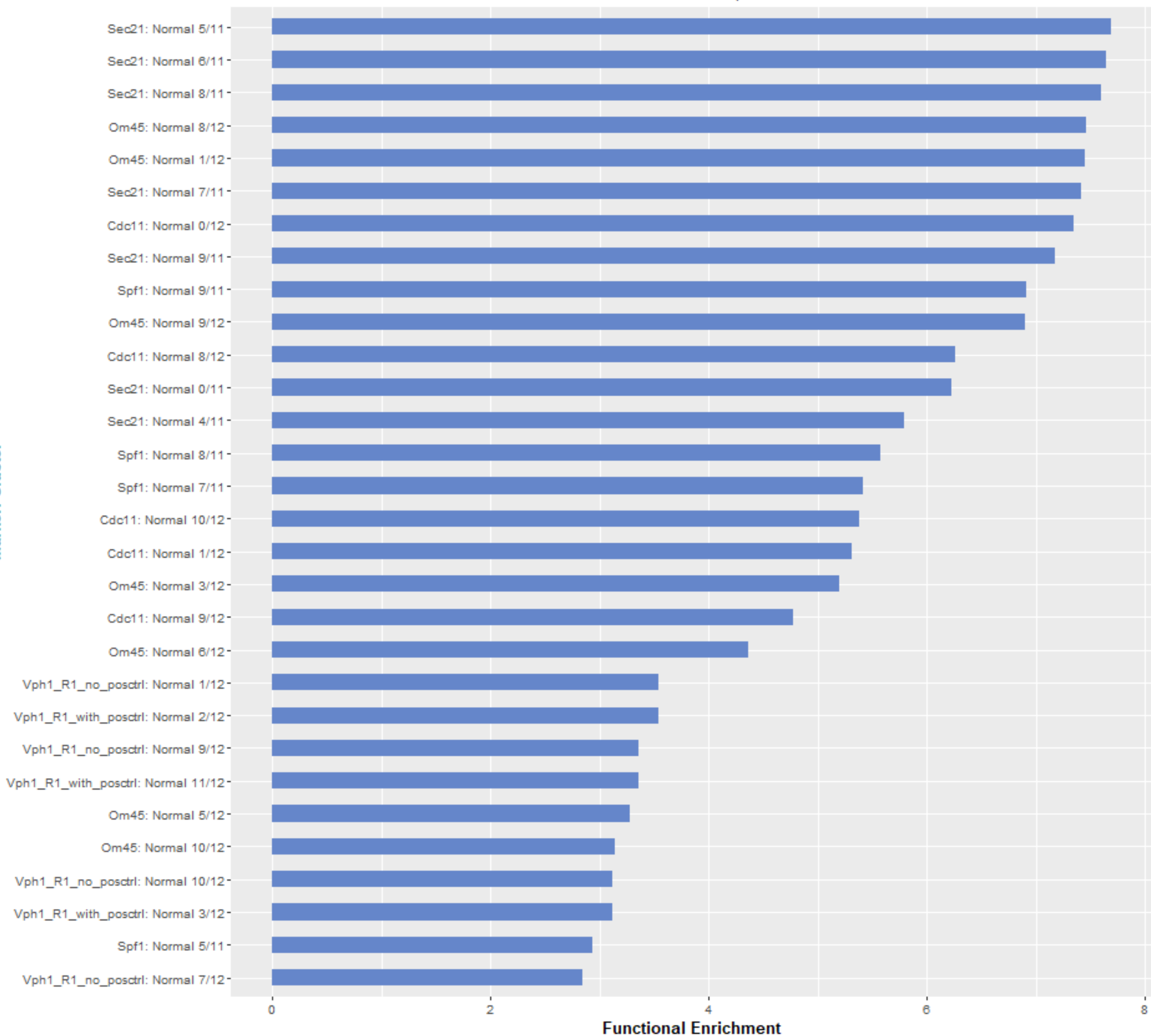
Marker: Cluster



# mRNA processing

Without AreaShape

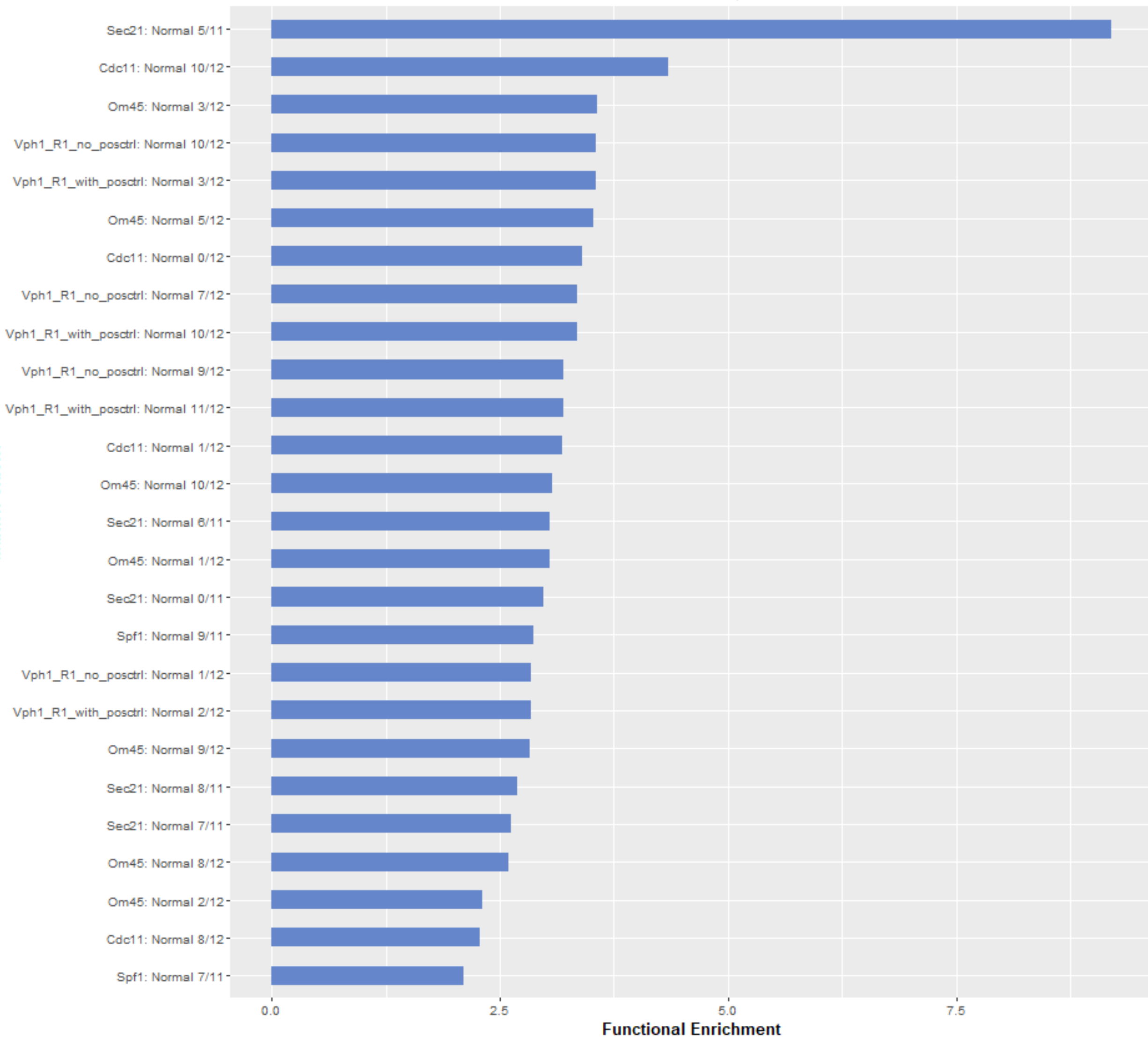
Marker: Cluster



# nuclear transport

Without AreaShape

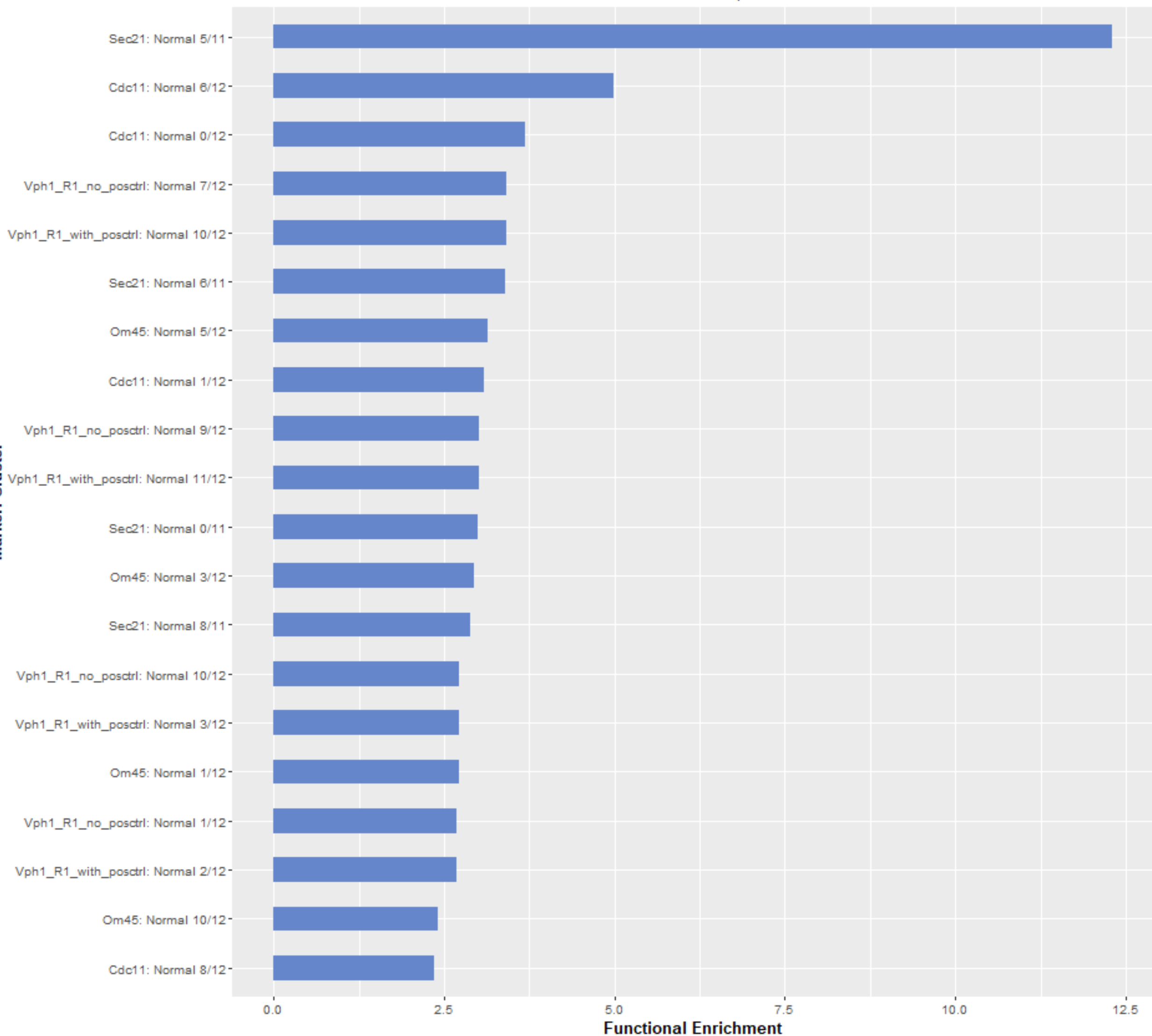
Marker: Cluster



# nucleobase-containing compound transport

Without AreaShape

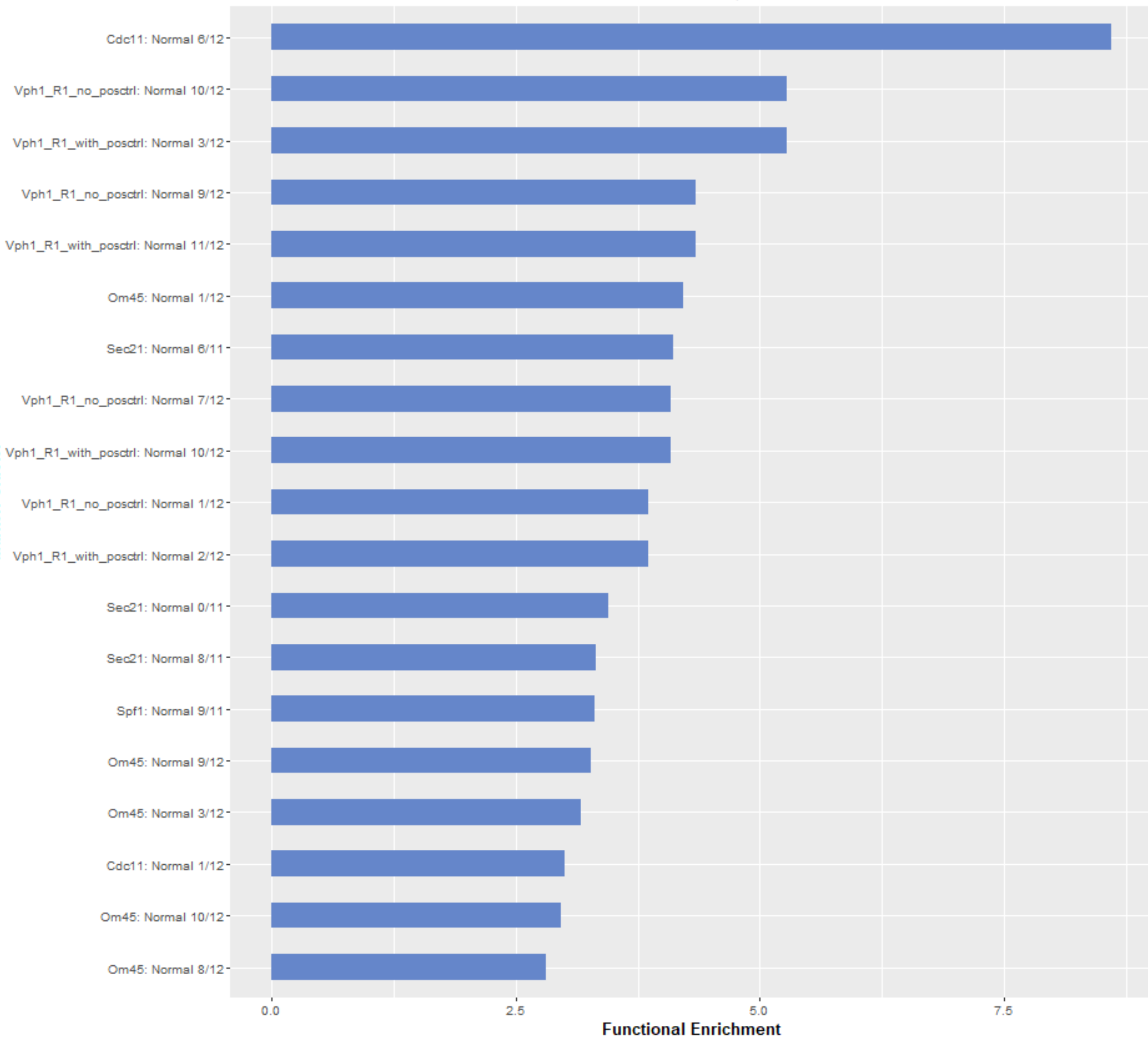
Marker: Cluster



# nucleus organization

Without AreaShape

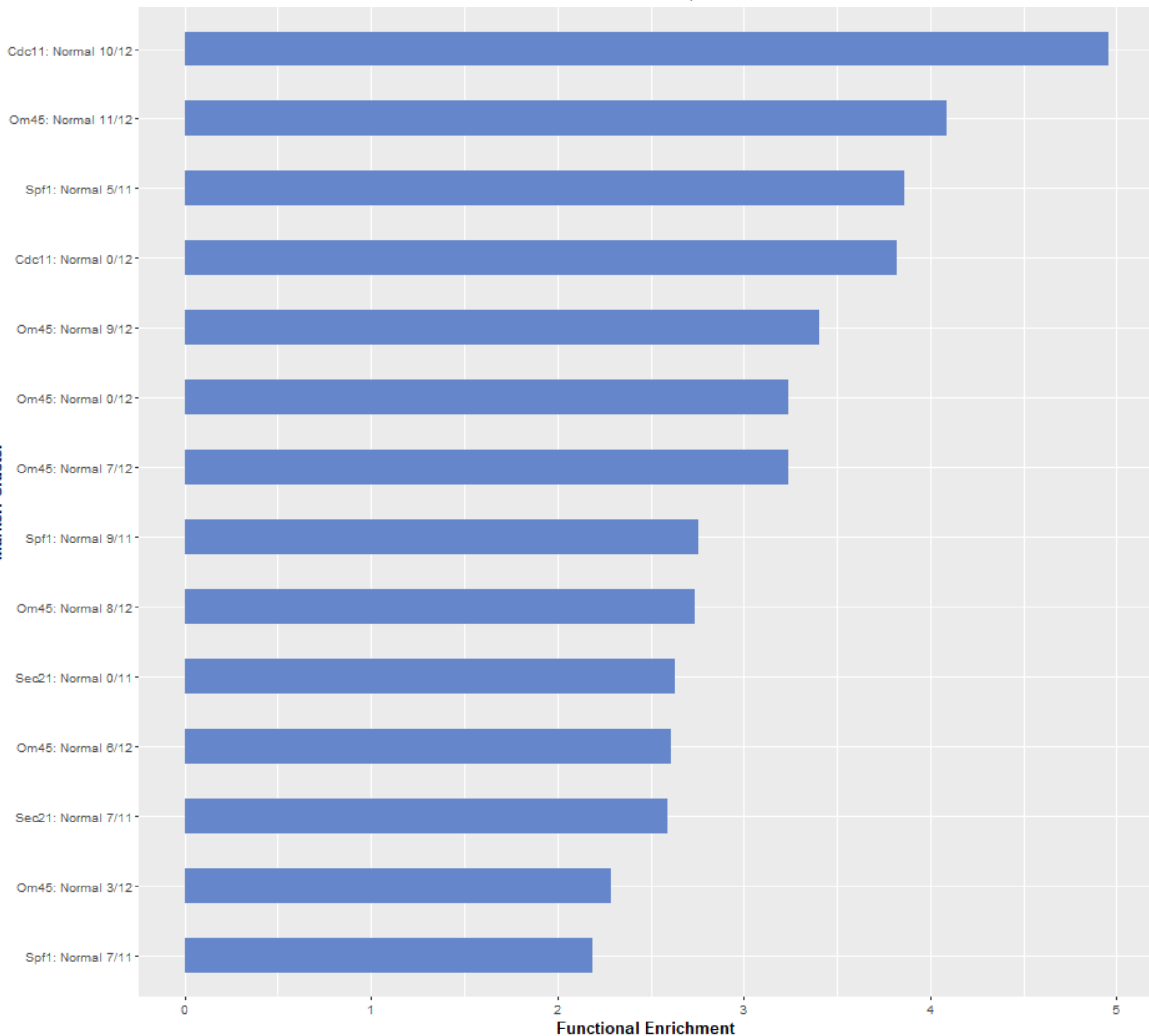
Marker: Cluster



# organelle assembly

Without AreaShape

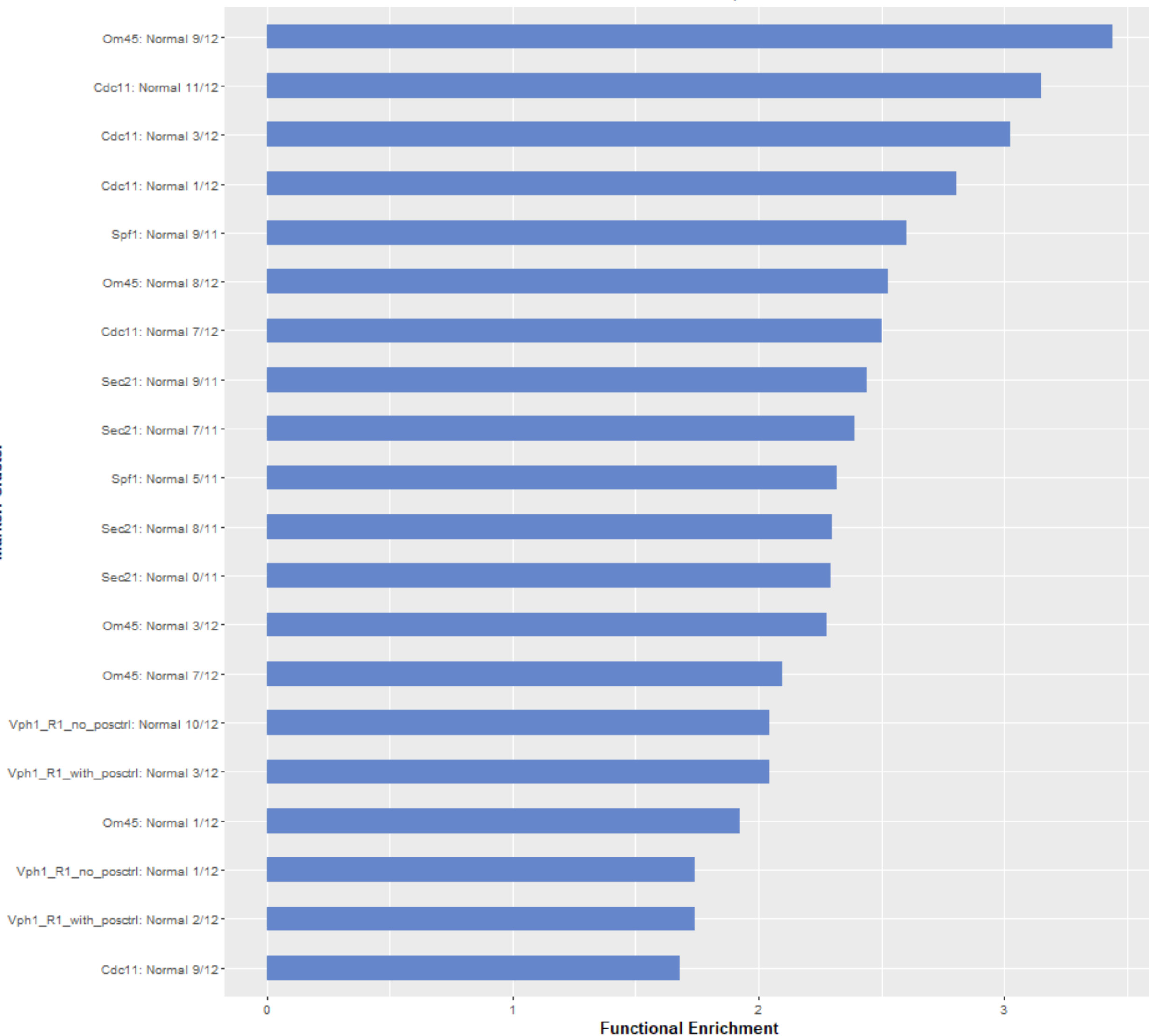
Marker: Cluster



# organelle fission

Without AreaShape

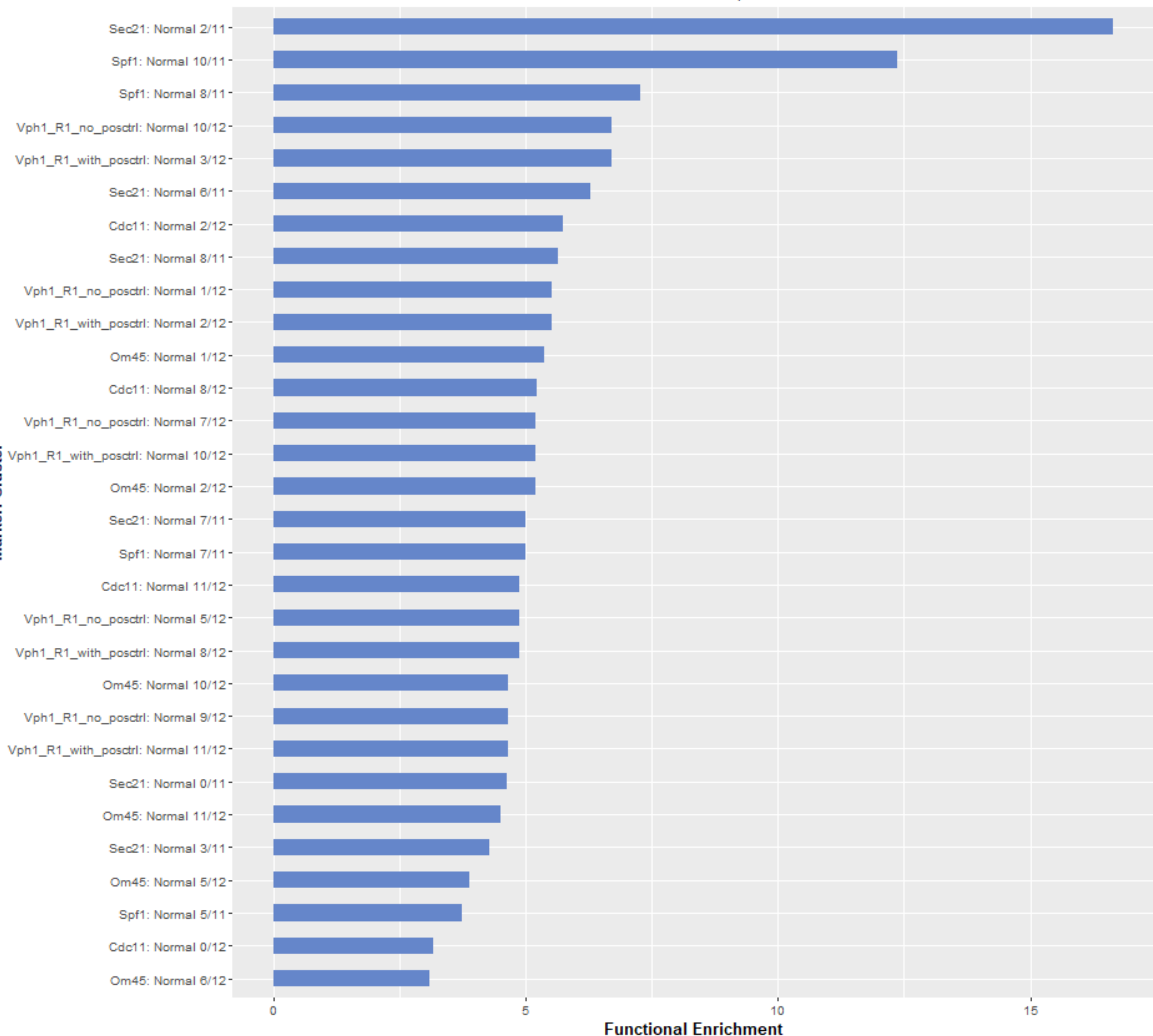
Marker: Cluster



# organelle fusion

Without AreaShape

Marker: Cluster

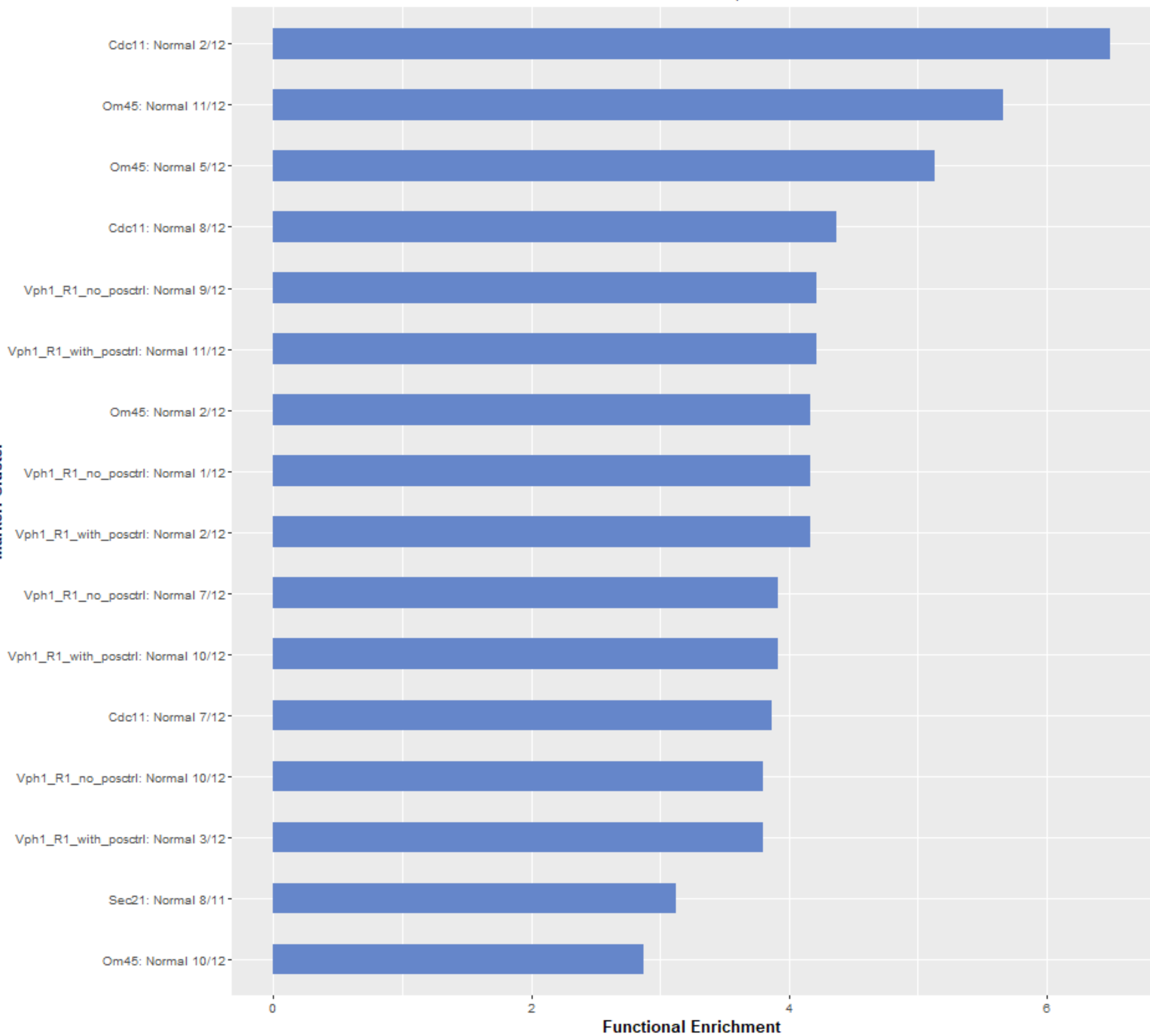




# organelle inheritance

Without AreaShape

Marker: Cluster



# peptidyl-amino acid modification

Without AreaShape

Marker: Cluster

Sec21: Normal 6/11  
Sec21: Normal 0/11  
Sec21: Normal 9/11  
Cdc11: Normal 1/12  
Om45: Normal 2/12  
Sec21: Normal 7/11  
Cdc11: Normal 3/12  
Om45: Normal 1/12  
Cdc11: Normal 0/12  
Om45: Normal 5/12  
Cdc11: Normal 8/12  
Spf1: Normal 9/11  
Vph1\_R1\_no\_posctrl: Normal 9/12  
Vph1\_R1\_with\_posctrl: Normal 11/12  
Om45: Normal 10/12  
Vph1\_R1\_no\_posctrl: Normal 7/12  
Vph1\_R1\_with\_posctrl: Normal 10/12  
Om45: Normal 3/12  
Sec21: Normal 8/11  
Om45: Normal 9/12  
Cdc11: Normal 9/12  
Om45: Normal 6/12  
Om45: Normal 8/12  
Spf1: Normal 7/11

0

1

2

3

Functional Enrichment

# protein acylation

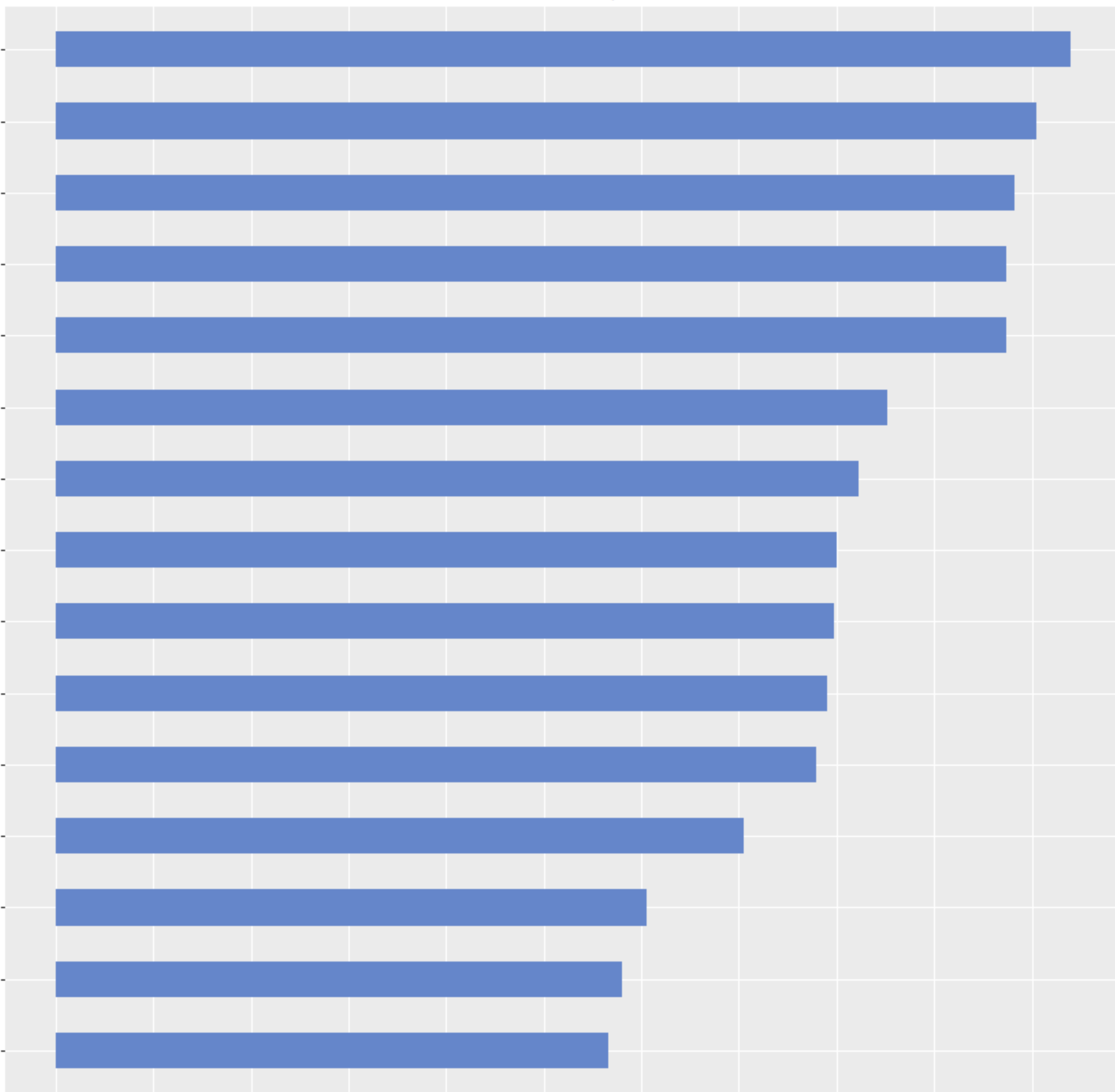
Without AreaShape

Marker: Cluster

Om45: Normal 2/12  
Om45: Normal 11/12  
Sec21: Normal 6/11  
Om45: Normal 5/12  
Spf1: Normal 8/11  
Sec21: Normal 9/11  
Sec21: Normal 0/11  
Cdc11: Normal 3/12  
Cdc11: Normal 1/12  
Spf1: Normal 9/11  
Sec21: Normal 7/11  
Cdc11: Normal 0/12  
Om45: Normal 6/12  
Spf1: Normal 7/11  
Om45: Normal 10/12

0 1 2 3 4 5

Functional Enrichment

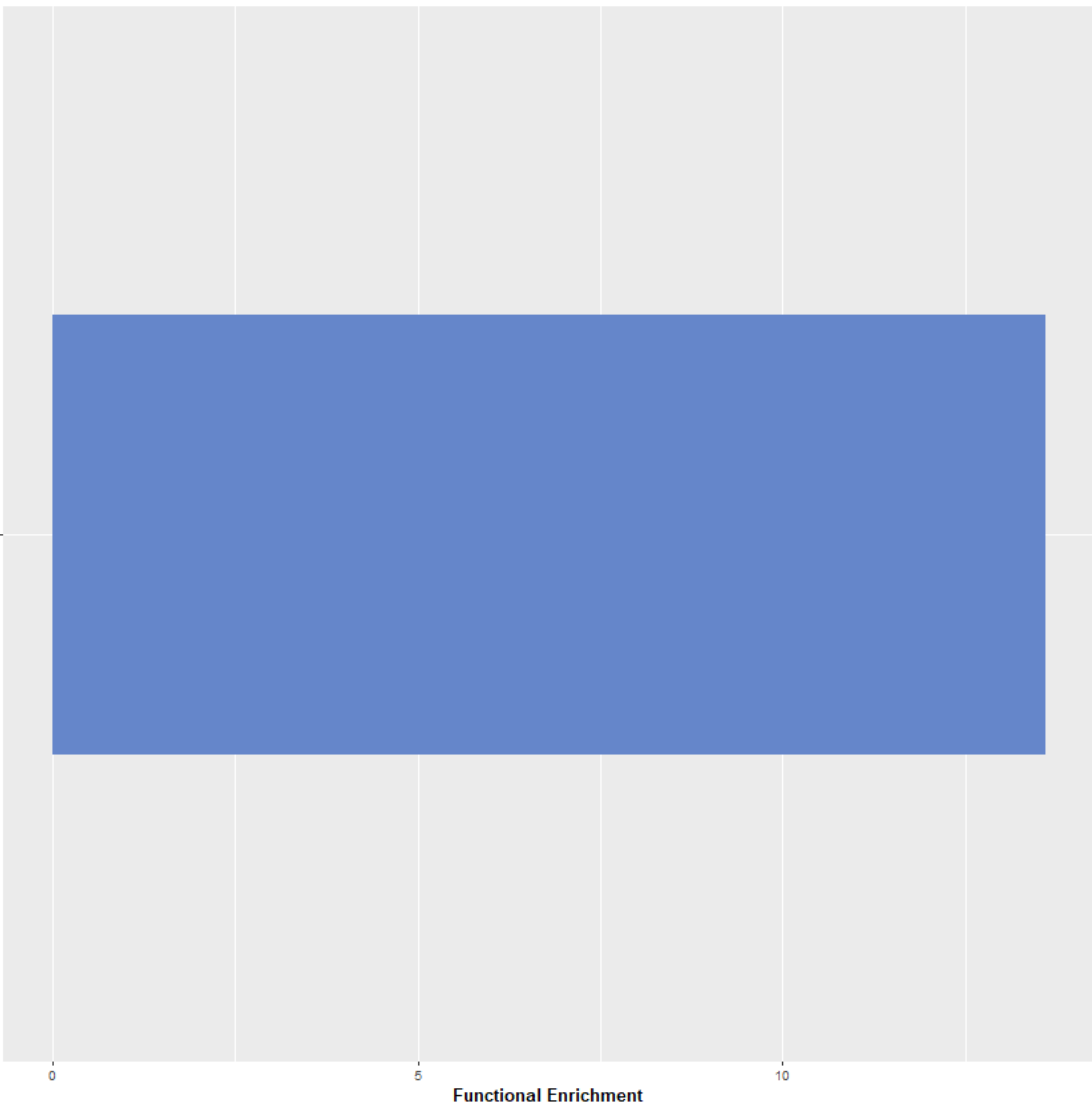


# protein alkylation

Without AreaShape

Marker: Cluster

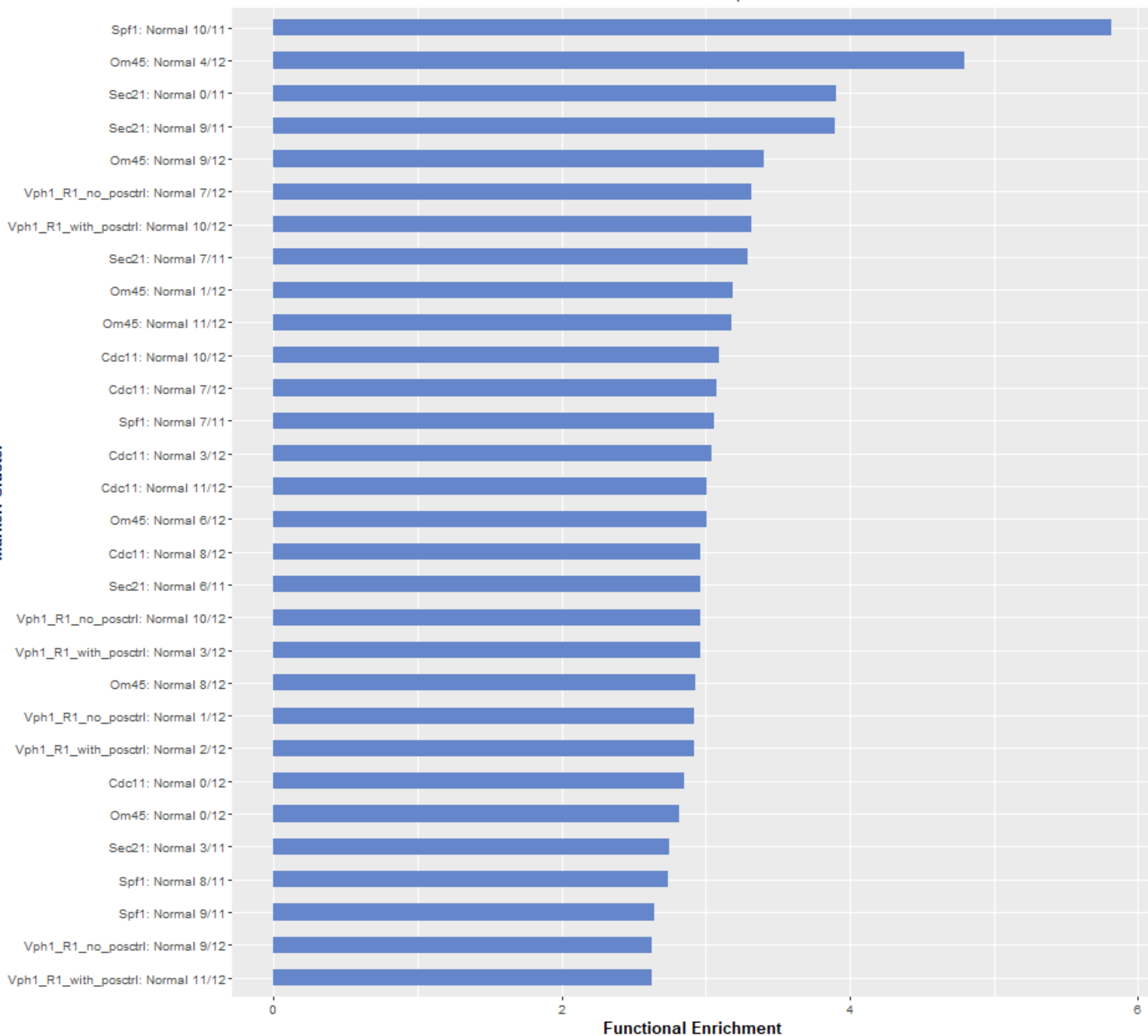
Sec21: Normal 5/11



# protein complex biogenesis

Without AreaShape

Marker: Cluster



# protein glycosylation

Without AreaShape

Marker: Cluster

Cdc11: Normal 2/12

Vph1\_R1\_with\_posctrl: Normal 0/12

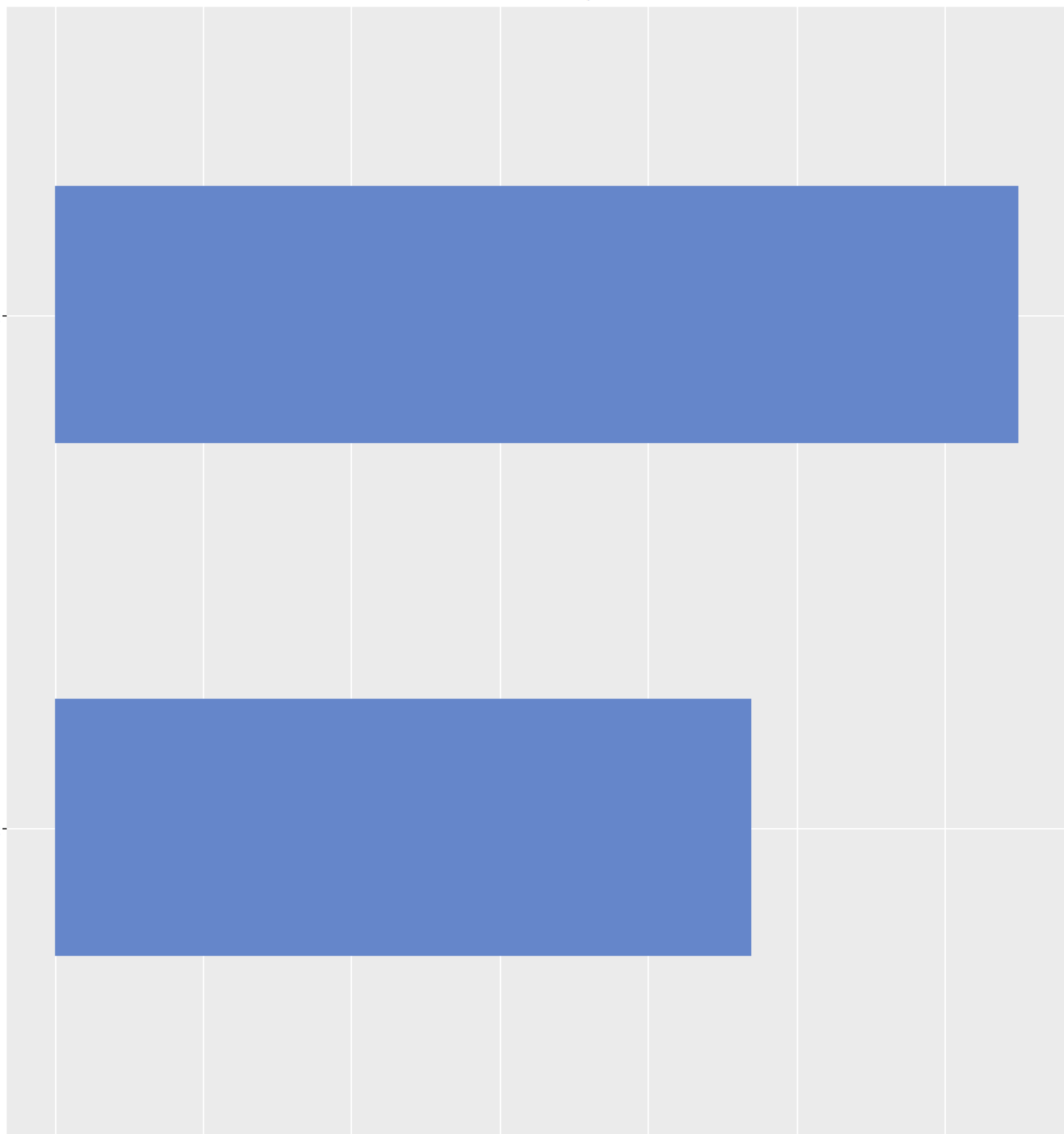
0

2

4

6

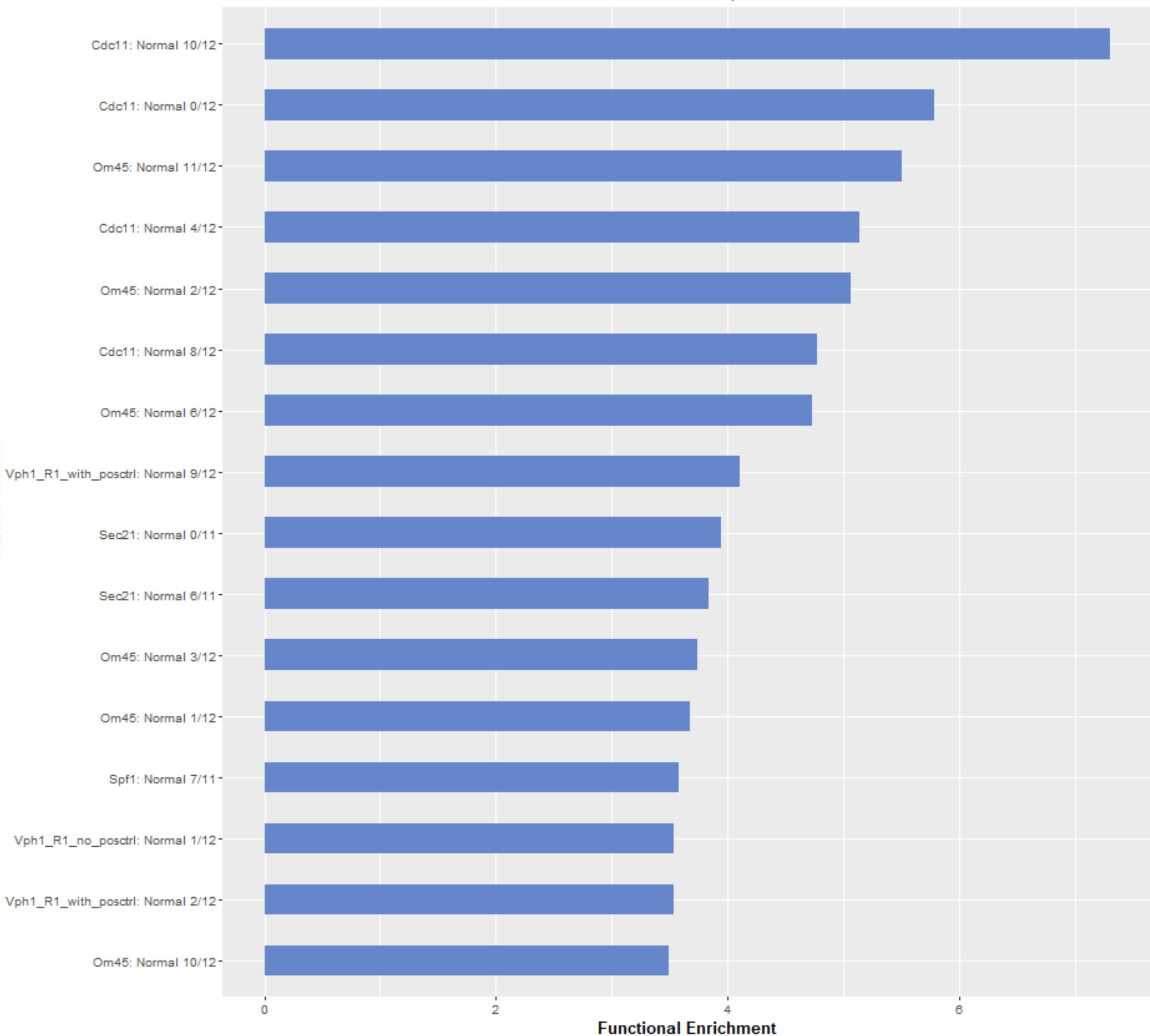
Functional Enrichment



# protein lipidation

Without AreaShape

Marker: Cluster



# protein maturation

Without AreaShape

Marker: Cluster

Vph1\_R1\_no\_posctrl: Normal 5/12

Vph1\_R1\_with\_posctrl: Normal 8/12

0

1

2

3

4

Functional Enrichment



# protein modification by small protein conjugation or removal

Without AreaShape

Marker: Cluster

Om45: Normal 9/12

Om45: Normal 7/12

Cdc11: Normal 3/12

Cdc11: Normal 1/12

Spf1: Normal 9/11

Om45: Normal 8/12

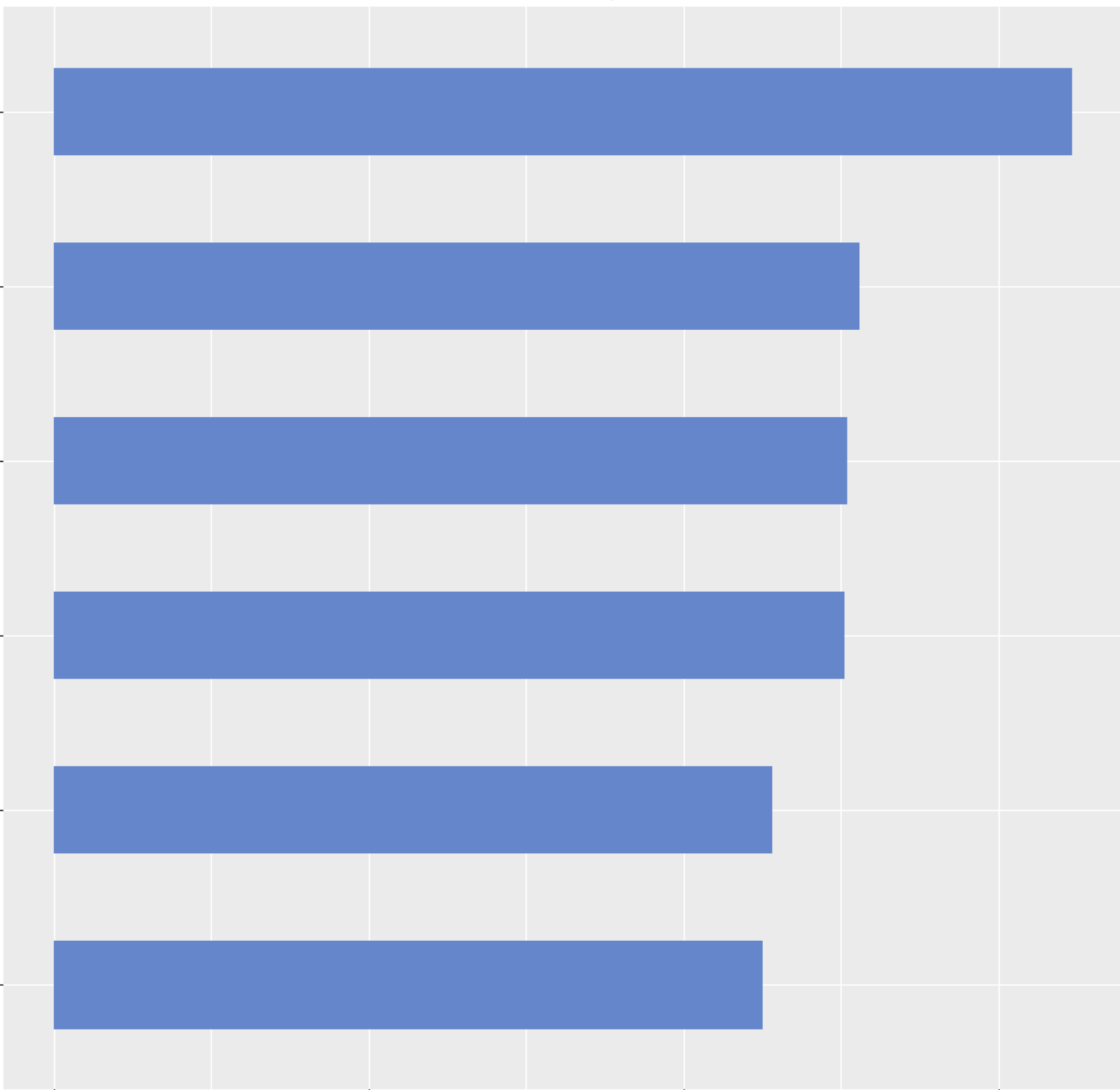
0

1

2

3

Functional Enrichment



# protein phosphorylation

Without AreaShape

Marker: Cluster

Sec21: Normal 6/11

Om45: Normal 9/12

Om45: Normal 8/12

Om45: Normal 10/12

Vph1\_R1\_no\_posctrl: Normal 7/12

Vph1\_R1\_with\_posctrl: Normal 10/12

0.0

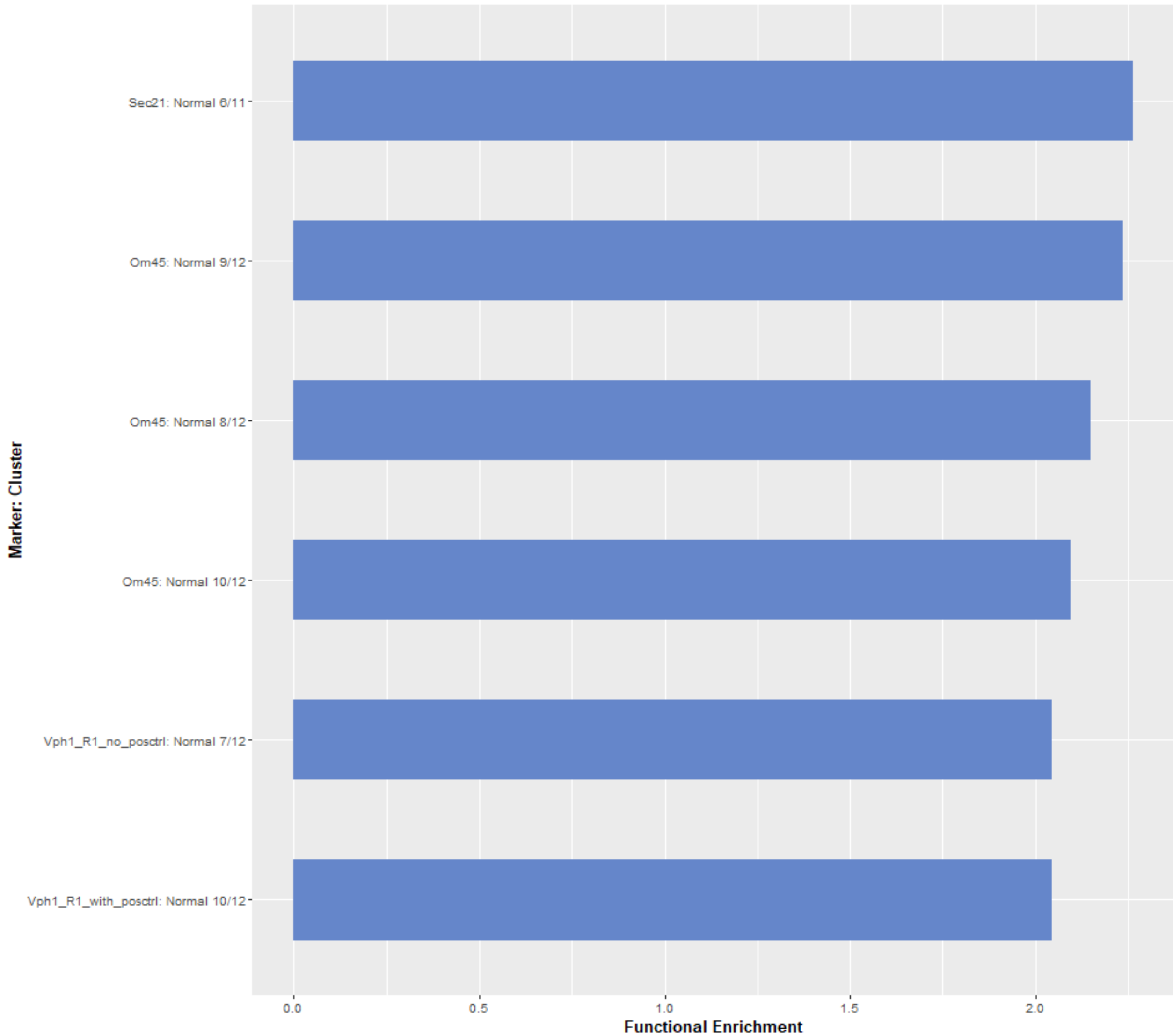
0.5

1.0

1.5

2.0

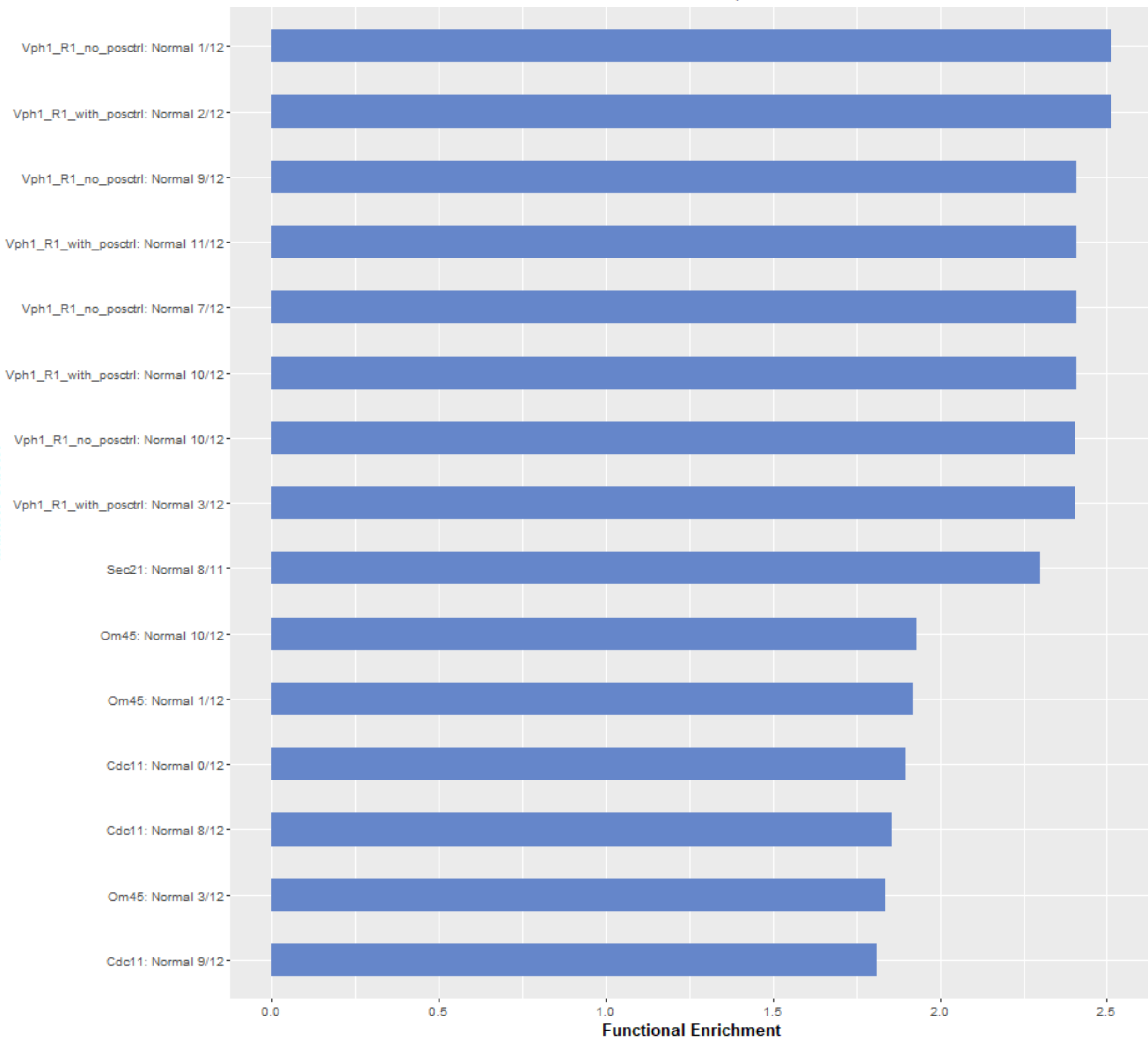
Functional Enrichment



# protein targeting

Without AreaShape

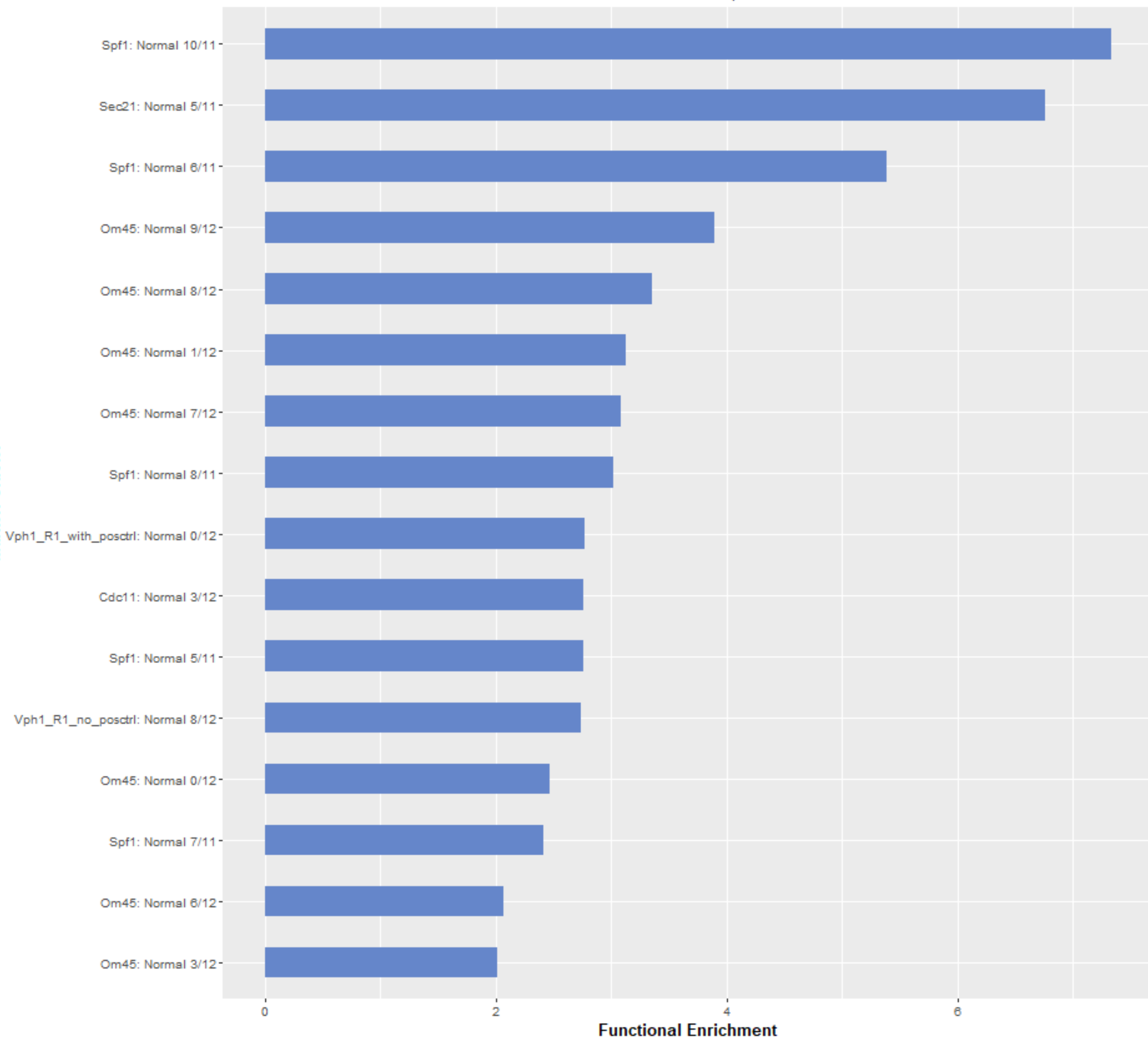
Marker: Cluster



# proteolysis involved in cellular protein catabolic process

Without AreaShape

Marker: Cluster



pseudohyphal growth

Without AreaShape

Marker: Cluster

Cdc11: Normal 5/12

0

1

2

3

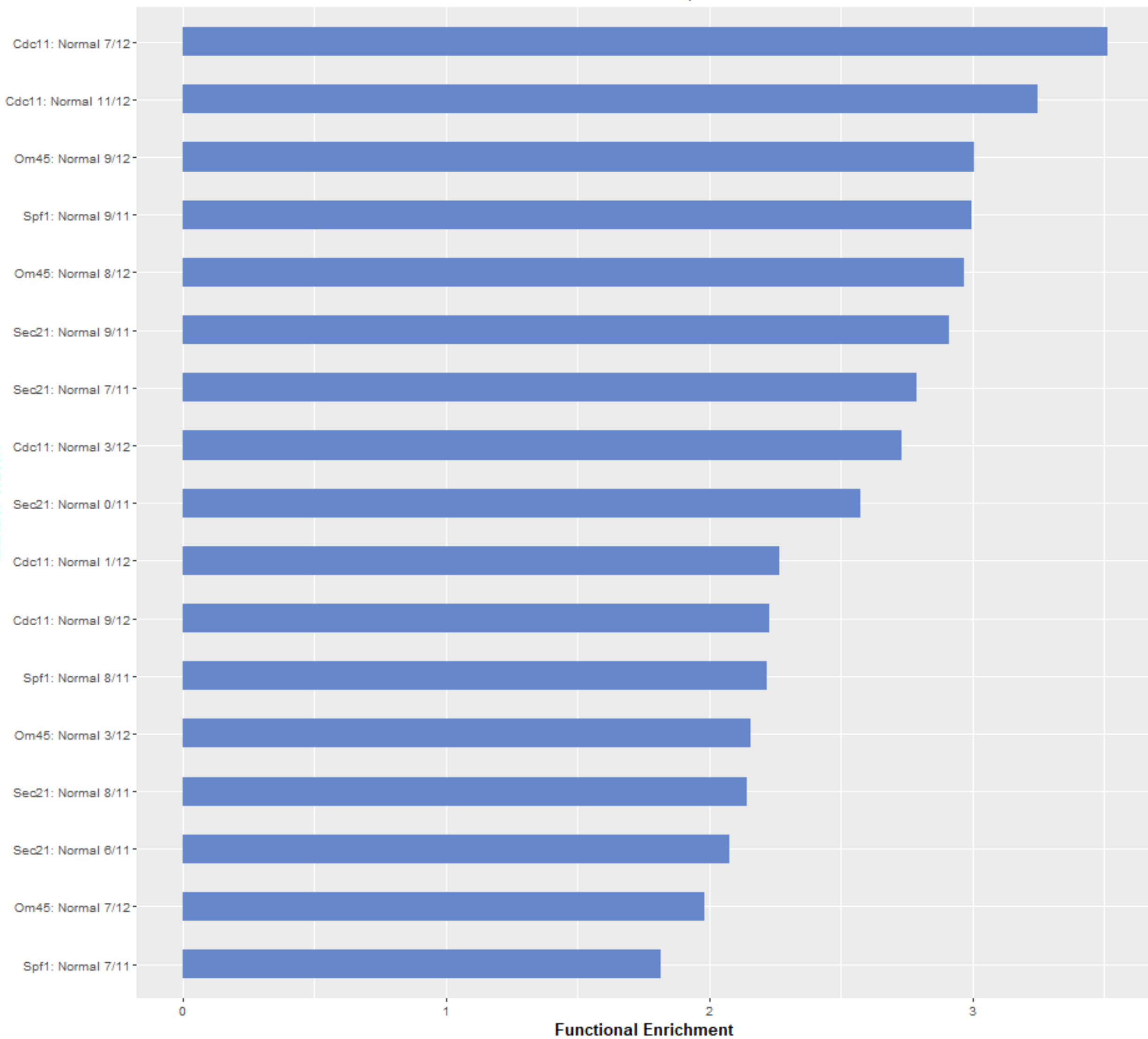
4

Functional Enrichment

# regulation of cell cycle

Without AreaShape

Marker: Cluster



# regulation of DNA metabolic process

Without AreaShape

Marker: Cluster

Sec21: Normal 5/11

Om45: Normal 7/12

Om45: Normal 3/12

Cdc11: Normal 9/12

Cdc11: Normal 1/12

0.0

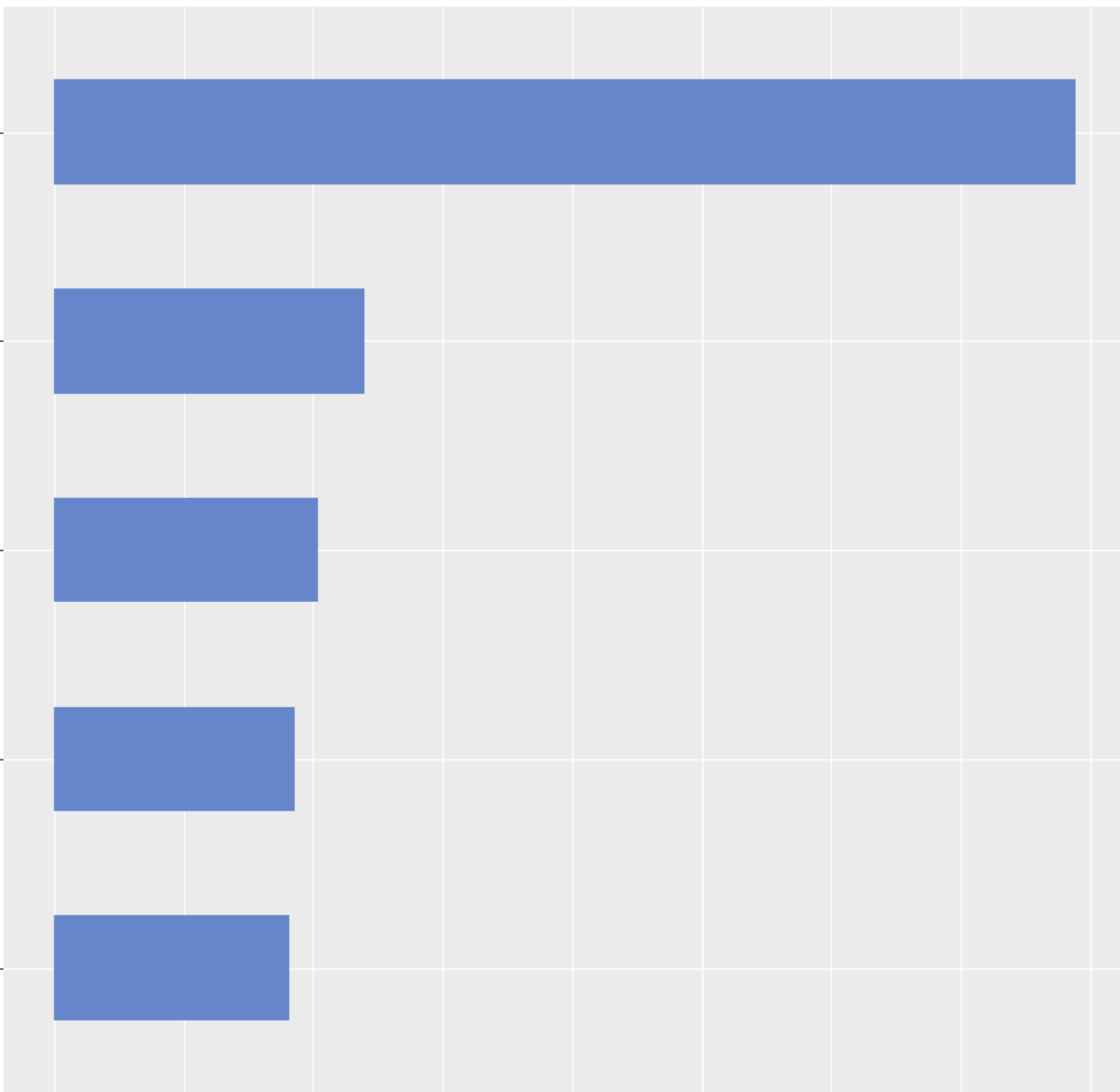
2.5

5.0

7.5

10.0

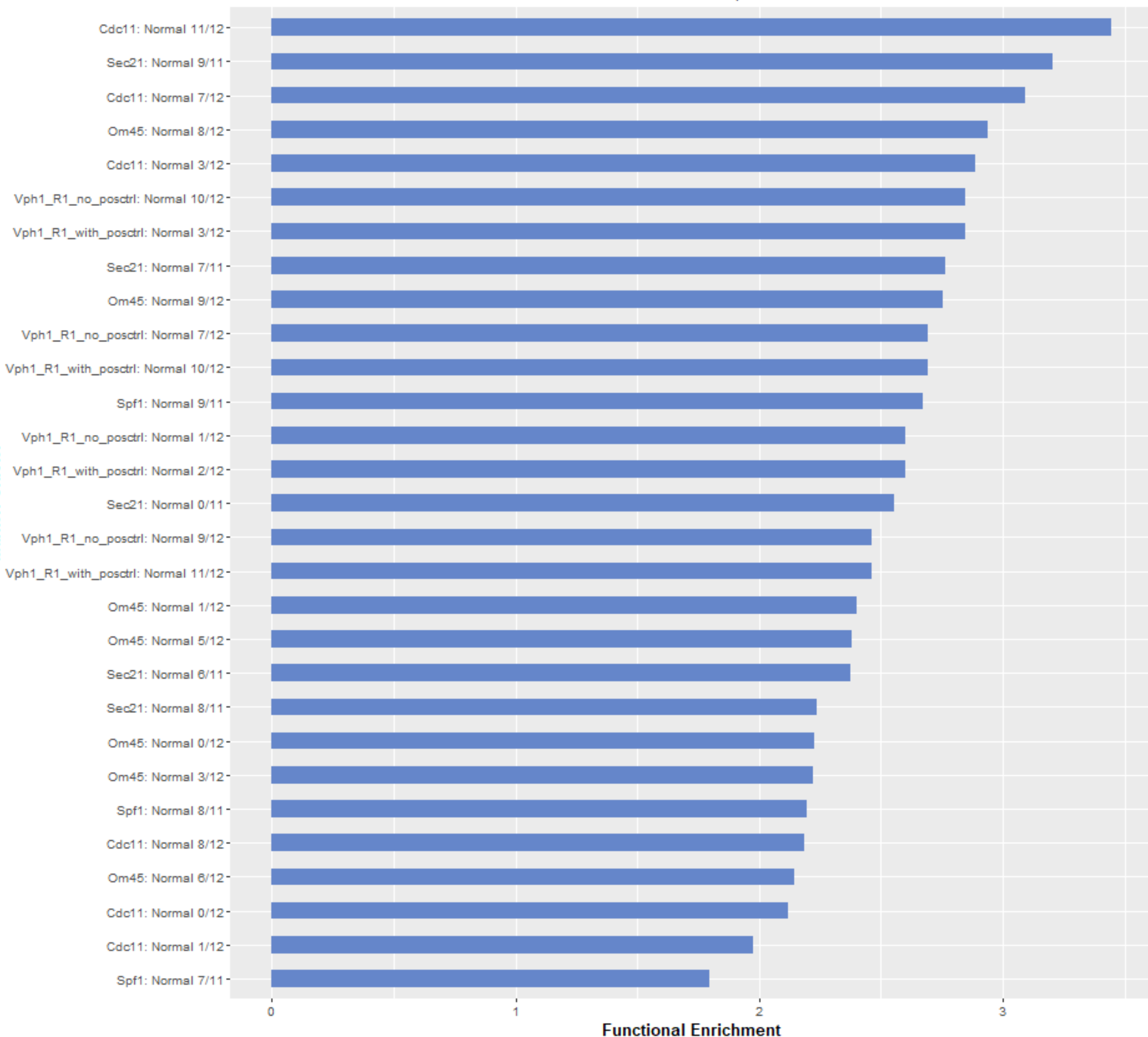
Functional Enrichment



# regulation of organelle organization

Without AreaShape

Marker: Cluster

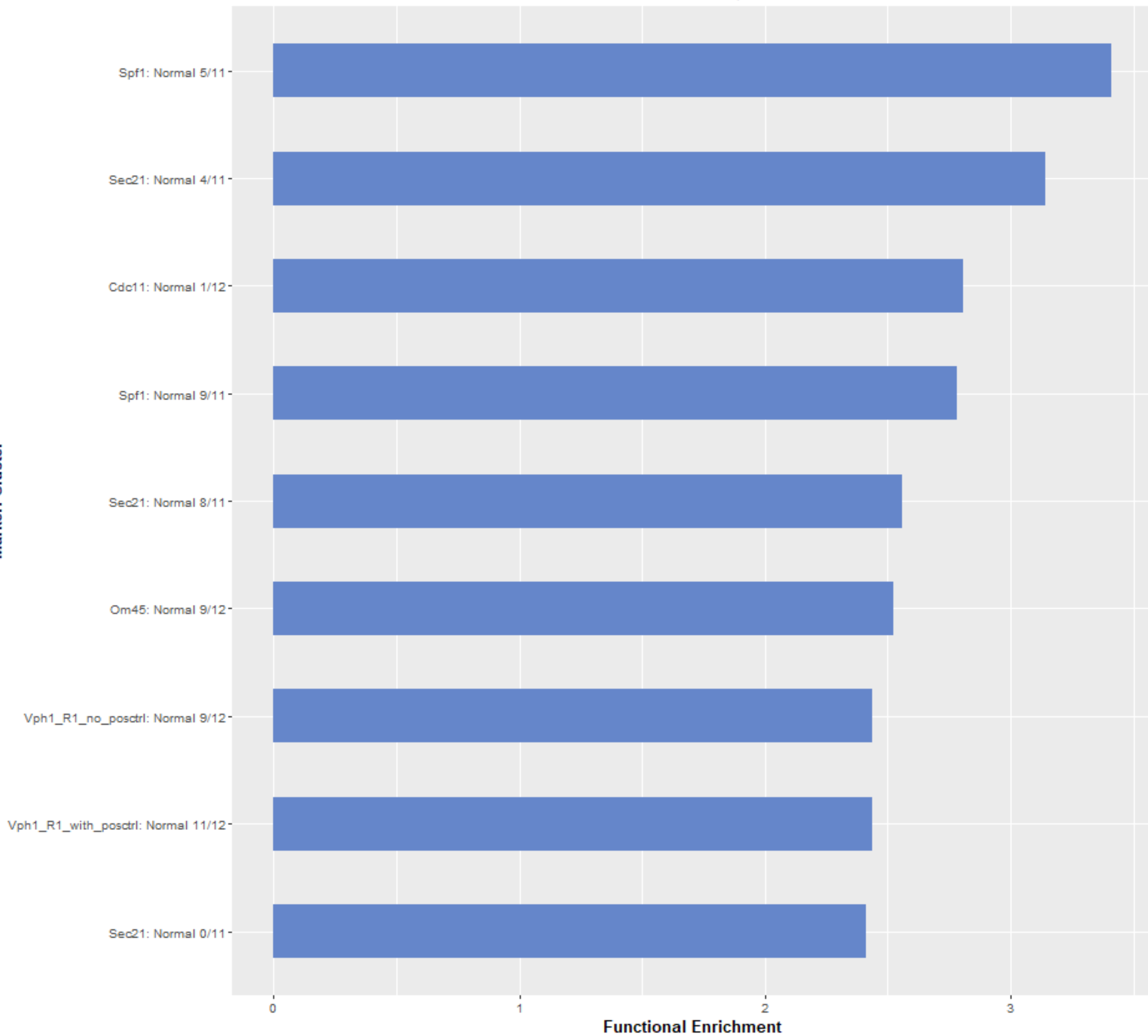




# regulation of protein modification process

Without AreaShape

Marker: Cluster

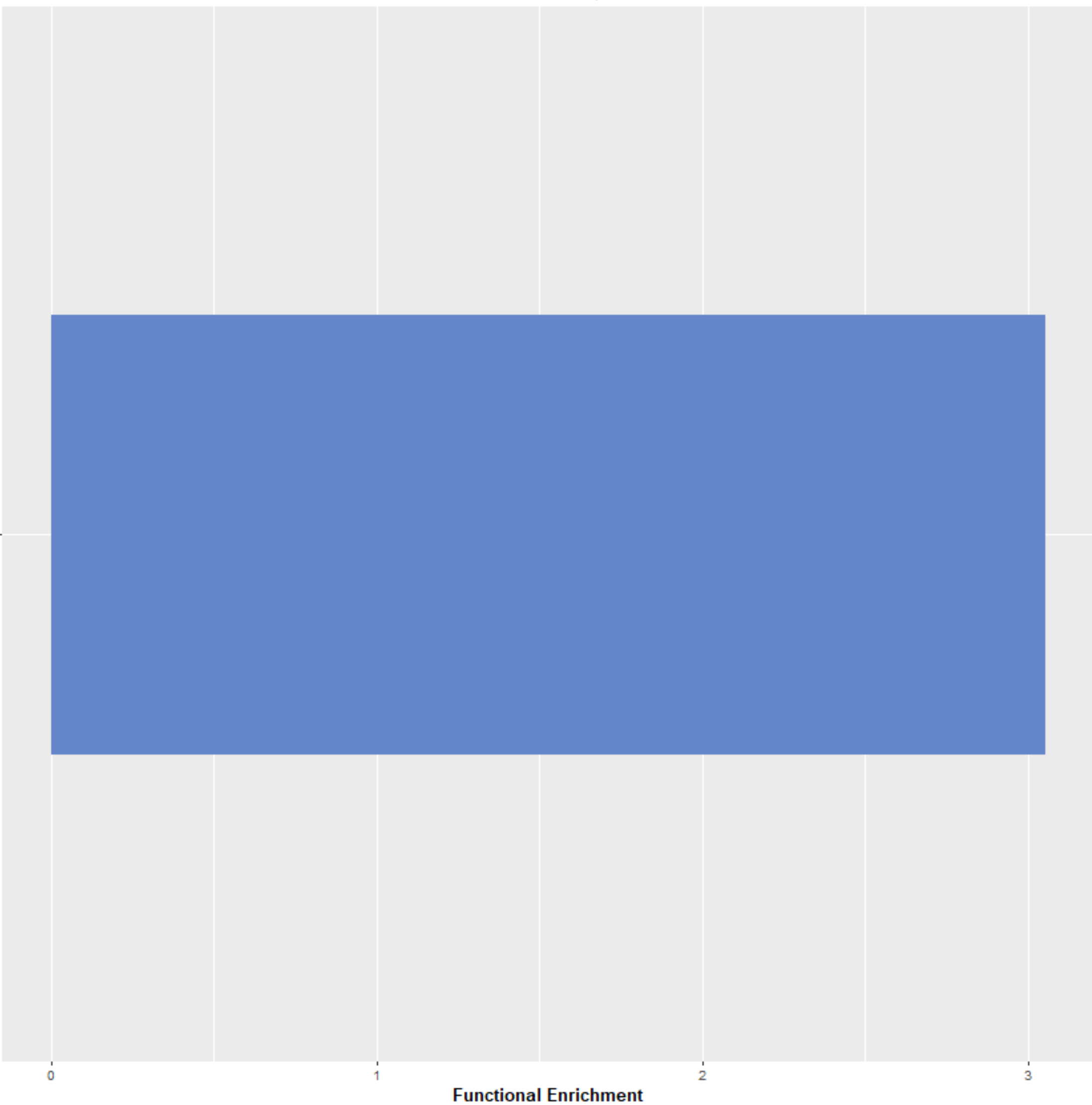


# regulation of translation

Without AreaShape

Marker: Cluster

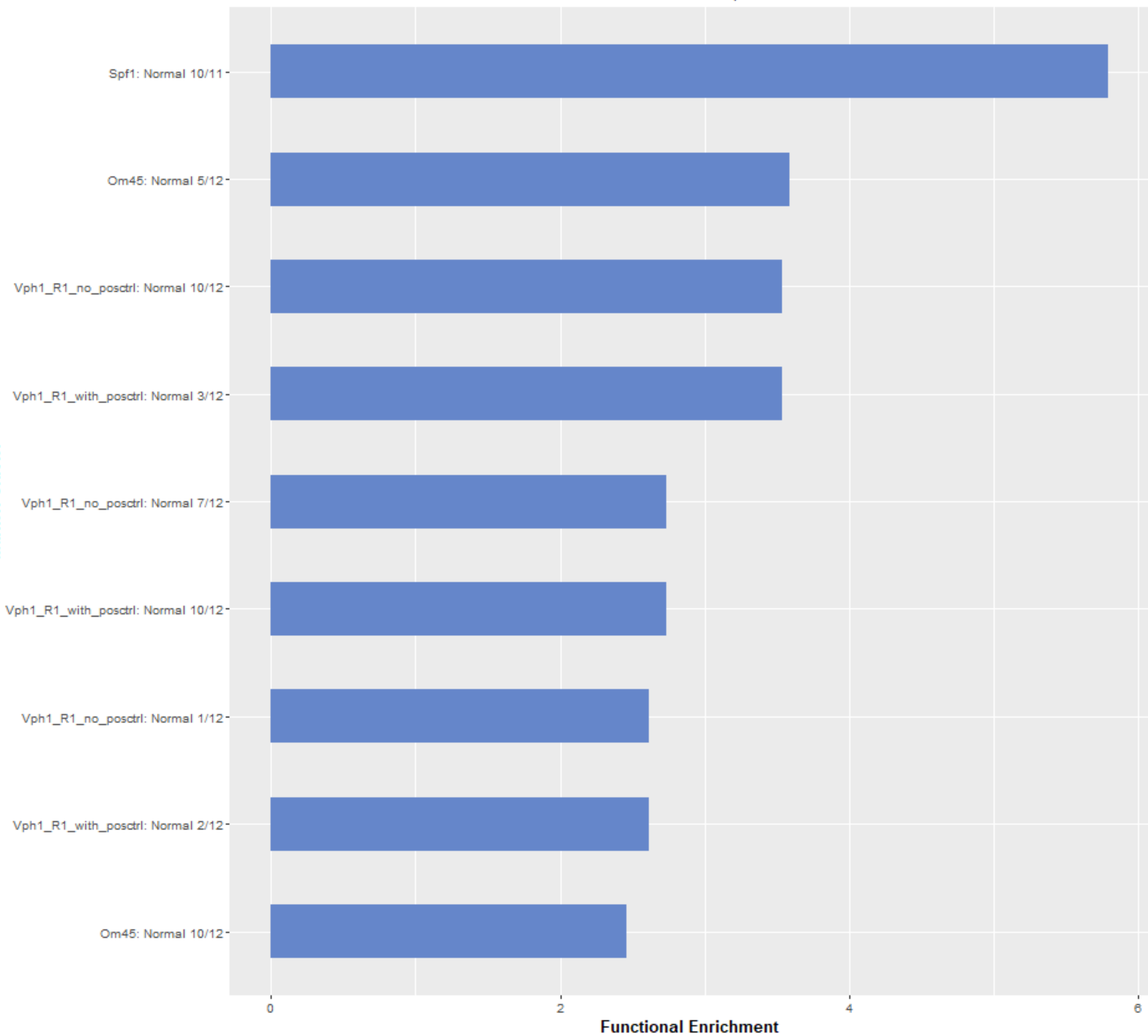
Om45: Normal 0/12



# regulation of transport

Without AreaShape

Marker: Cluster



response to chemical

Without AreaShape

Marker: Cluster

Spf1: Normal 2/11

0.0

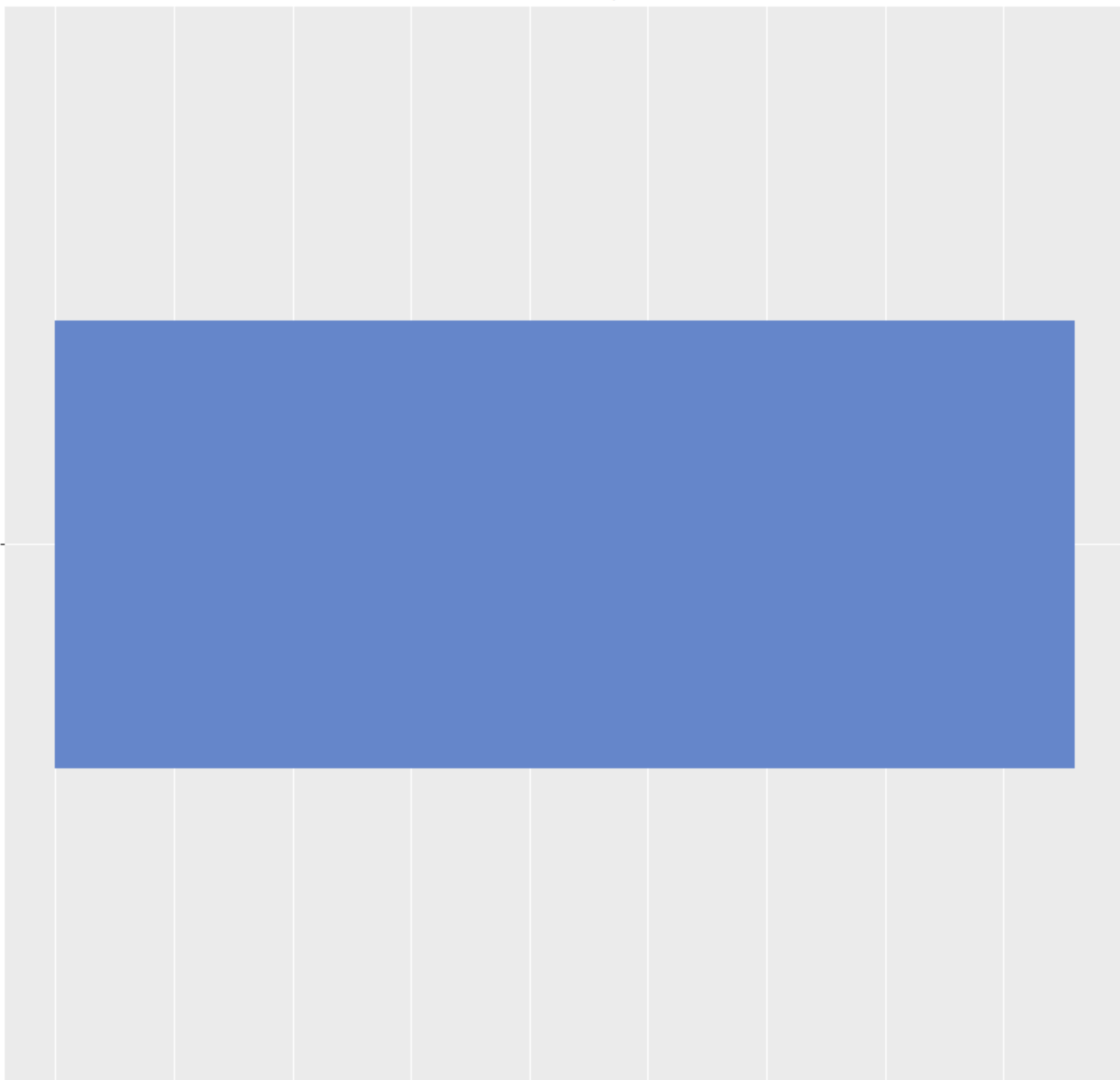
0.5

1.0

1.5

2.0

Functional Enrichment



### Without AreaShape

**Marker: Cluster**

Spf1: Normal 6/11 -

0

2

4

6

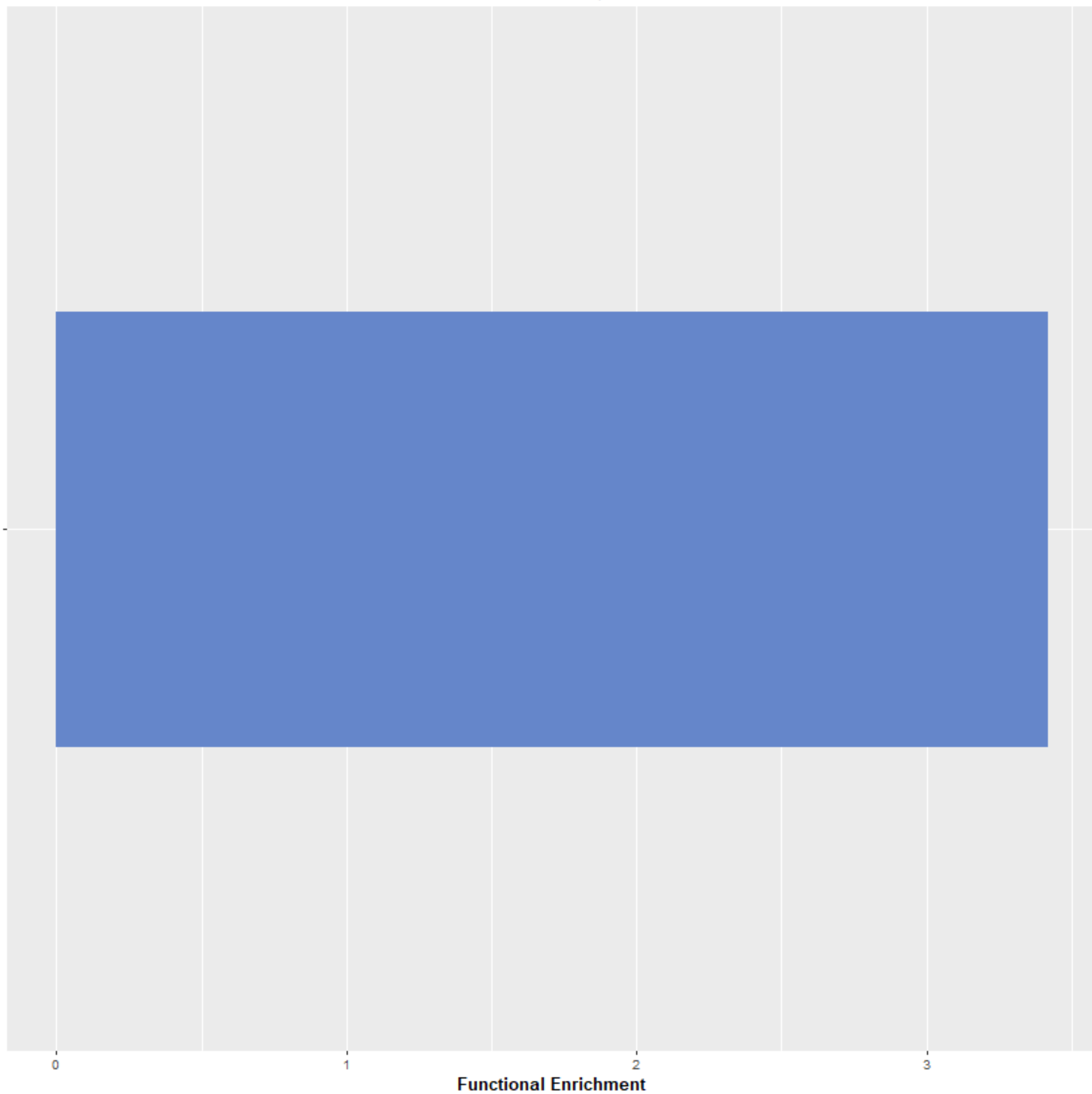
### Functional Enrichment

# ribosomal large subunit biogenesis

Without AreaShape

Marker: Cluster

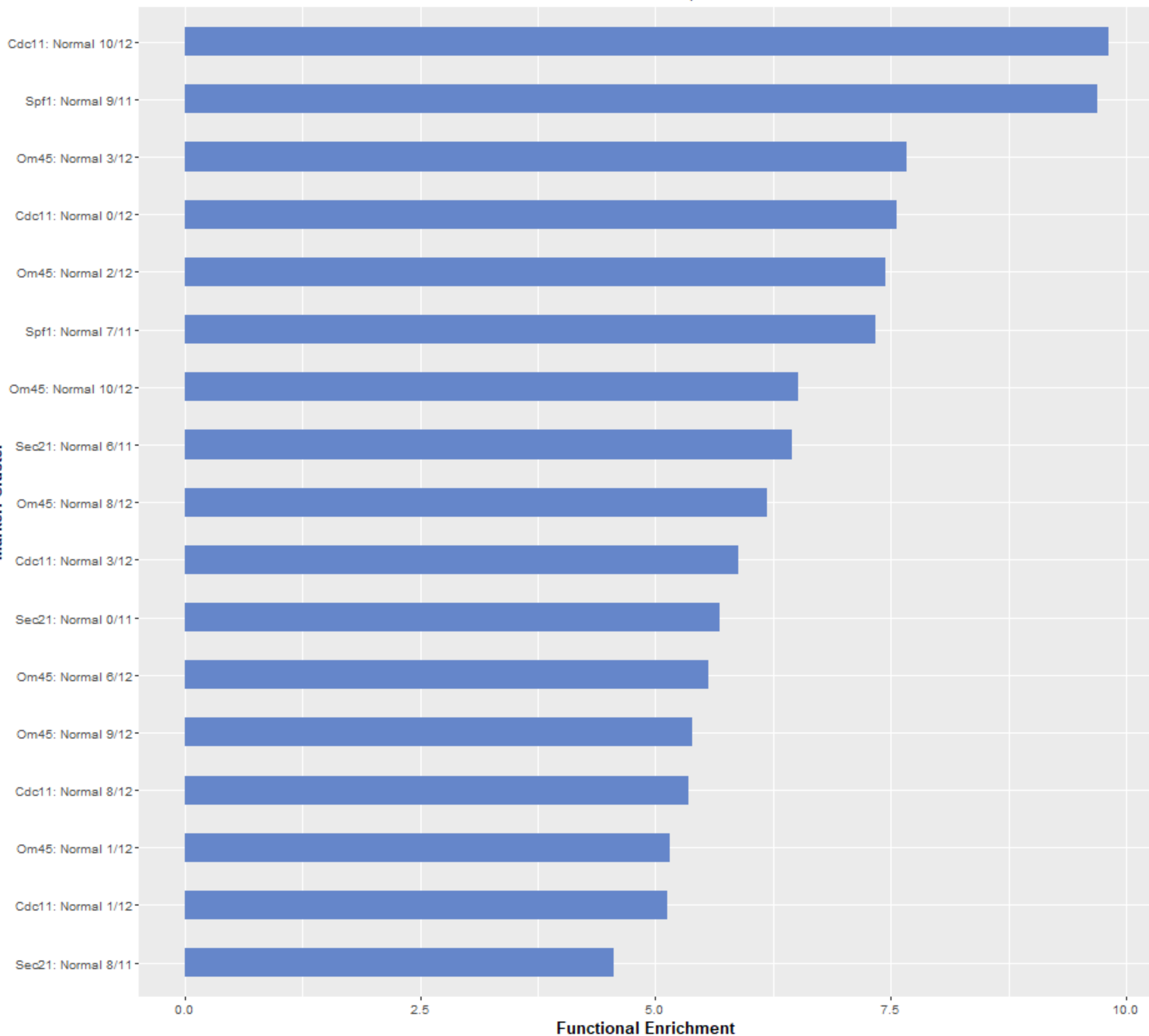
Spf1: Normal 9/11



# ribosomal subunit export from nucleus

Without AreaShape

Marker: Cluster

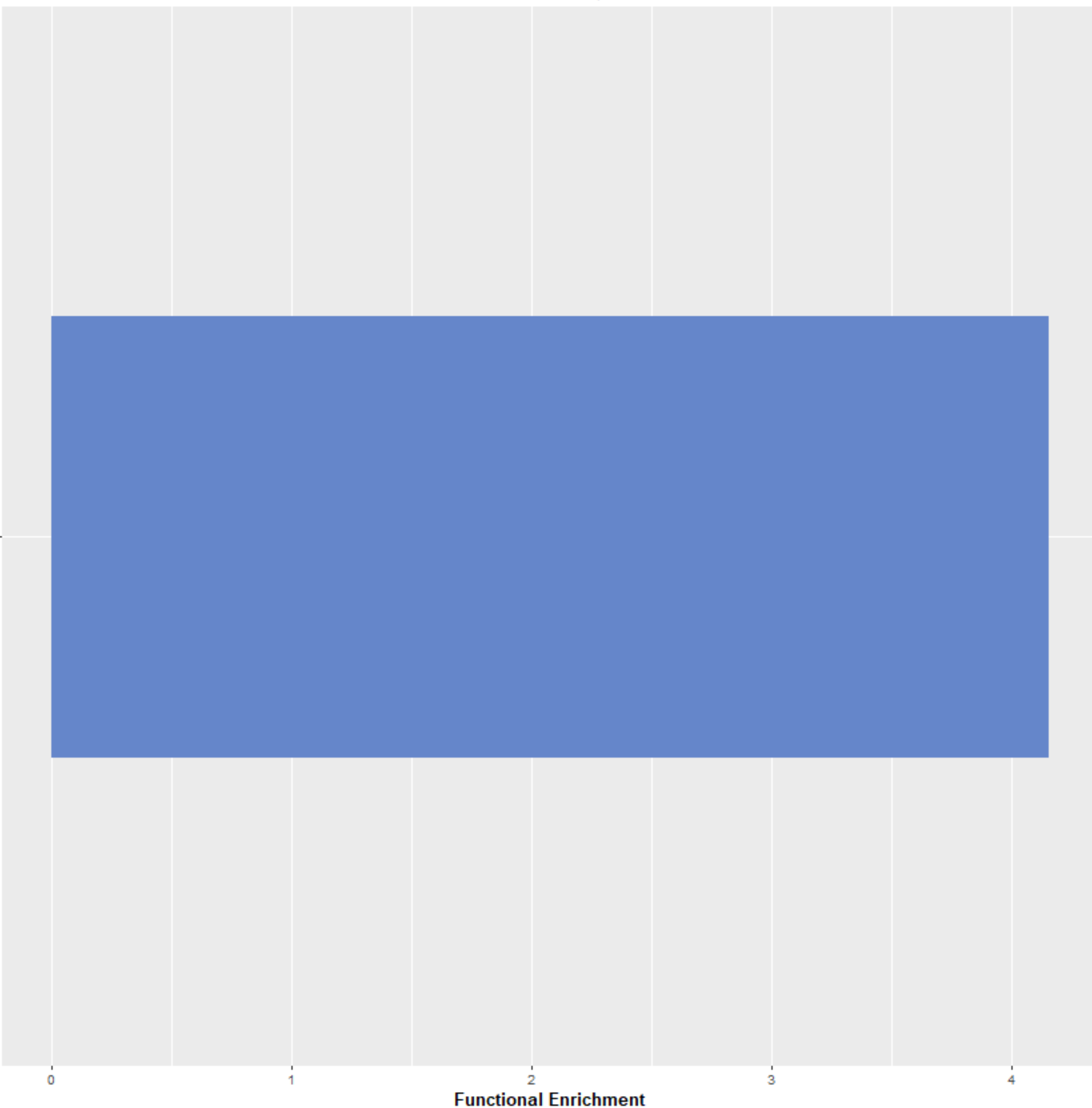


# ribosome assembly

Without AreaShape

Marker: Cluster

Om45: Normal 2/12





# RNA catabolic process

Without AreaShape

Marker: Cluster

Cdc11: Normal 4/12

Cdc11: Normal 9/12

Cdc11: Normal 1/12

Vph1\_R1\_no\_posctrl: Normal 7/12

Vph1\_R1\_with\_posctrl: Normal 10/12

Spf1: Normal 7/11

Om45: Normal 3/12

Om45: Normal 10/12

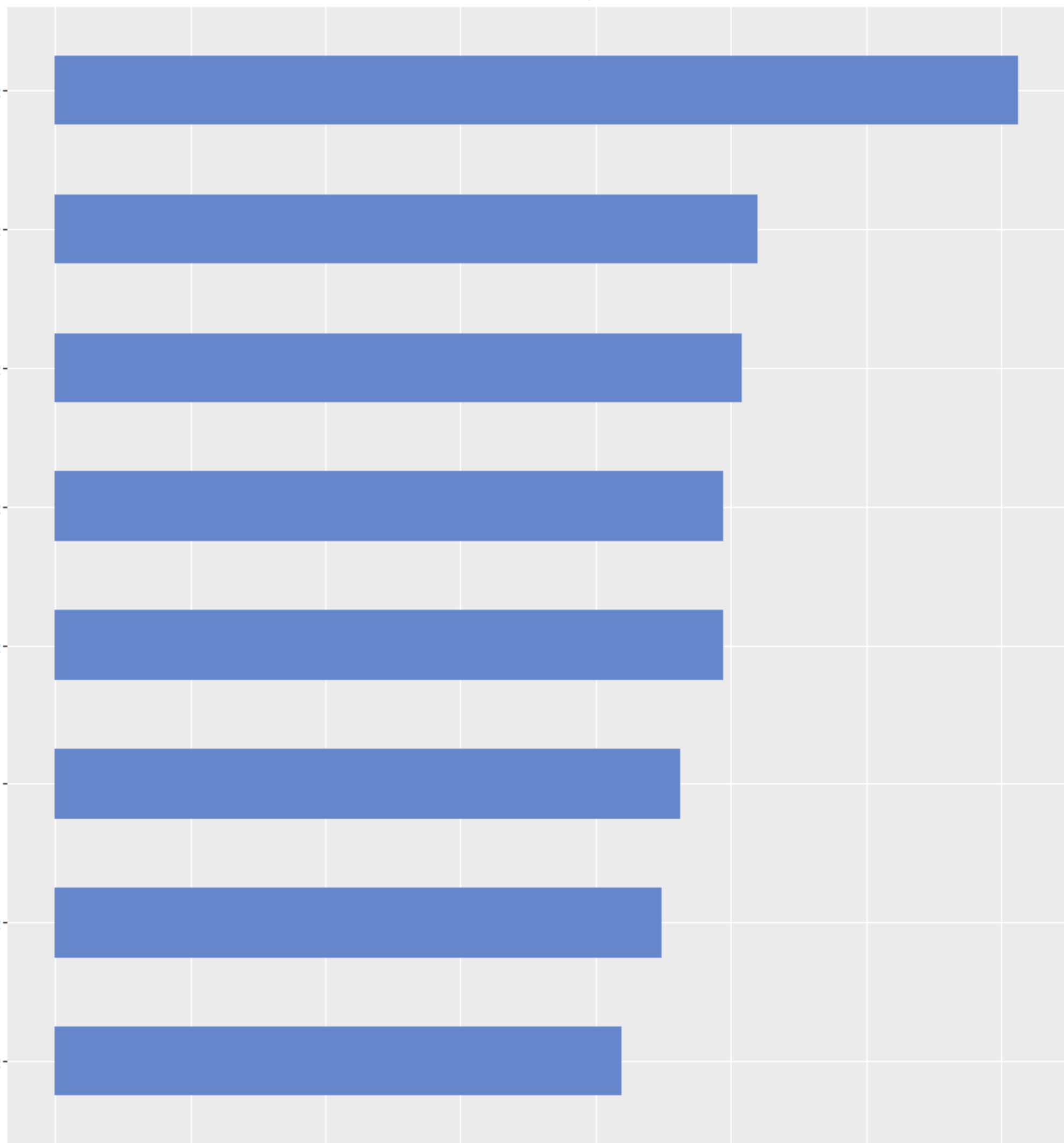
0

1

2

3

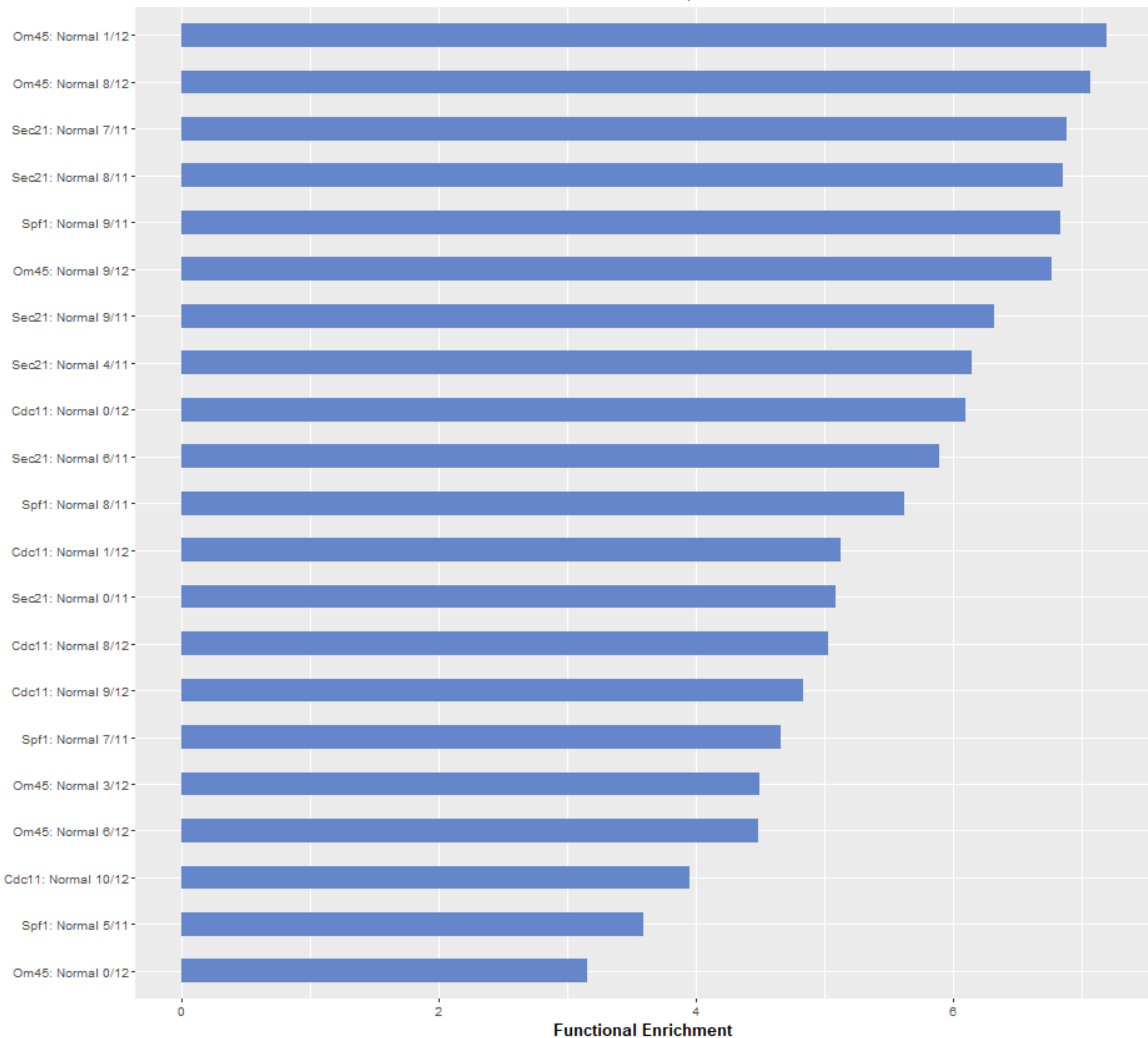
Functional Enrichment



# RNA splicing

Without AreaShape

Marker: Cluster

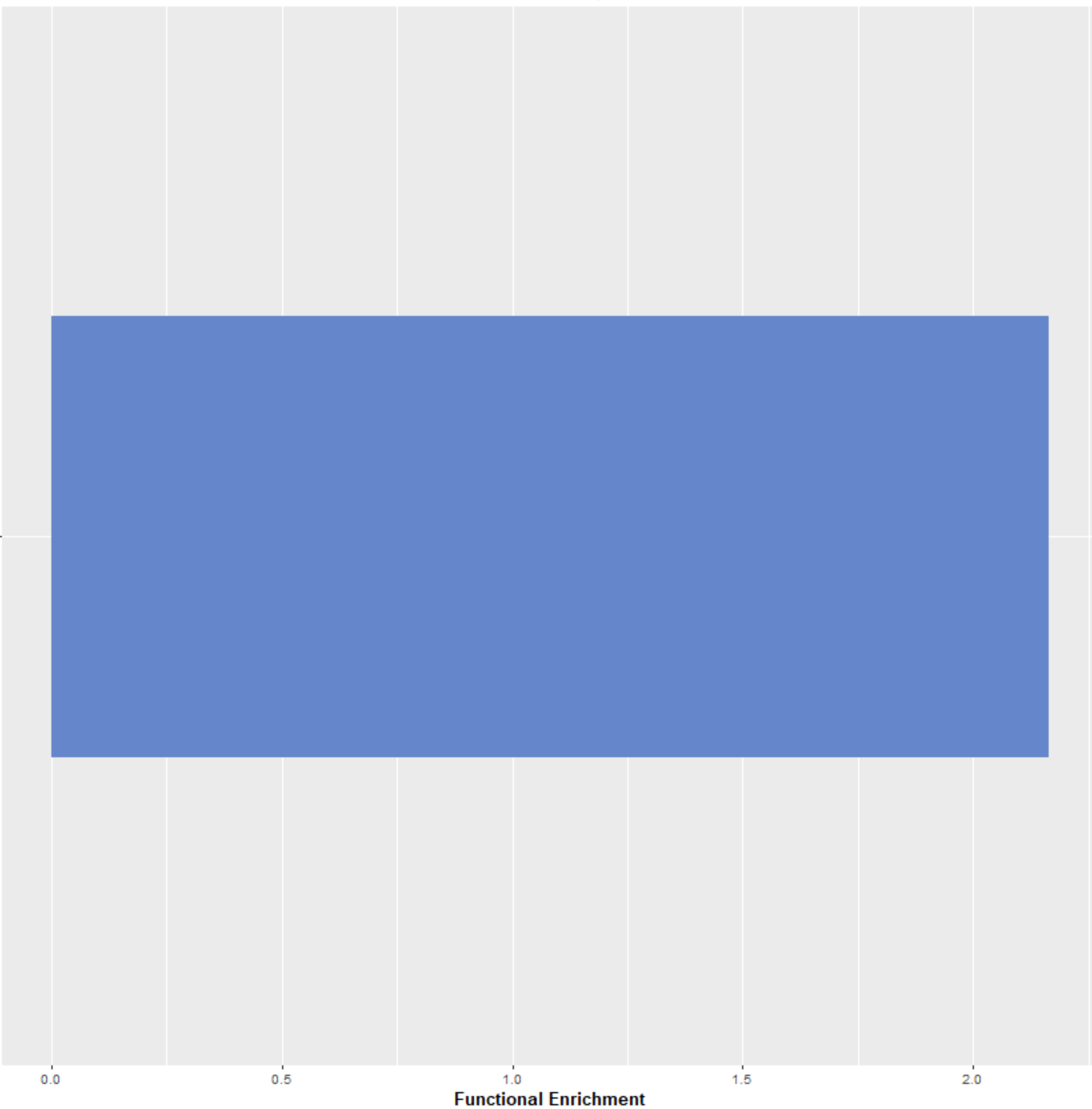


# rRNA processing

Without AreaShape

Marker: Cluster

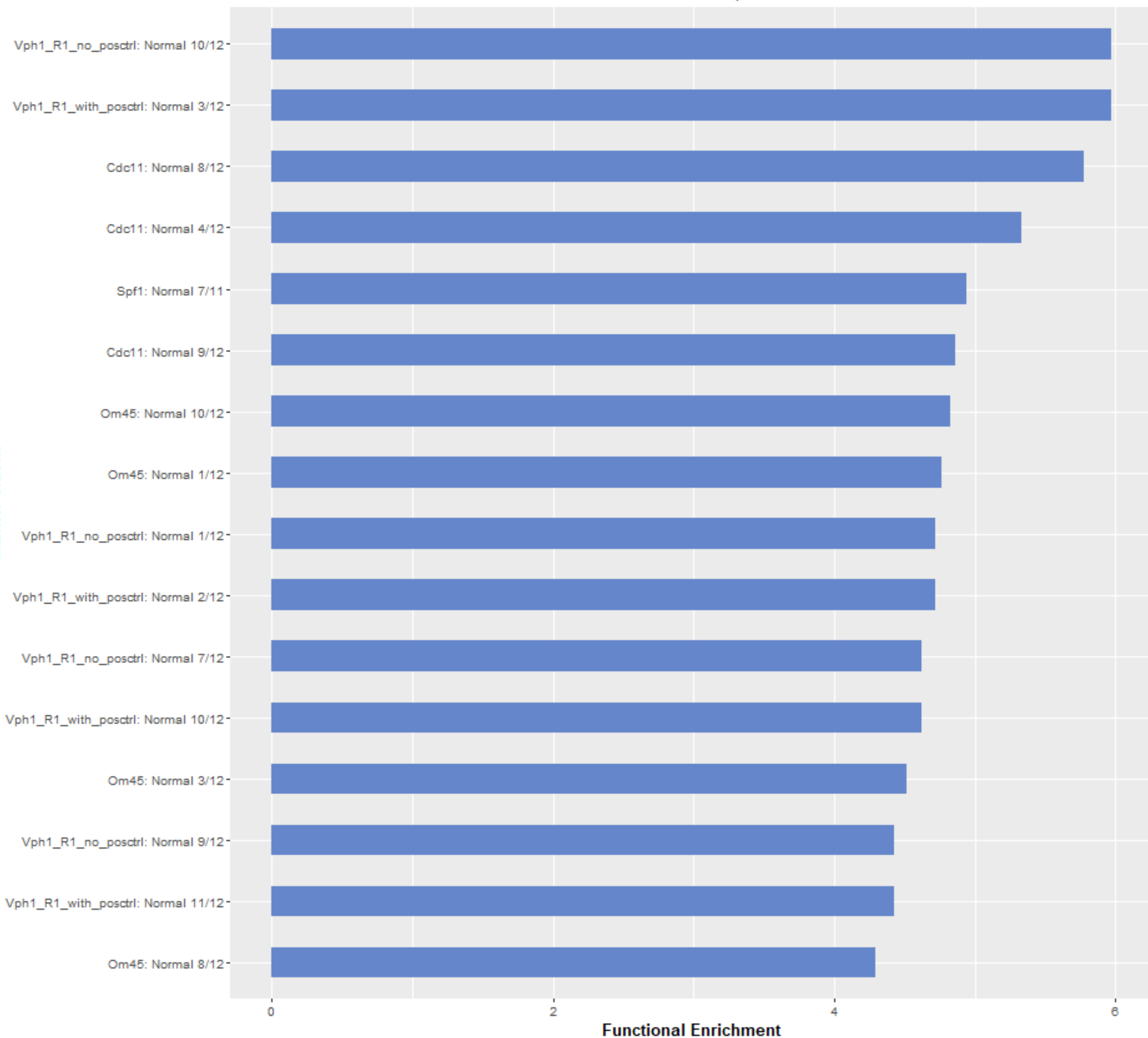
Om45: Normal 8/12



# snoRNA processing

Without AreaShape

Marker: Cluster



# telomere organization

Without AreaShape

Marker: Cluster

Spf1: Normal 6/11

Om45: Normal 9/12

Om45: Normal 3/12

0

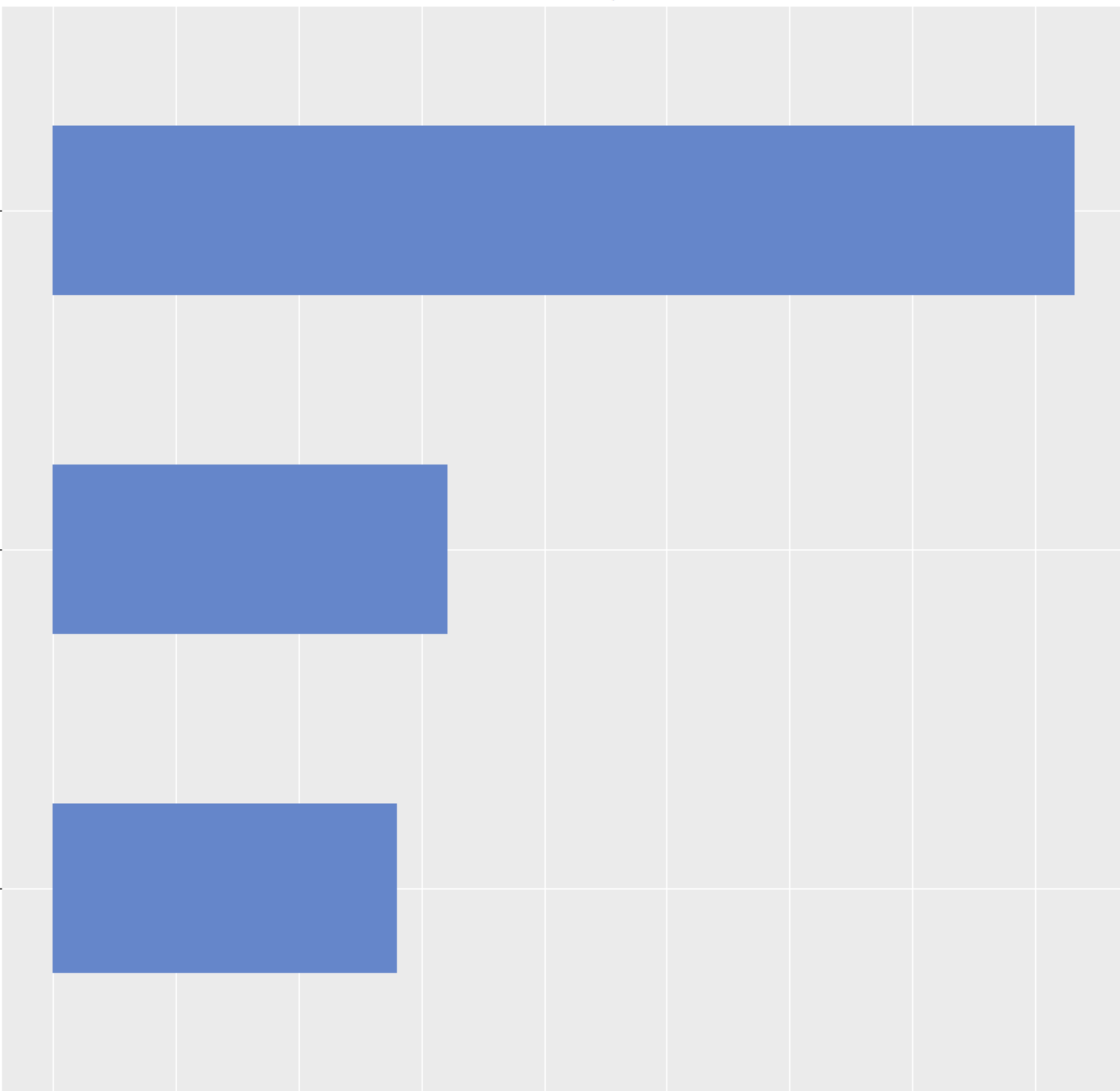
2

4

6

8

Functional Enrichment



# transcription from RNA polymerase I promoter

Without AreaShape

Marker: Cluster

Sec21: Normal 5/11

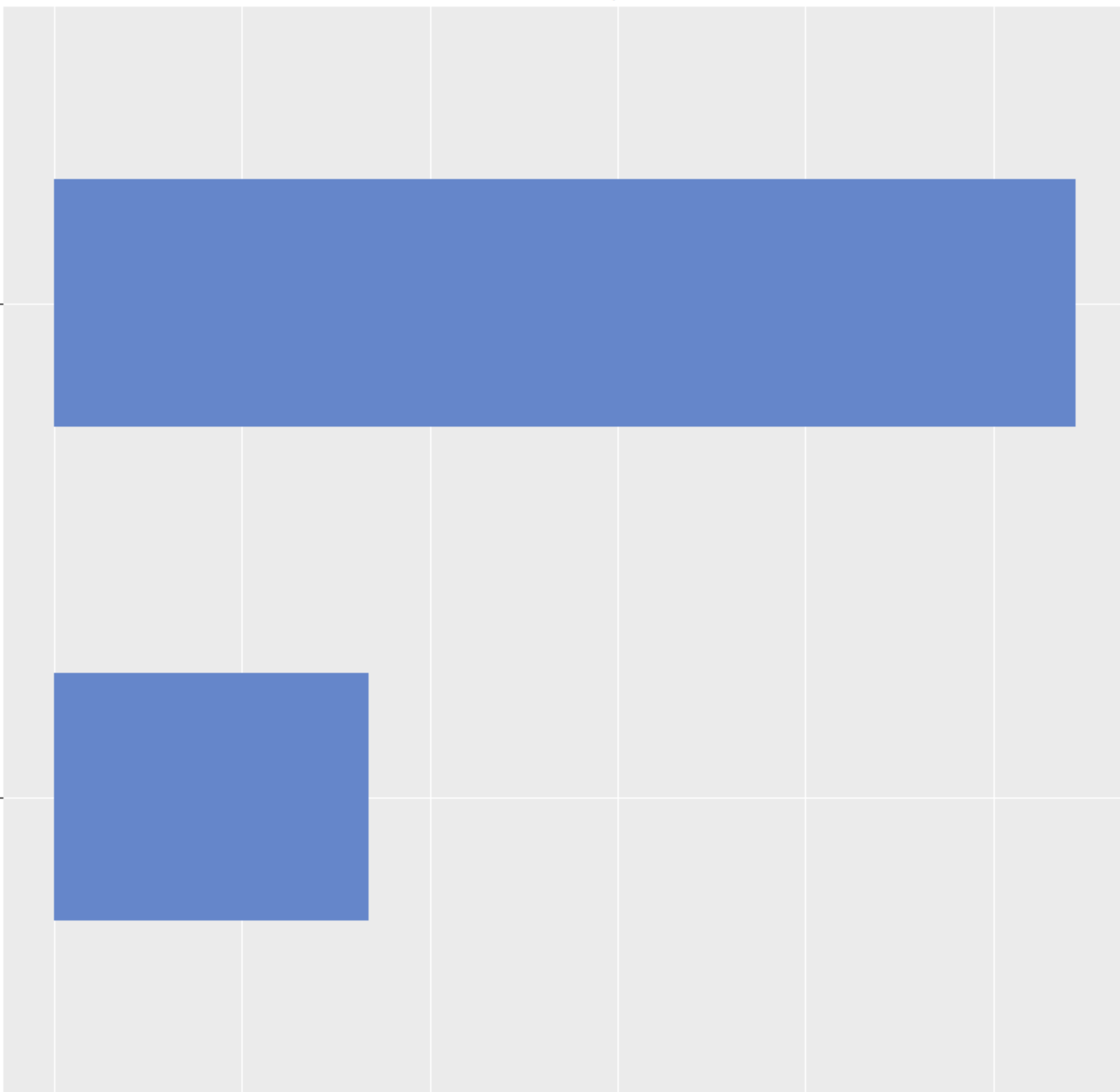
Cdc11: Normal 4/12

0

5

10

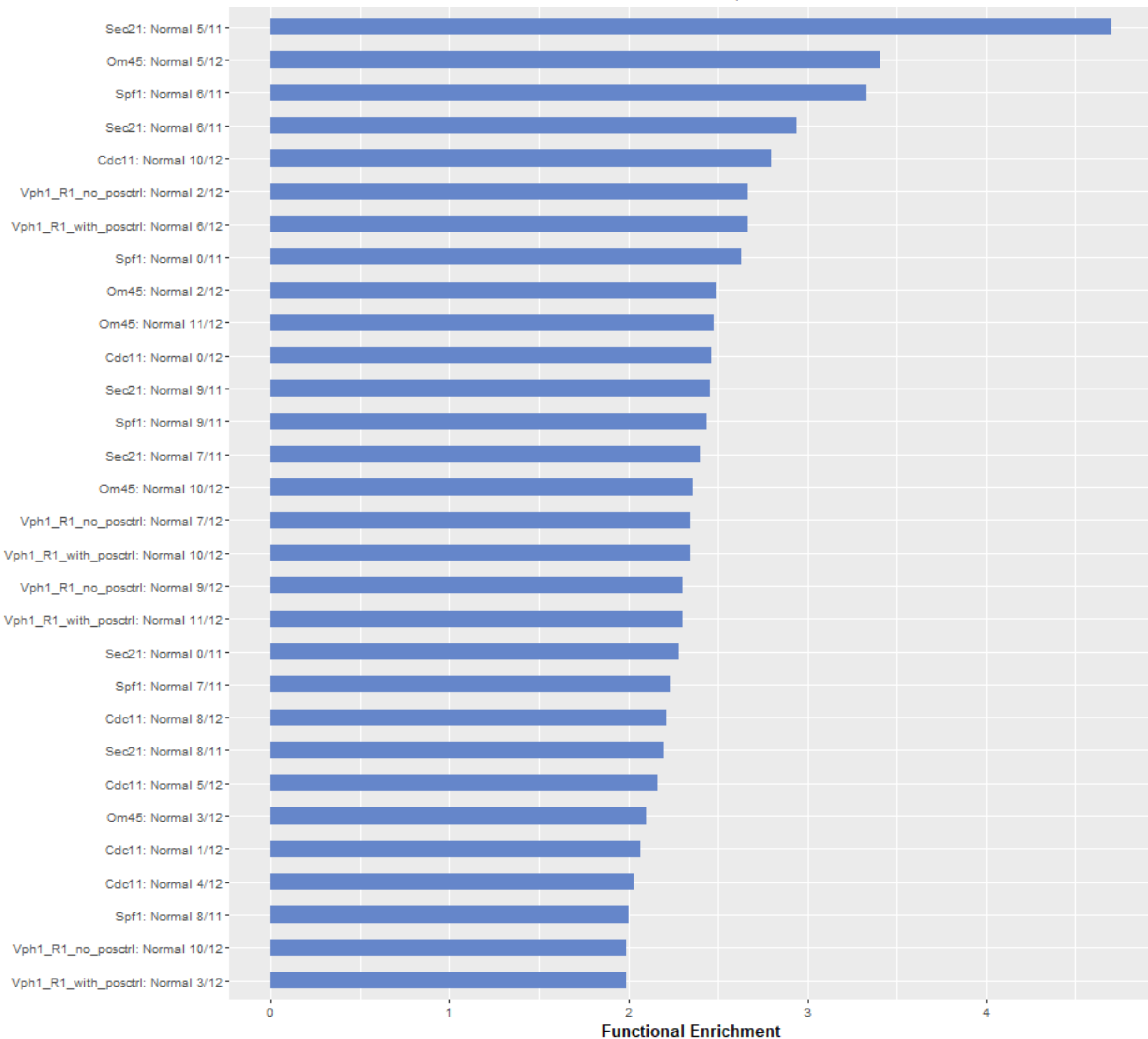
Functional Enrichment



# transcription from RNA polymerase II promoter

Without AreaShape

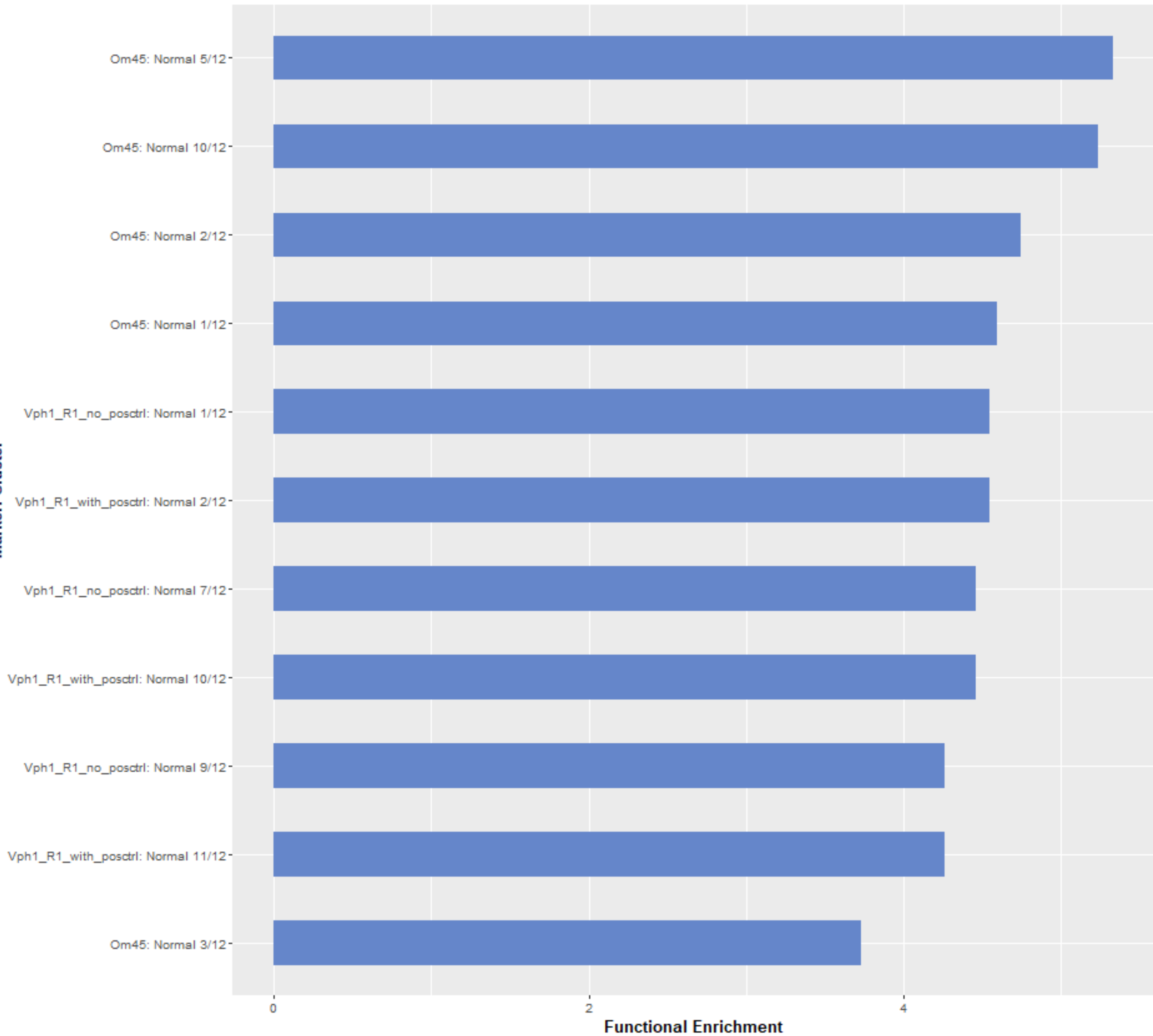
Marker: Cluster



# translational initiation

Without AreaShape

Marker: Cluster

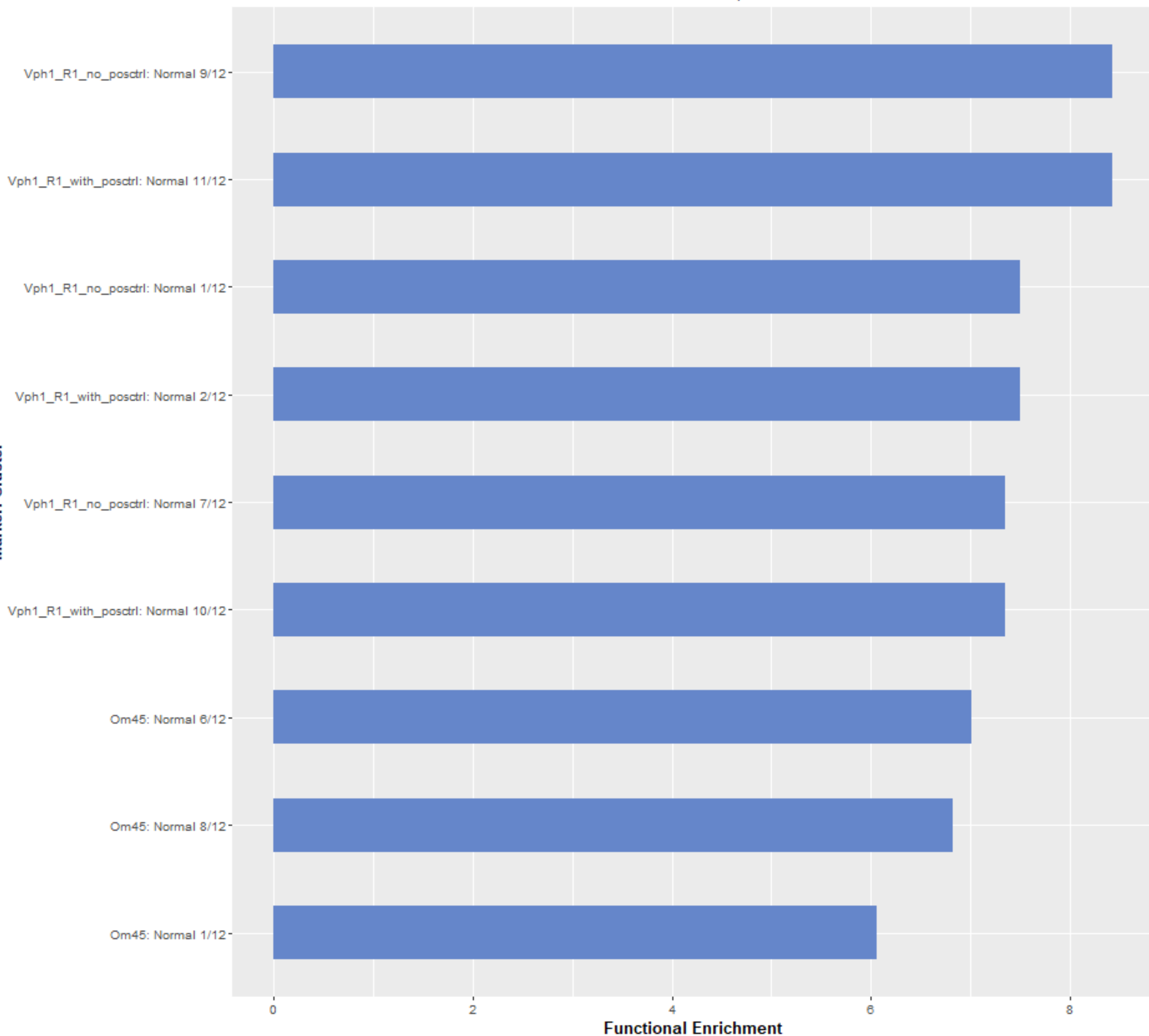




# tRNA aminoacylation for protein translation

Without AreaShape

Marker: Cluster



# vacuole organization

Without AreaShape

Marker: Cluster

Vph1\_R1\_no\_posctrl: Normal 5/12

Vph1\_R1\_with\_posctrl: Normal 8/12

Cdc11: Normal 2/12

Sec21: Normal 6/11

Sec21: Normal 8/11

Sec21: Normal 7/11

0

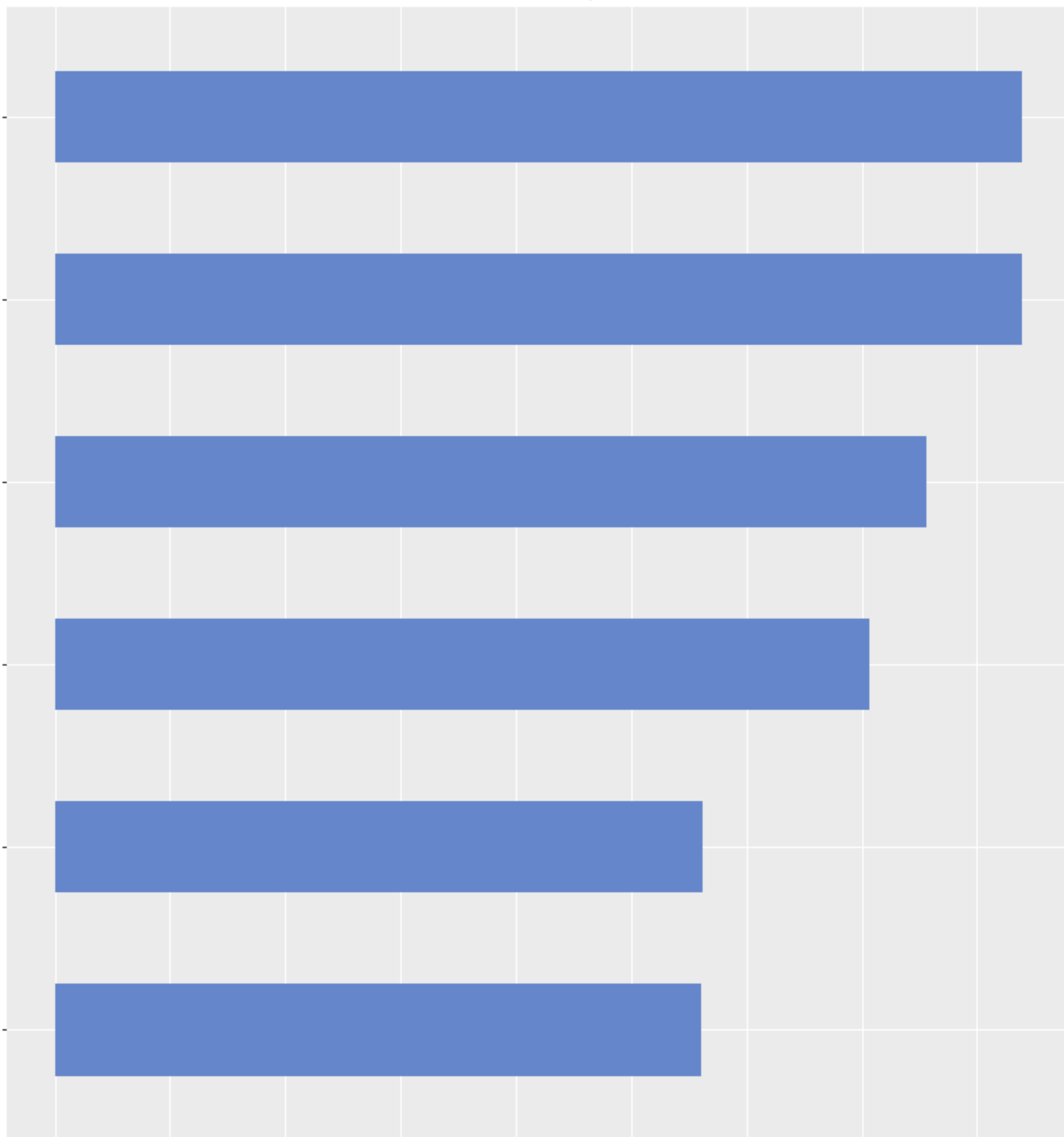
1

2

3

4

Functional Enrichment



# vesicle organization

Without AreaShape

Marker: Cluster

