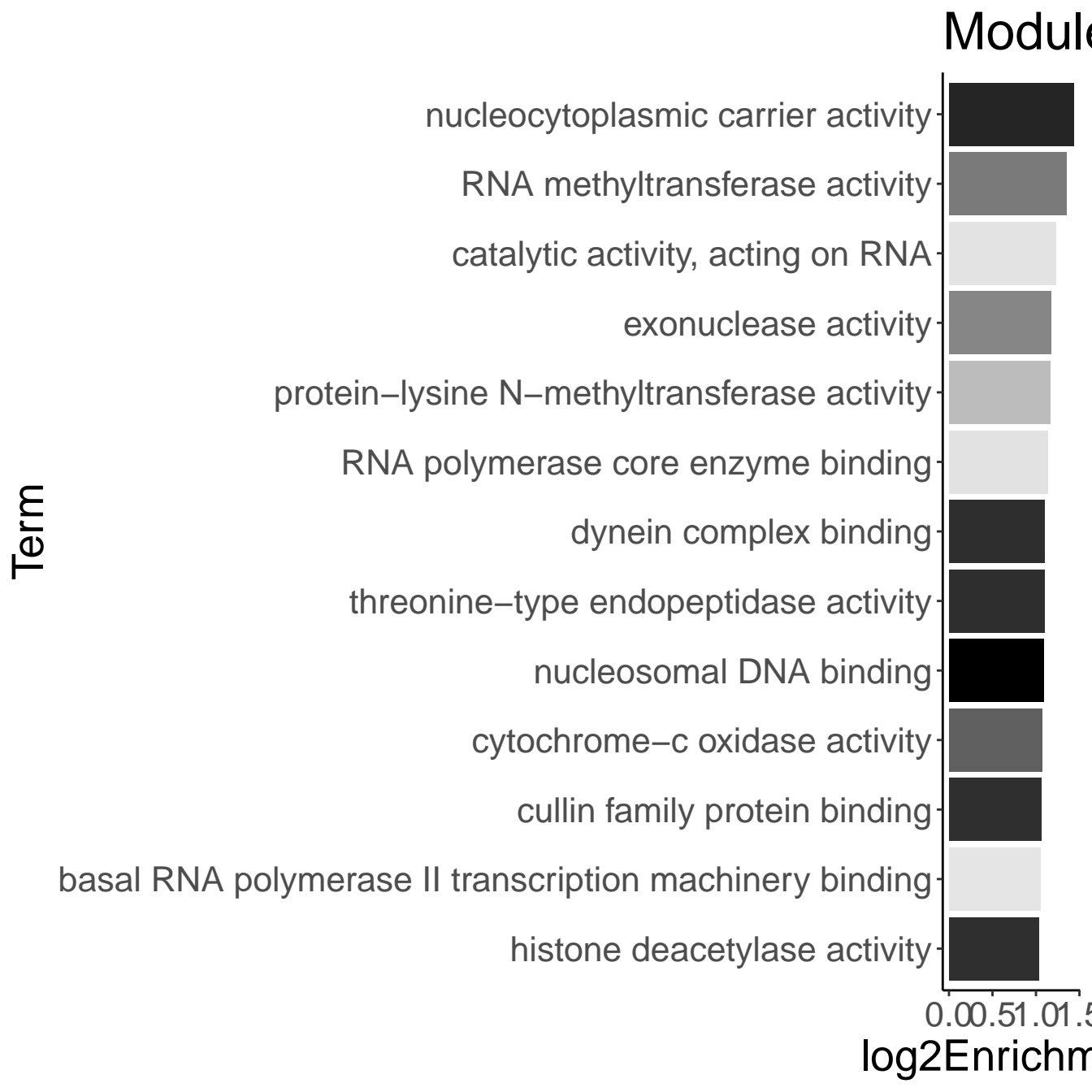


A word cloud of biological processes. The most prominent terms include 'DNA replication', 'mitochondrial translation', 'positive regulation of transcription', 'negative regulation of transcription', 'DNA-dependent DNA replication', 'protein-DNA complex', 'mRNA processing', 'nucleosome', 'positive regulation of mRNA processing', 'regulation of telomere maintenance', 'establishment of mitotic spindle', 'ribosomal ubiquitin-independent degradation', 'positive regulation of transcription', 'negative regulation of transcription', 'cleavage of pre-mRNA', 'DNA double-strand break', 'negative regulation of cell cycle', 'purification of oligosaccharide', 'signal transduction involved in DNA damage', 'N-terminal protein amino acid', 'mitotic chromosome', 'RNA polymerase II preinitiation complex', 'regulation of gene expression', 'deoxyribose phosphorylation', 'regulation of chromatin assembly', 'mitotic DNA damage', 'mitotic protein kinase', 'female procreation', 'mitochondrial gene expression', 'maintenance of cell cycle', 'deoxyribonucleoside', 'ribonucleoside', '2-deoxyribonucleoside', and 'metabolic process'.

log2Enrich



labyrinthine protein autophagy
positive regulation of epidermal growth factor
monovalent ion channel
apoptotic process involved in regulation of
positive regulation of cellular growth
renal system process involved in regulation of cellular growth
antigen processing and presentation
branching involved in mammary epithelial cell
regulation of branching involved in mammary epithelial cell
positive regulation of cellular growth
metamorphosis
labyrinthine protein
negative regulation of extrinsic apoptotic pathway
positive regulation of cellular growth
negative regulation of cellular growth
cell fate commitment involved in regulation of
base conversion
positive regulation of cellular growth
ventricular cardiac muscle
positive regulation of toll-like receptor
epithelial tube branching involved in mammary epithelial cell
regulation of epidermal growth factor
very long chain fatty acid
positive regulation of epidermal growth factor
regulation of macrophage cellular growth
positive regulation of cellular growth
positive regulation of cellular growth
negative regulation of cellular growth
regulation of defense response
cellular response to epidermal growth factor
positive regulation of tyrosine phosphorylation
negative regulation of intracellular signaling
positive regulation of cellular growth
cellular response to epidermal growth factor
regulation of sodium ion regulation of cellular growth
negative regulation of toll-like receptor
positive regulation of cellular growth
positive regulation of cellular growth
peptide hormone

log

steroid dehydrogenase activity, acting on

incorporation or reduction of molecular oxygen, reduced flavin or flavoprotein

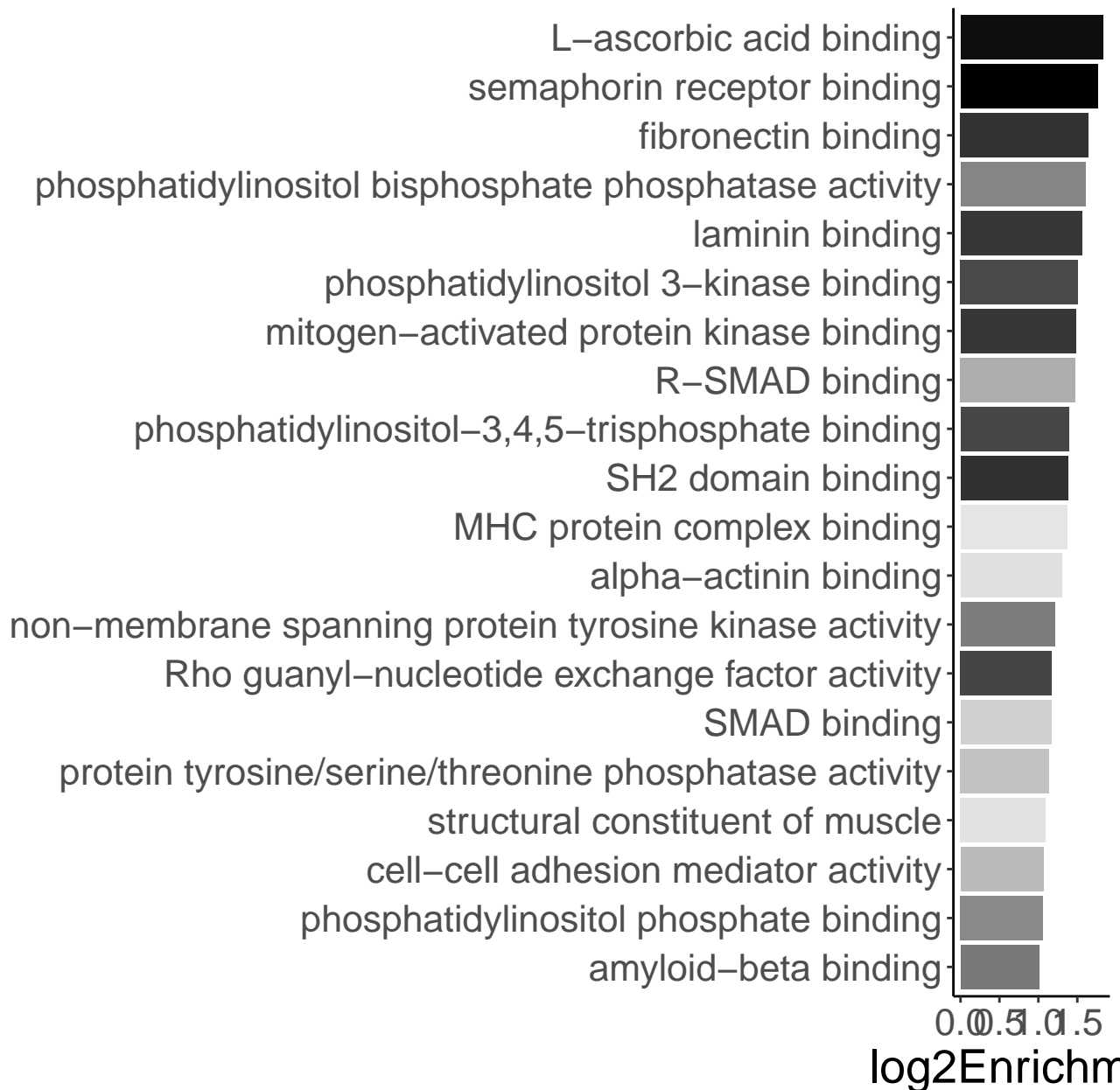
oxidoreductase activity, acting on

orga

negative regulation of
branching involved in
positive regulation of cellular
regulation of pathway-restricted
negative regulation of
positive regulation of
positive regulation of
regulation of myeloid
positive regulation of cell adhesion
positive regulation of cell
negative regulation of fibroblast growth
cell differentiation involved in
heterophilic establishment of immune response
positive regulation of vascular association
regulation of vascular endothelial growth
calcium ion concentration involved in phospholipase C- α activation
positive regulation of
negative regulation of
positive regulation of
CD8-positive
negative regulation of
negative regulation of
positive regulation of
regulation of transforming growth factor
regulation of DNA damage response involved in
cell surface platelet-derived growth factor
regulation of
positive regulation of
epithelial cell differentiation
transforming growth factor
positive regulation of cytokine
positive regulation of
negative regulation of
modulation of
cell

Module

Term



regulation of cilium movement involved in
regulation of circadian sleep
G protein-coupled serotonin receptor signaling
desensitization of G protein-coupled receptor signaling
sensory perception
regulation of
circadian sleep/wake
phasic smooth muscle
fusion of sperm to egg plasma membrane involved in single
regulation of
regulation of dopamine
skeletal muscle
regulation of synaptic transmission
positive regulation of
a
regulation of synaptic transmission, c
single
positive regulation of am
transmission of n
response
neuropeptide signaling
G protein-coupled receptor signaling pathway, coupled to cyclic nucleotide second
adenylate cyclase-activating G protein-coupled receptor signaling
negative regulation of synaptic
adenylate cyclase-inhibiting G protein-coupled receptor signaling
flagellated s
excitatory postsynaptic
feed
sensory perception of l
visu
cardia

G protein–coupled amine receptor
G protein–coupled serotonin receptor
peptide hormone receptor
neurotransmitter receptor
gap junction channel
postsynaptic neurotransmitter receptor
excitatory extracellular ligand–gated ion channel
neurotransmitter receptor
–gated ion channel activity involved in regulation of postsynaptic membrane potential
fibroblast growth factor receptor
voltage–gated calcium channel
neuropeptide receptor
steroid hydroxylase
G protein–coupled peptide receptor
hormone receptor

[illegible]

synta

peptide hormone rec

potassium ch

neuropeptide rec

-gated ion channel activity involved in regulation of postsynaptic membr

neuropeptide rec

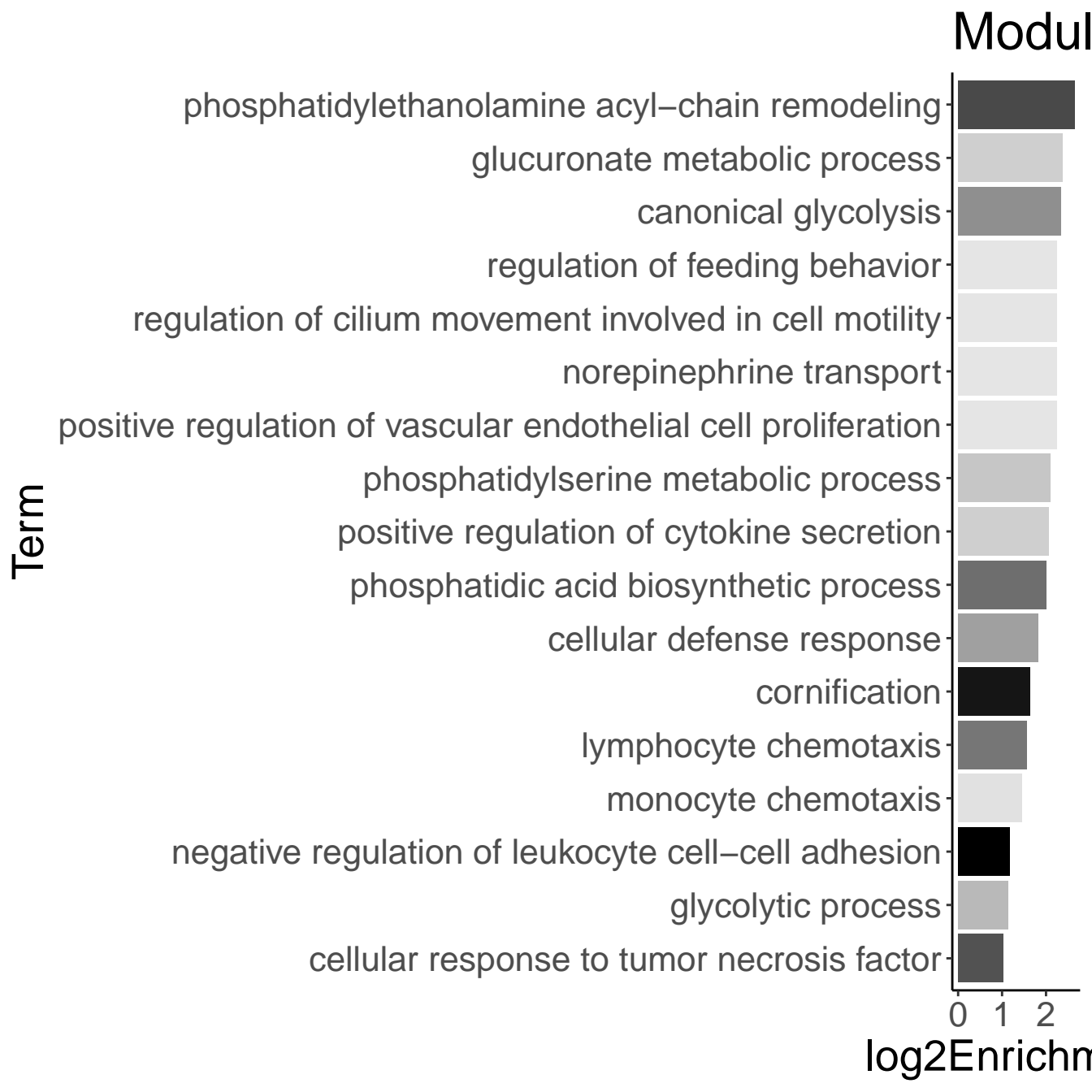
ionotropic glutamate rec

ligand-gated cation ch

cla

amyloid-

ion ch



Module 90

Term

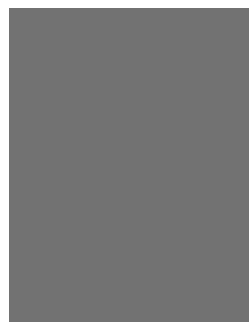
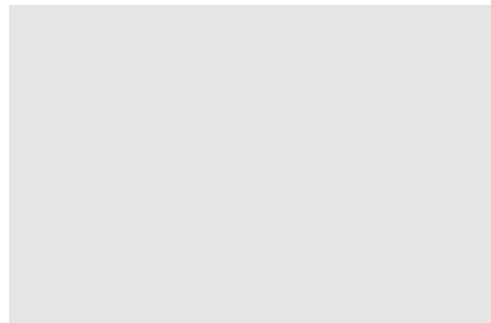
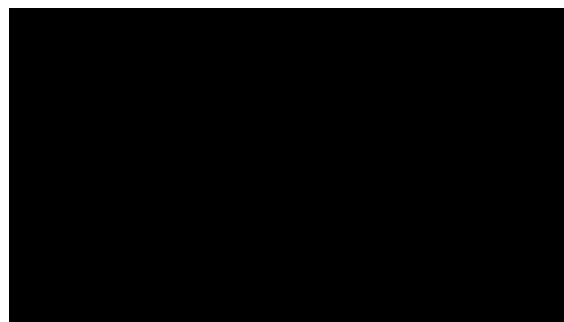
phospholipase A2 activity

CCR chemokine receptor binding

carbohydrate binding

0.0 0.5 1.0 1.5 2.0 2.5

log2Enrichment



gene silencing by RNA

inhibition of blood vessel endothelial cell proliferation involved in sprouting angiogenesis

negative regulation of cell migration involved in sprouting angiogenesis

synaptic transmission, chemical

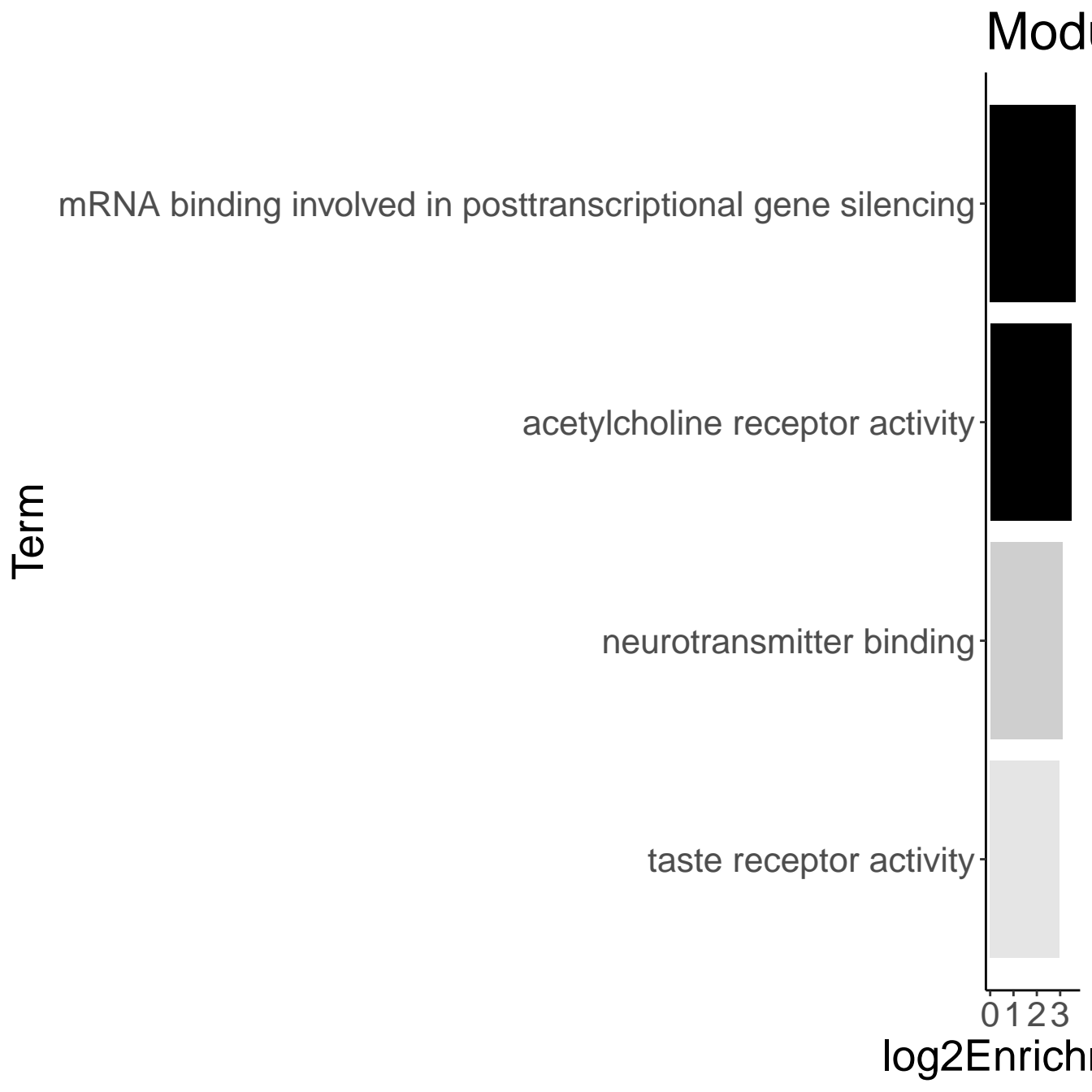
positive regulation of vascular associated smooth muscle cell proliferation

negative regulation of protein kinase B activity

RNA processing

detection of chemical stimulus involved in sensory perception of touch

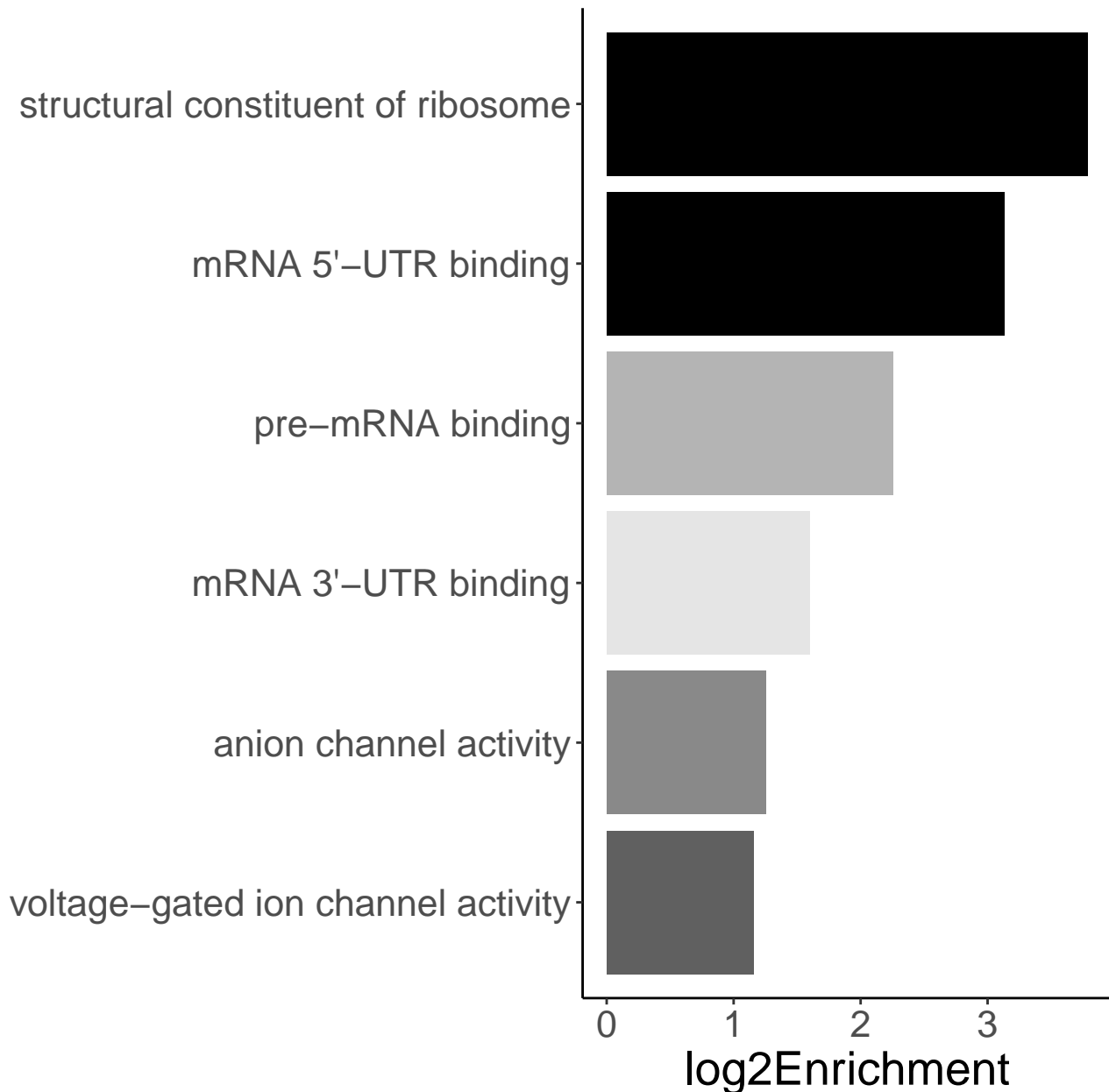
reproduction



SRP-dependent cotranslational protein targeting
nuclear-transcribed mRNA catabolic process, nonsense-m
transla
vira
ribosomal large sub
negative regulation of vascular endothelial ce
ribos
regulation of blood vessel endothelial cell proliferation involved in sprouting
negative regulation of cell migration involved in sprouting
regulation of vascular endothelial growth fac
regulation of vascular associated smooth muscle
negative regulation of G0 t
miRNA mediated inhibition
ribonucleoprotein com
R
ribosomal small subu
t

Module 115

Term



G protein-coupled serotonin receptor signaling
nitric oxide mediated signaling
regulation of neurotransmitter release
neurotransmitter receptor localization to postsynaptic specialization
regulation of lymphocyte activation
regulation of feeding behavior
regulation of cilium movement involved in sensory perception
regulation of AMPA receptor trafficking
positive regulation of lipid catabolism
T cell activation
positive regulation of vasodilation
cilium movement involved in sensory perception
flagellated sperm motility
ovulation control
adenylate cyclase-inhibiting G protein-coupled receptor signaling
transmission of nerve impulses
establishment of protein localization
neuropeptide signaling
G protein-coupled receptor signaling pathway, coupled to cyclic nucleotide second messenger
response to chemical stimulus
negative regulation of inflammatory response
regulation of insulin secretion
detection of chemical stimulus involved in sensory perception
positive regulation of cytosolic calcium ion concentration

Module 46

Term

G protein-coupled serotonin receptor activity

voltage-gated calcium channel activity

C-C chemokine receptor activity

neuropeptide receptor activity

G protein-coupled peptide receptor activity

neurotransmitter receptor activity

olfactory receptor activity

0 1 2 3
log2Enrichment



detection of chemical stimulus involved in sensory perception of bitter ta

glycogen catabolic proces

blastocyst hatch

log₂E

Module 27

Term

dynein light intermediate chain binding

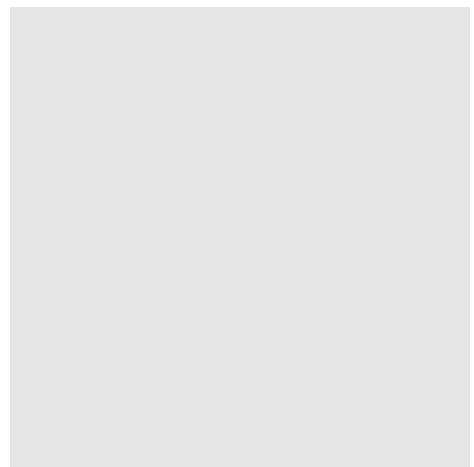
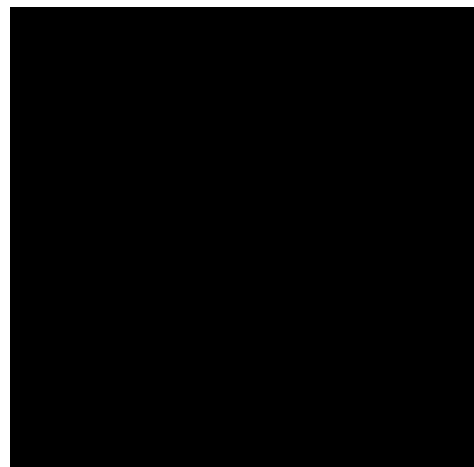
dynein intermediate chain binding

0

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2

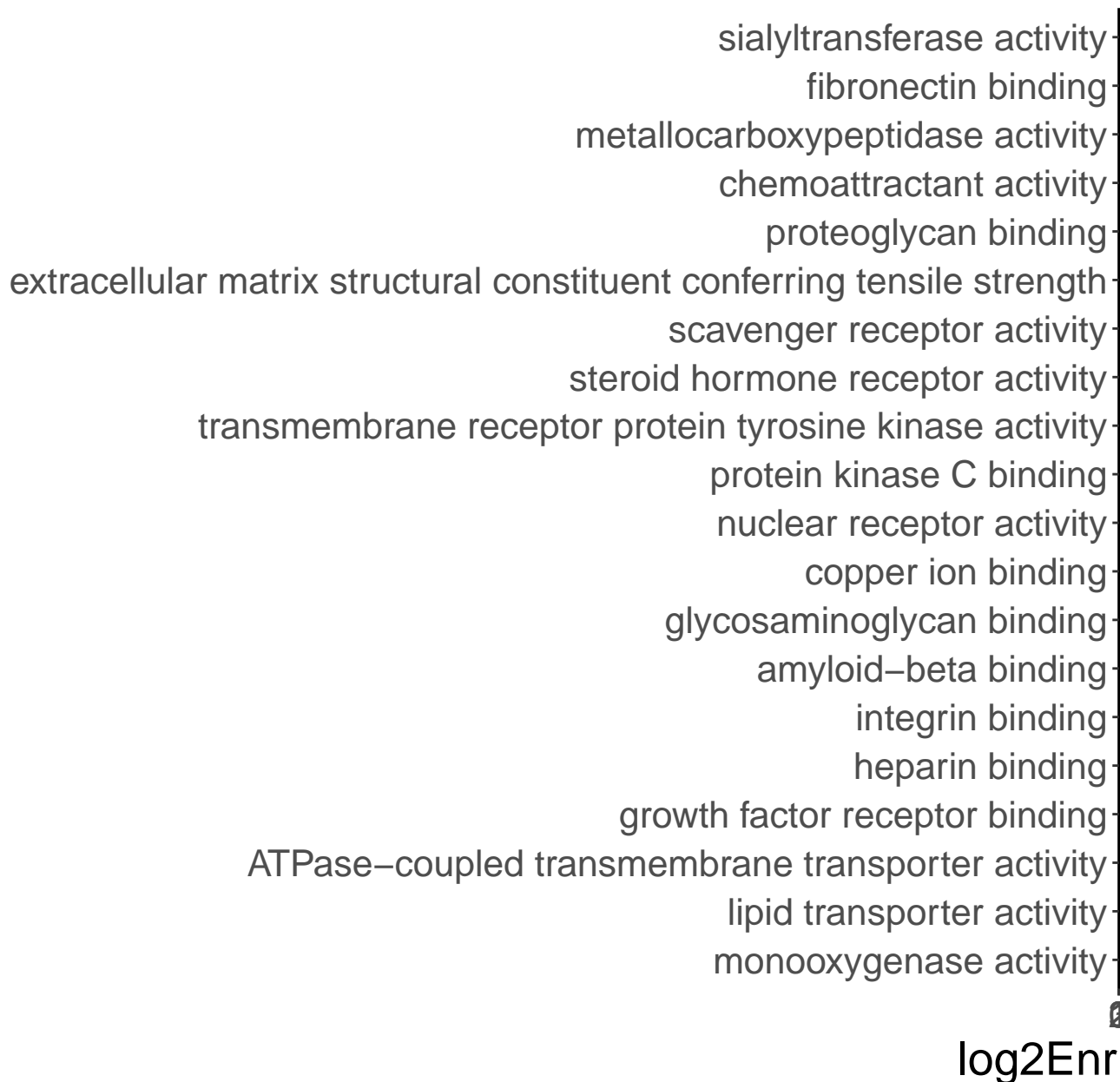
log2Enrichment

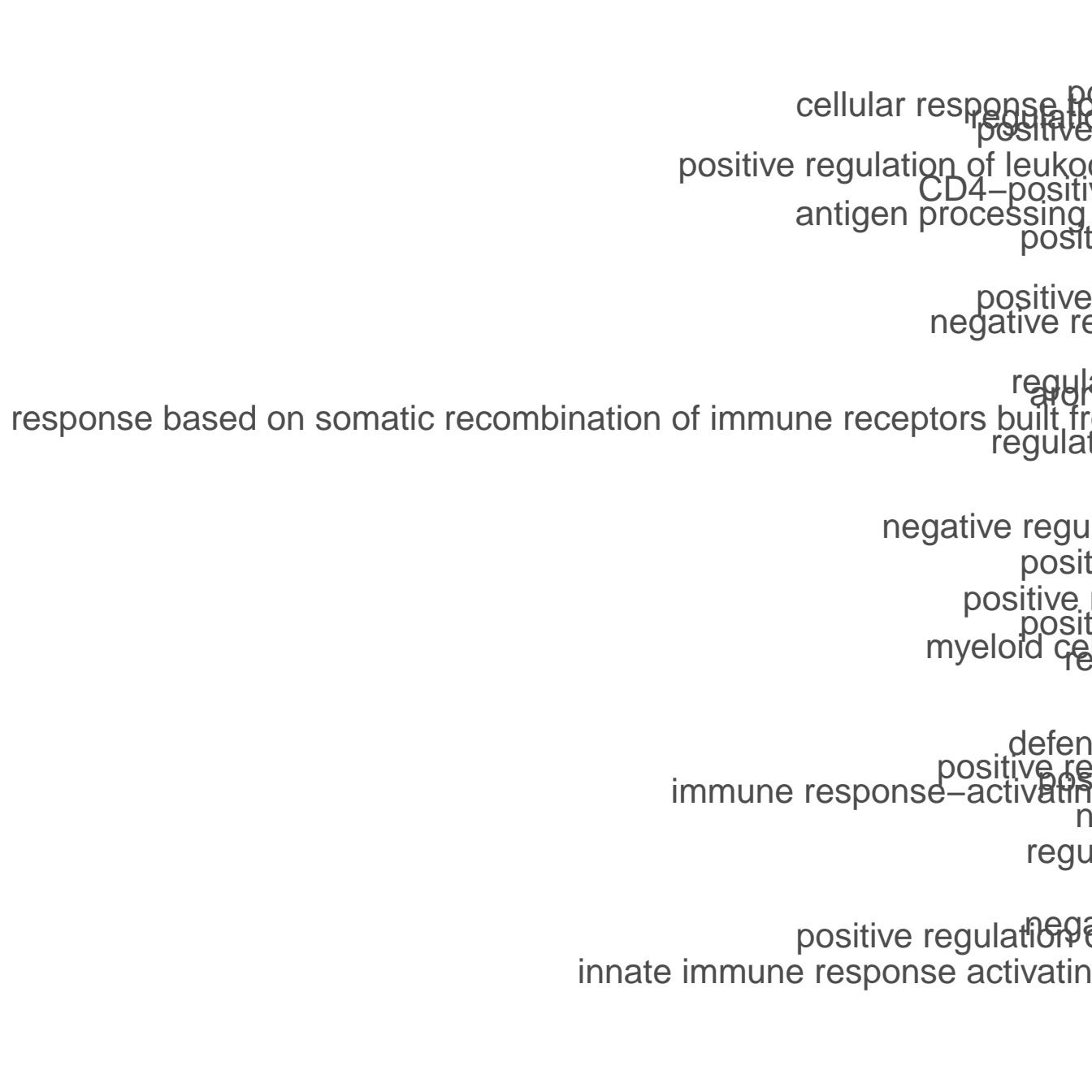


regulation of vascular endothelial growth factor receptor signaling pathway
keratan development
cell aggregation
glomerulus
vascular association
positive regulation of angiogenesis
metanephric development
negative regulation of growth
regulation of microtubule cytoskeleton
vascular endothelial growth factor receptor signaling pathway
negative regulation of animal or plant growth
dopamine regulation of neurotransmission
endothelial cytoskeleton
regulation of morphogenesis of a structure
glycerophospholipid metabolism
positive regulation of cell growth
negative regulation of cell growth
cardiac morphogenesis
prolactin receptor signaling pathway
platelet-derived growth factor receptor signaling pathway
embryonic cranial skeleton
negative regulation of synaptic transmission
negative regulation of regulation of muscle development
perinatal smooth muscle cell development
regulation of collagen matrix development
sulfate catabolism
negative regulation of peptide catabolism
autonomic nervous system development
positive regulation of synaptic transmission
negative regulation of sensory perception
adult locomotion
skeletal system development
telencephalon development
morphogenesis of muscle tissue development
positive regulation of endoreplication
regulation of cellular response to growth factor stimulus
positive regulation of cellular growth
integrin-mediated signaling pathway
regulation of morphogenesis of an epithelium
morphogenesis of embryonic appendage
regulation of neurotransmission
striated muscle development
homophilic cell adhesion via plasma membrane adhesion molecules
regulation of lymphocyte adhesion molecule
retina development in camera-type eye
peptidyl-tyrosine catabolism

log2E

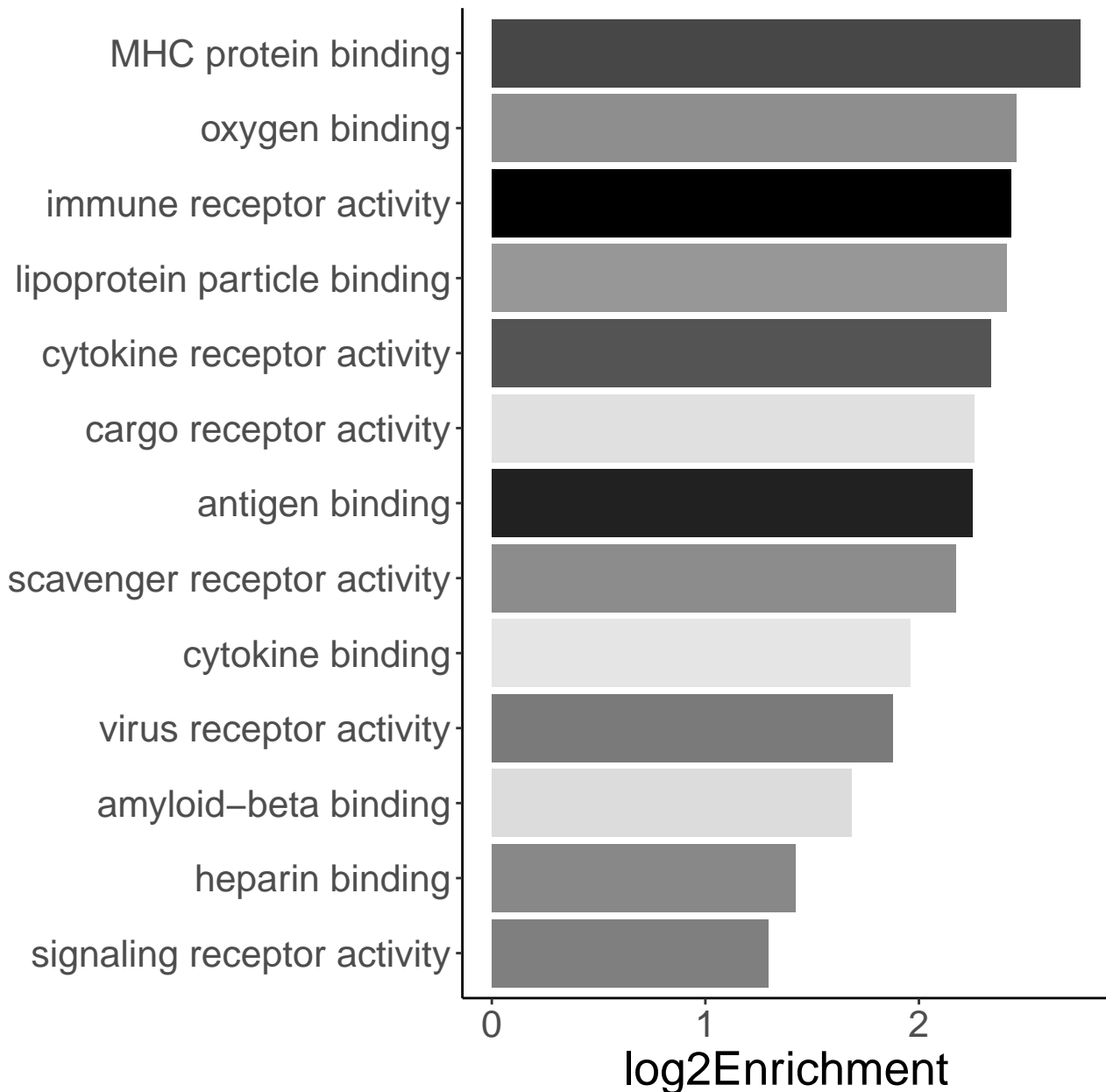
Term





Module 174

Term



postsynaptic specialization asse
regulation of respiratory gaseous excha
postsynaptic density organiz
excitatory synapse asse
positive regulation of excitatory postsynaptic pote
eosinophil migr
respiratory system pro
response to morp
exploration beha
serine phosphorylation of STAT pr
positive regulation of oligodendrocyte differentia
olefinic compound biosynthetic pro
sodium ion homeos
regulation of long-term neuronal synaptic plas
nal system process involved in regulation of systemic arterial blood pres
potassium ion homeos
C21-steroid hormone biosynthetic pro
response to immobilization st
monovalent inorganic anion homeos
renal water homeos
ketone biosynthetic pro
icosanoid secr
detection of mechanical stim
feeding beha
neuromuscular process controlling bal
social beha
regulation of synapse asse
spermatid develop
visual perce
sodium ion transmembrane trans

log2

Module 191

Term

cytokine activity

heme binding

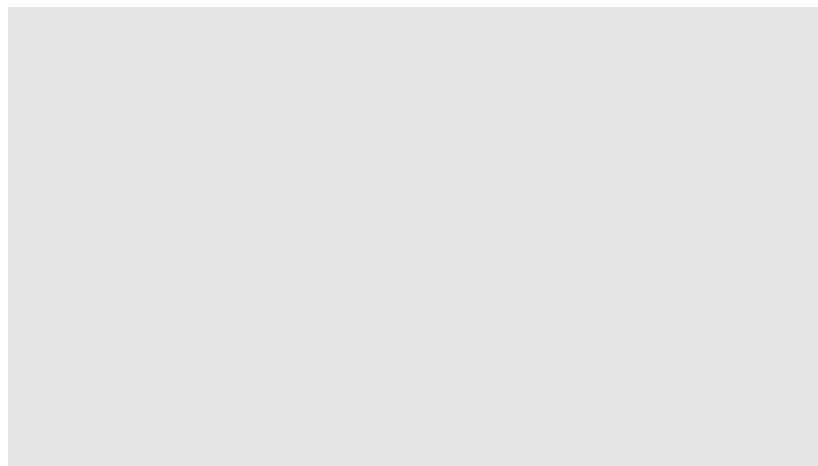
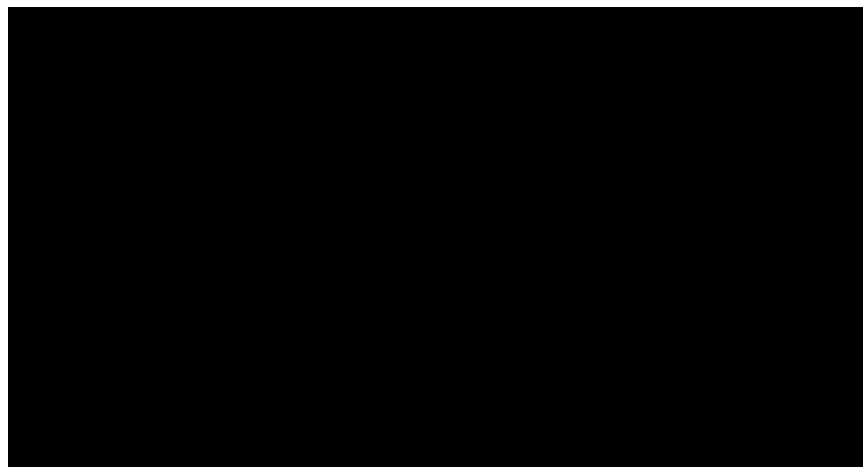
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1.5

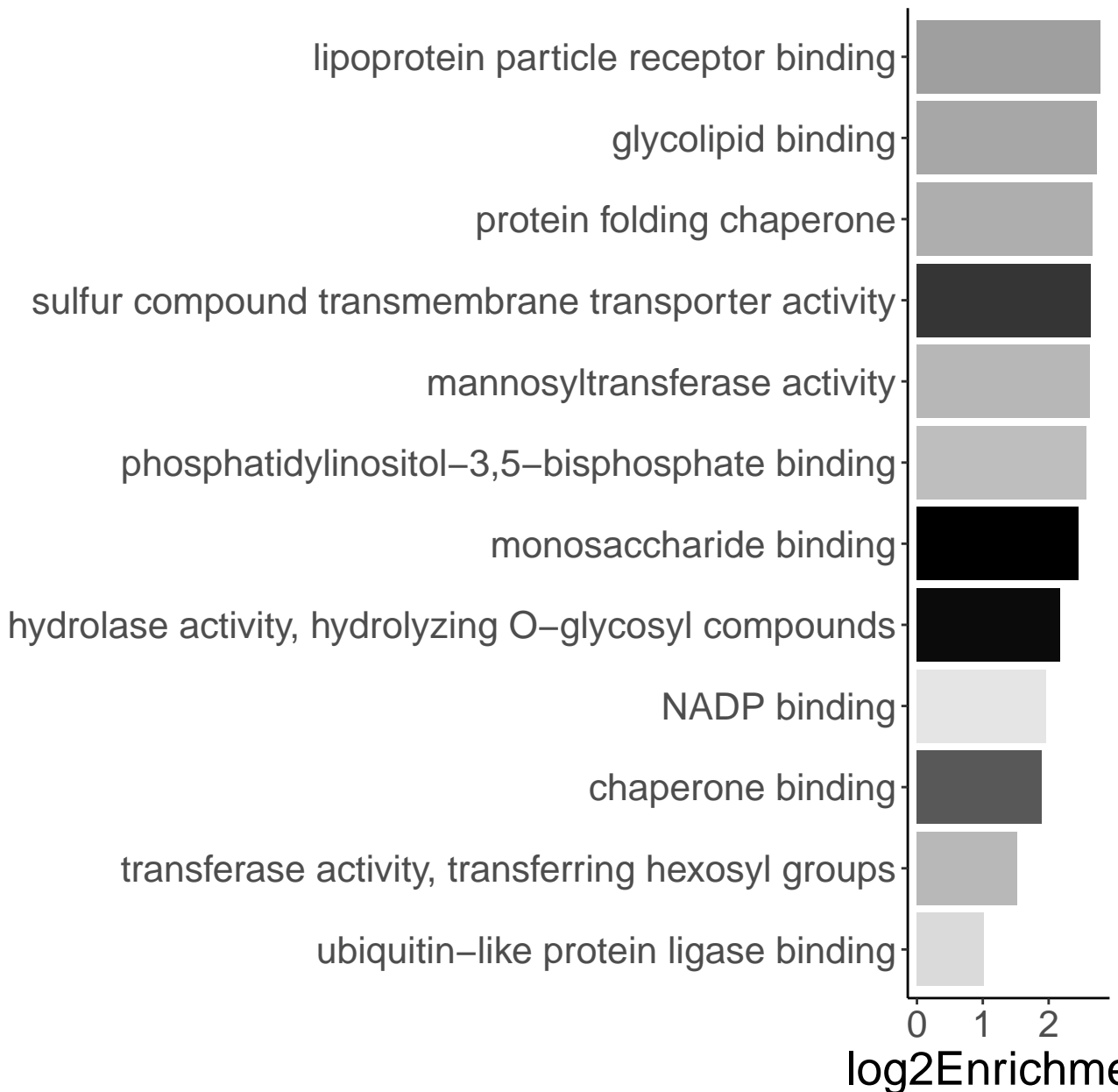
log2Enrichment

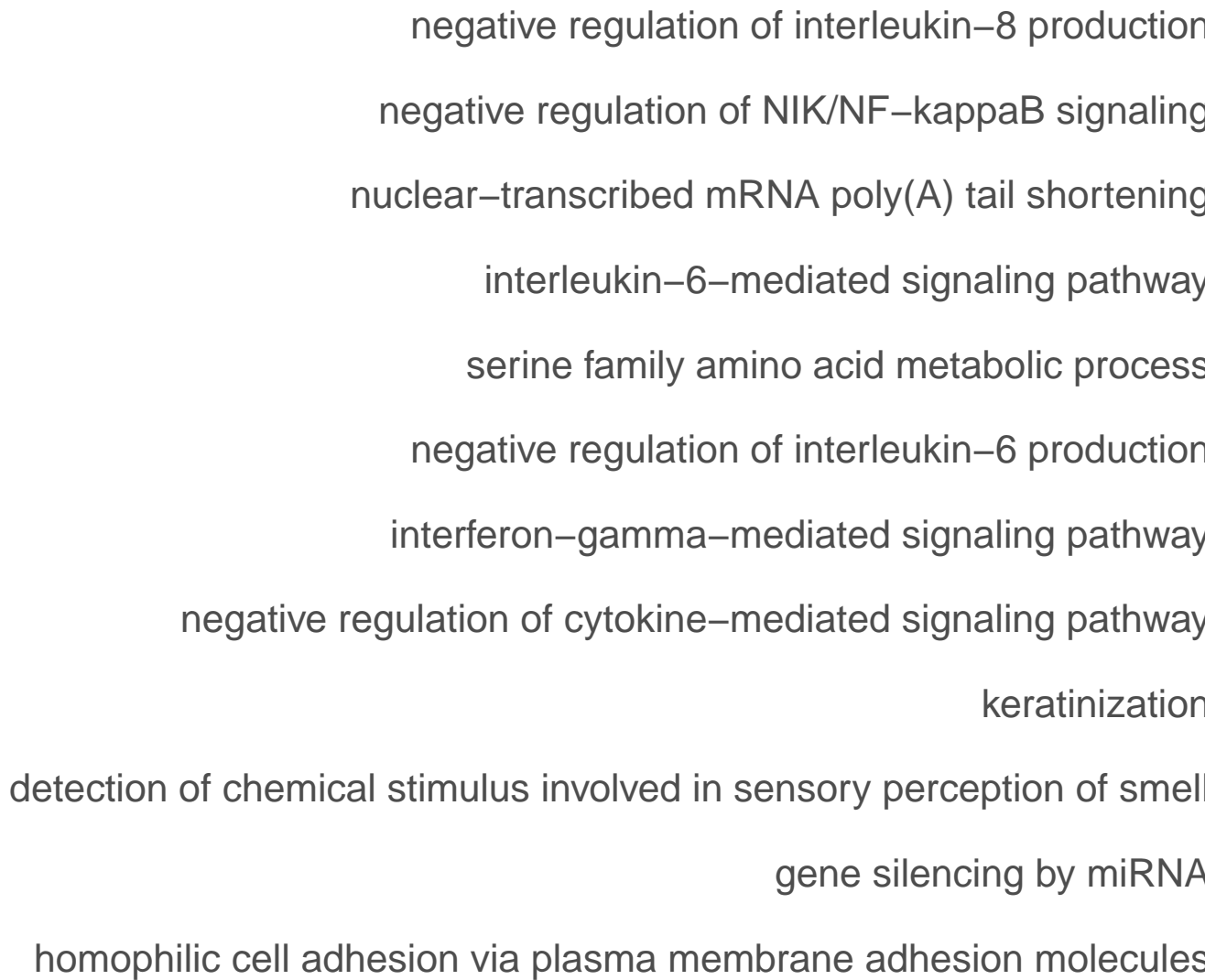


Golgi vesicle b
response to unfolded
endoplasmic reticulum calcium ion home
protein deglycos
PERK-mediated unfolded protein re
response to endoplasmic reticulum
regulation of protein exit from endoplasmic re
ER-nucleus signaling p
regulation of ERAD p
positive regulation of response to endoplasmic reticulum
sulfur compound tra
maintenance of protein localization in or
regulation of autophagy of mitoch
glycos
hyaluronan metabolic p
endoplasmic reticulum organ
regulation of mitochondrial membrane p
peptidyl-proline modi
intracellular protein transmembrane tra
glycoprotein metabolic p
en processing and presentation of exogenous peptide antigen via MHC
sulfur compound biosynthetic p
retrograde transport, endosome t
hexose metabolic p
post-Golgi vesicle-mediated tra
establishment of protein localization to plasma me
carbohydrate metabolic p
regulation of fatty acid metabolic p
protein targetin
regulation of transcription from RNA polymerase II promoter in response to

Module 5

Term





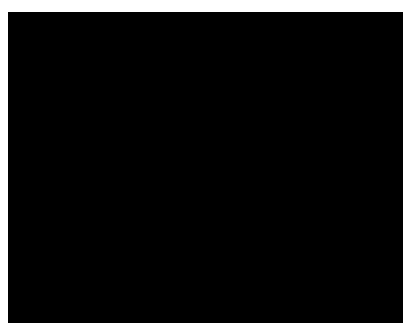
Module 155

Term

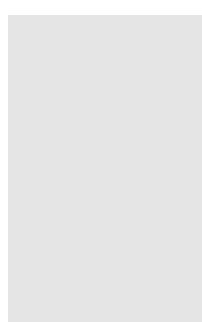
peptide antigen binding



olfactory receptor activity



calcium ion binding



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log2Enrichment

negative regulation of necroptosis

negative regulation of cholesterol efflux

regulation of blood vessel endothelial cell proliferation involved in sprouting angiogenesis

positive regulation of endothelial cell apoptosis

vascular smooth muscle relaxation

regulation of smooth muscle cell apoptosis

binding of sperm to zona

negative regulation of interleukin-8 production

regulation of glycoprotein biosynthesis

positive regulation of cytokinesis

negative regulation of blood vessel endothelial cell proliferation

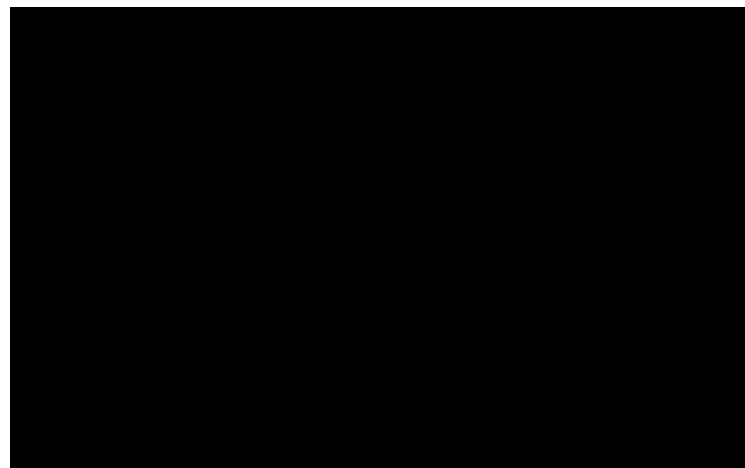
regulation of cholesterol efflux

regulation of vasculature development

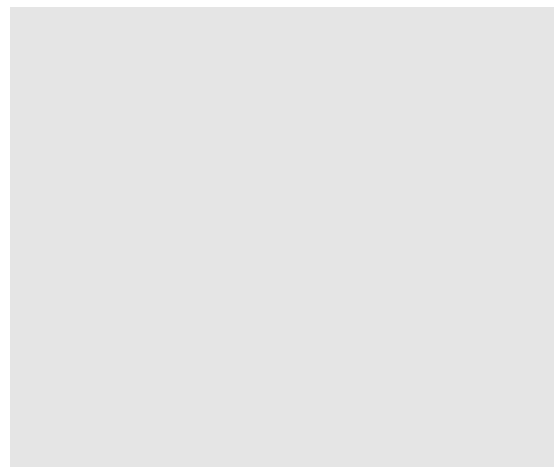
Module 187

Term

odorant binding



mRNA 3'-UTR binding



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log2Enrichment

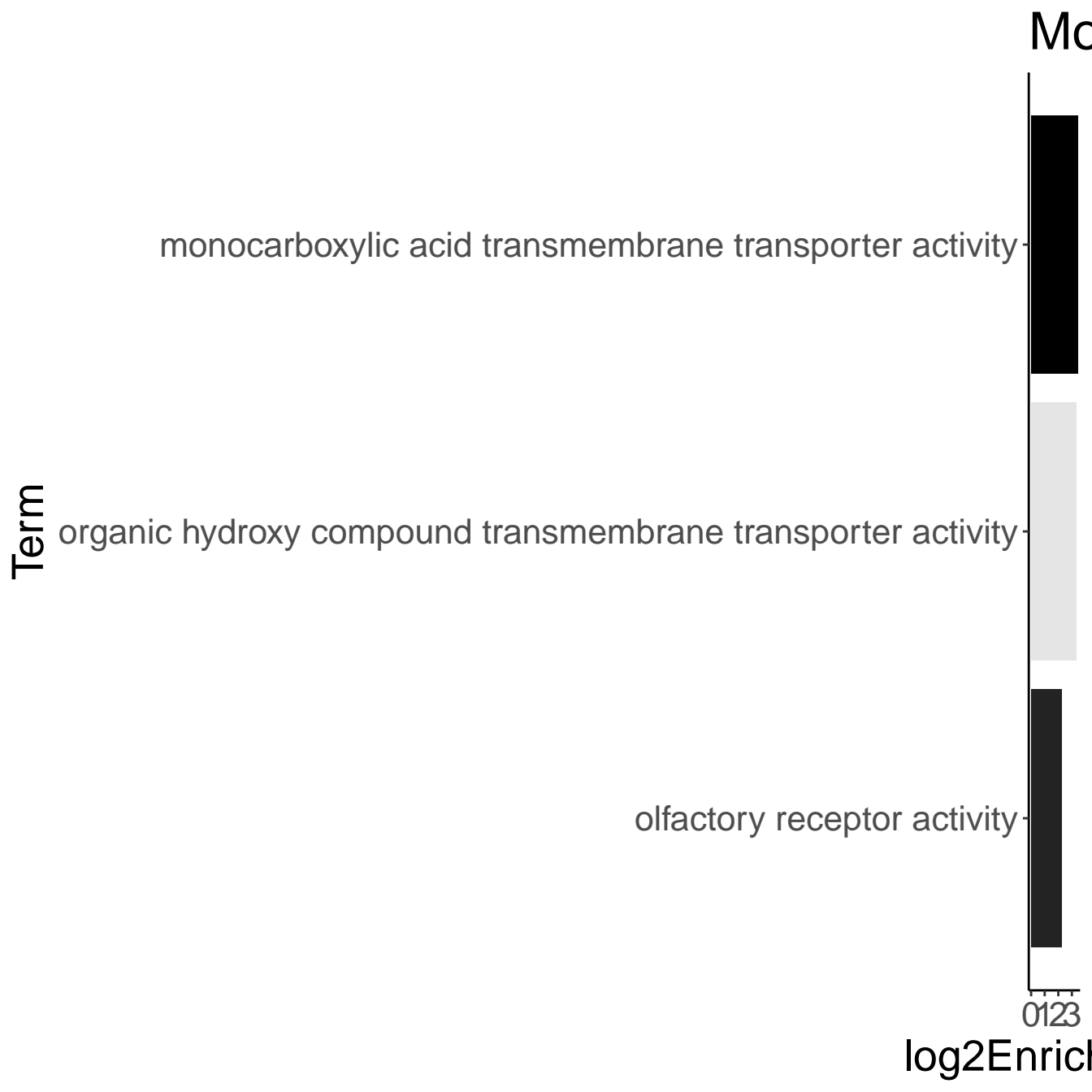
III
91

snRNA 3'–end processing

regulation of lymphocyte chemotaxis

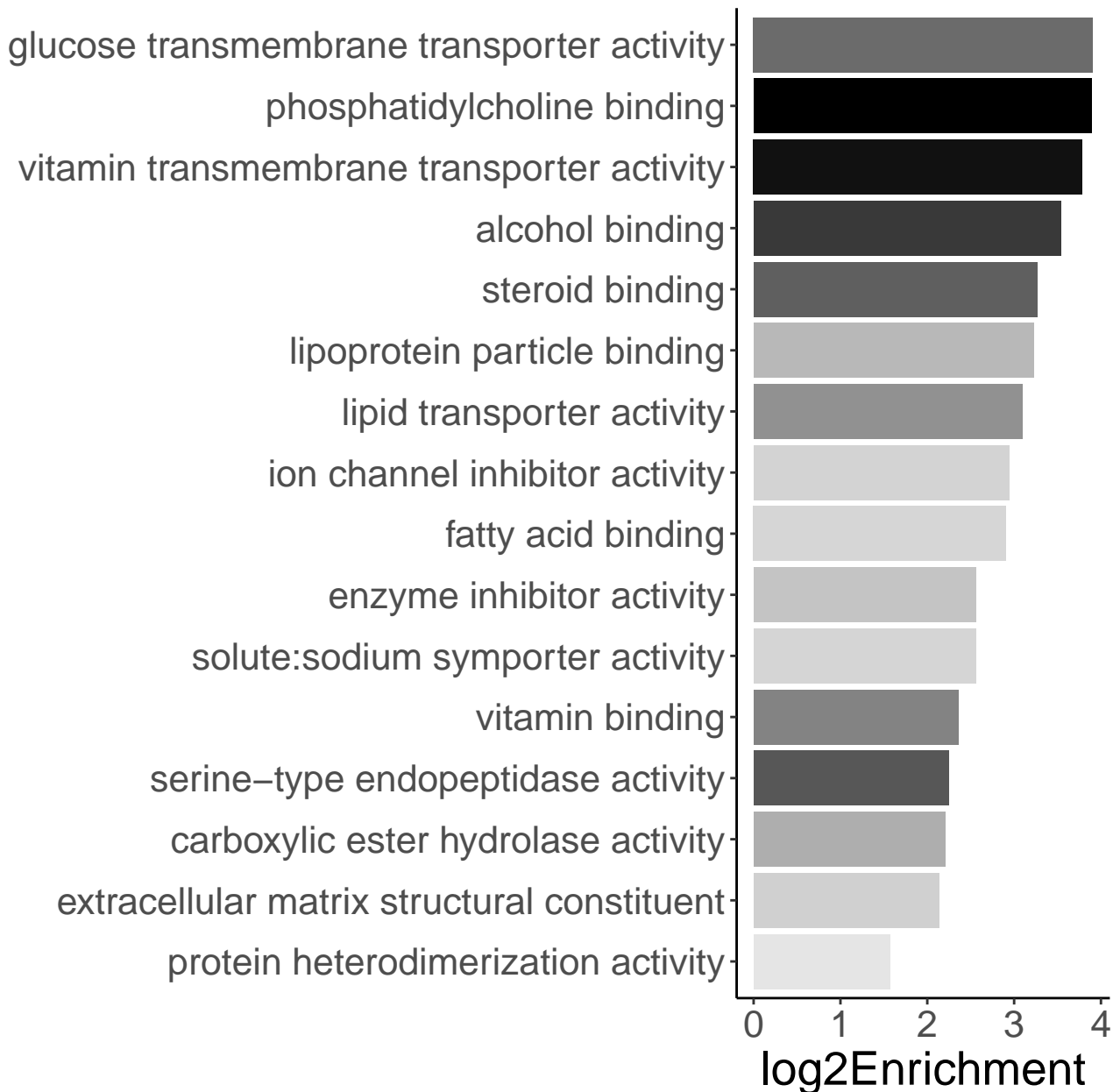
detection of chemical stimulus involved in sensory perception of smell

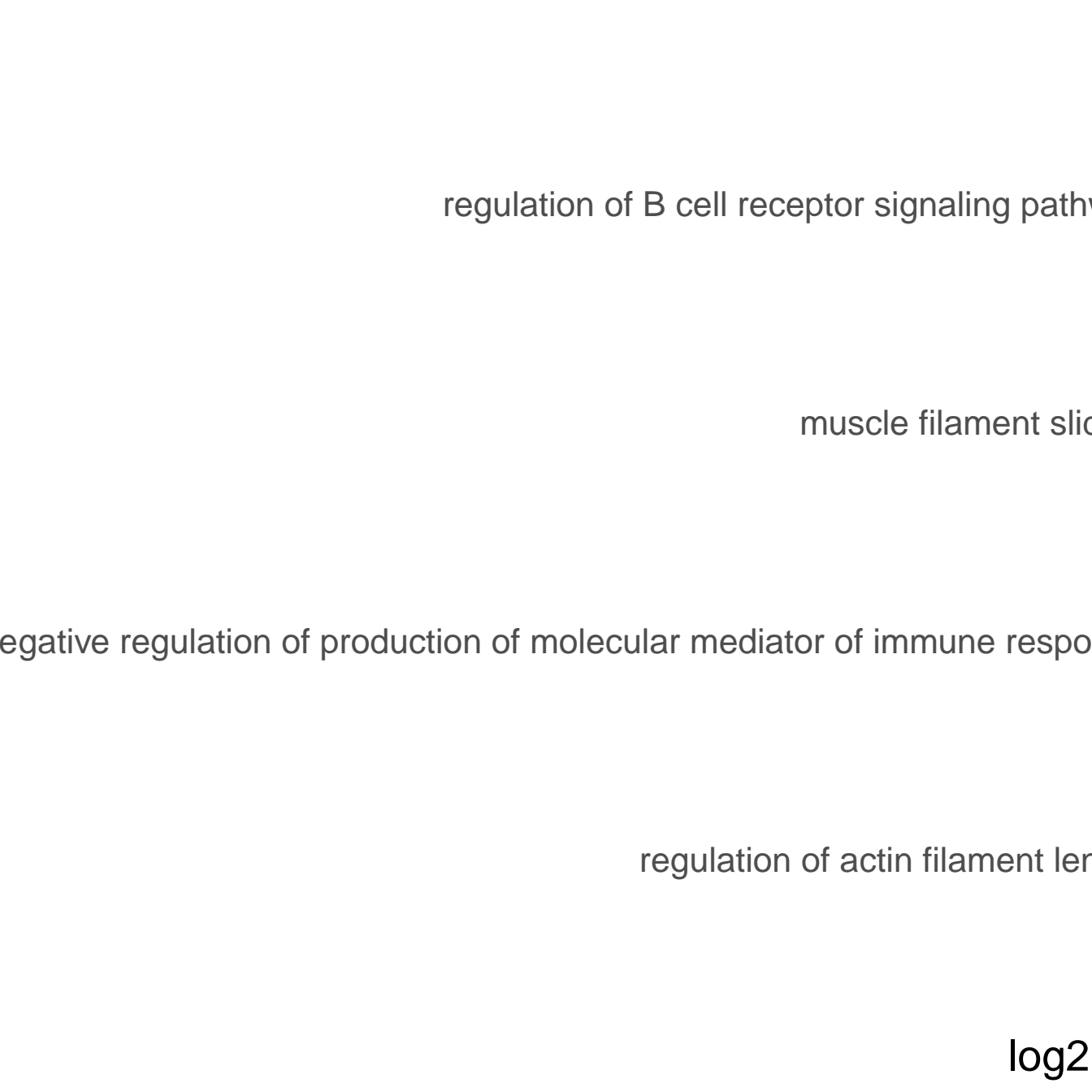
log2En



Module 189

Term





Module 78

Term

structural constituent of muscle

0 1 2 3 4

log2Enrichment



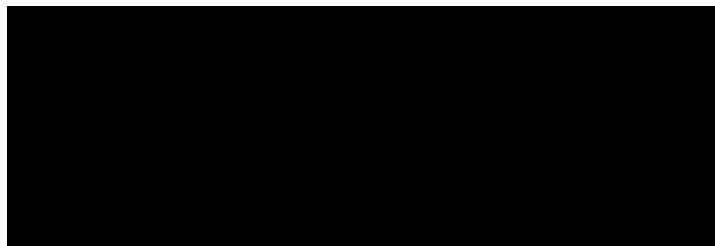
negative regulation of leukocyte mediated cytotoxicity
regulation of activin receptor signaling pathway
regulation of natural killer cell mediated cytotoxicity
cytolysis
positive regulation of macrophage activation
positive regulation of endothelial cell apoptotic process
tolerance induction
regulation of interferon- α production
mucosal immune response
myeloid dendritic cell activation
positive regulation of cytokine secretion
release of sequestered calcium ion into cytosol by endoplasmic reticulum
regulation of sensory perception of pain
cellular defense response
negative regulation of interferon- γ production
negative regulation of innate immune response
response to activation of T cell
negative regulation of T cell proliferation
negative regulation of lymphocyte mediated immunity
cell-cell recognition
negative regulation of NF- κ B transcription factor activation
positive regulation of membrane permeability
positive regulation of protein kinase B signaling
fibroblast growth factor receptor signaling pathway
receptor signaling pathway via STAT
lymphocyte activation

log2E

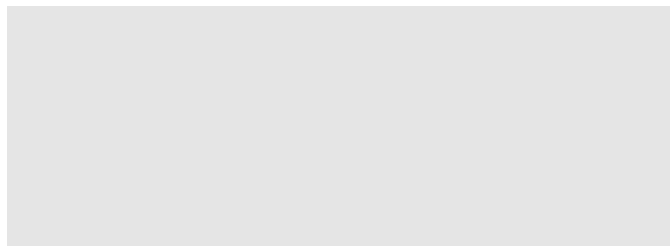
Module 161

Term

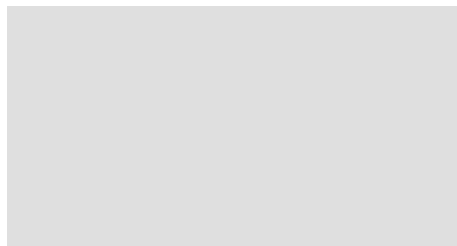
growth factor activity



hormone activity



immune receptor activity



cytokine activity



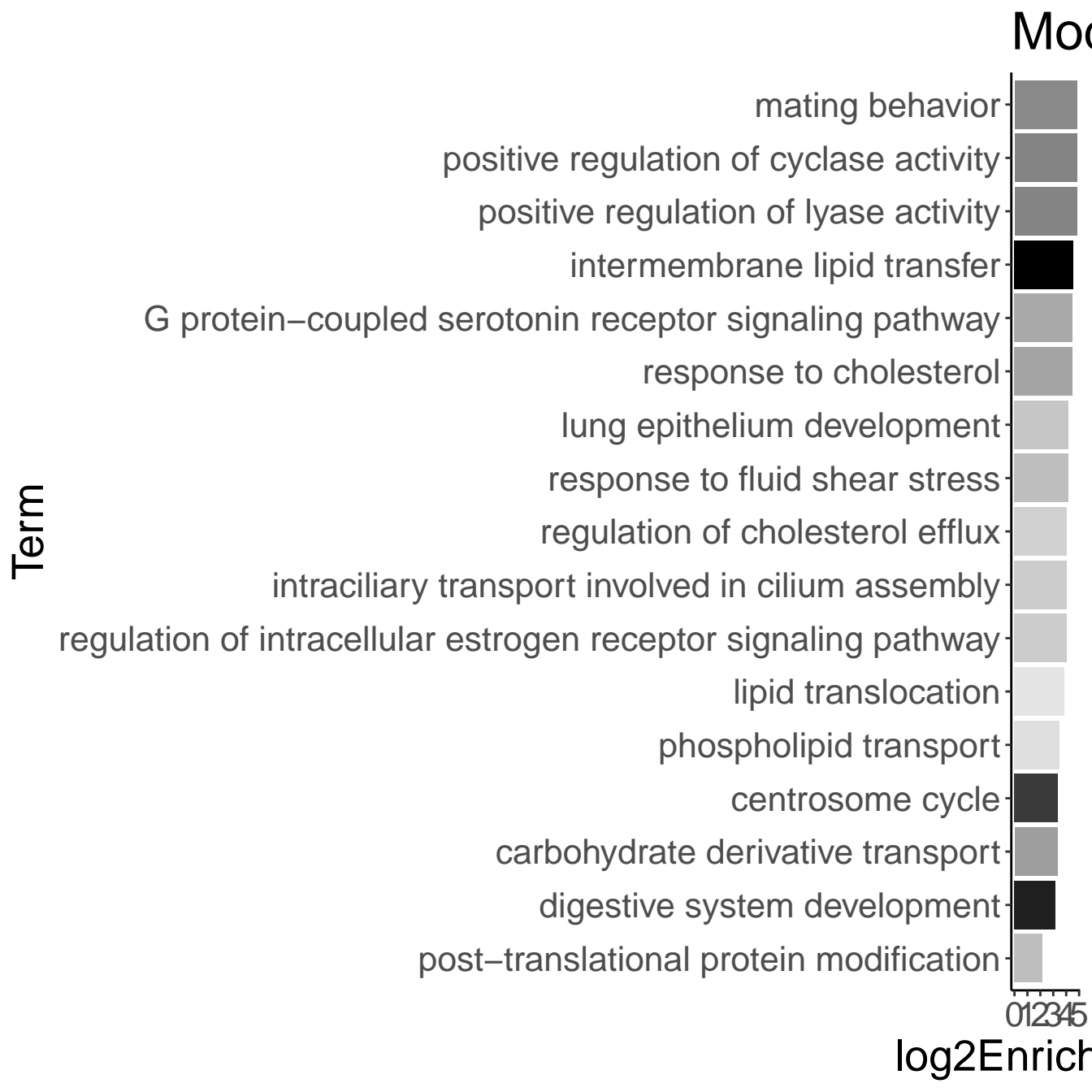
0

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log2Enrichment



Module 132

Term

phospholipid transfer activity

cholesterol transfer activity

sphingolipid binding

G protein-coupled serotonin receptor activity

protein domain specific binding

0 1 2 3 4 5

log2Enrichment



Module 131

Term

RNA processing

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2.0

log2Enrichment



Module 131

Term

log2Enrichment



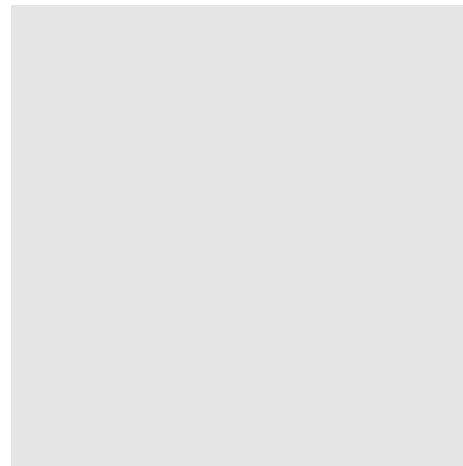
Module 181

Term

rhodopsin mediated signaling pathway

retina development in camera-type eye

0 2 4 6
log2Enrichment

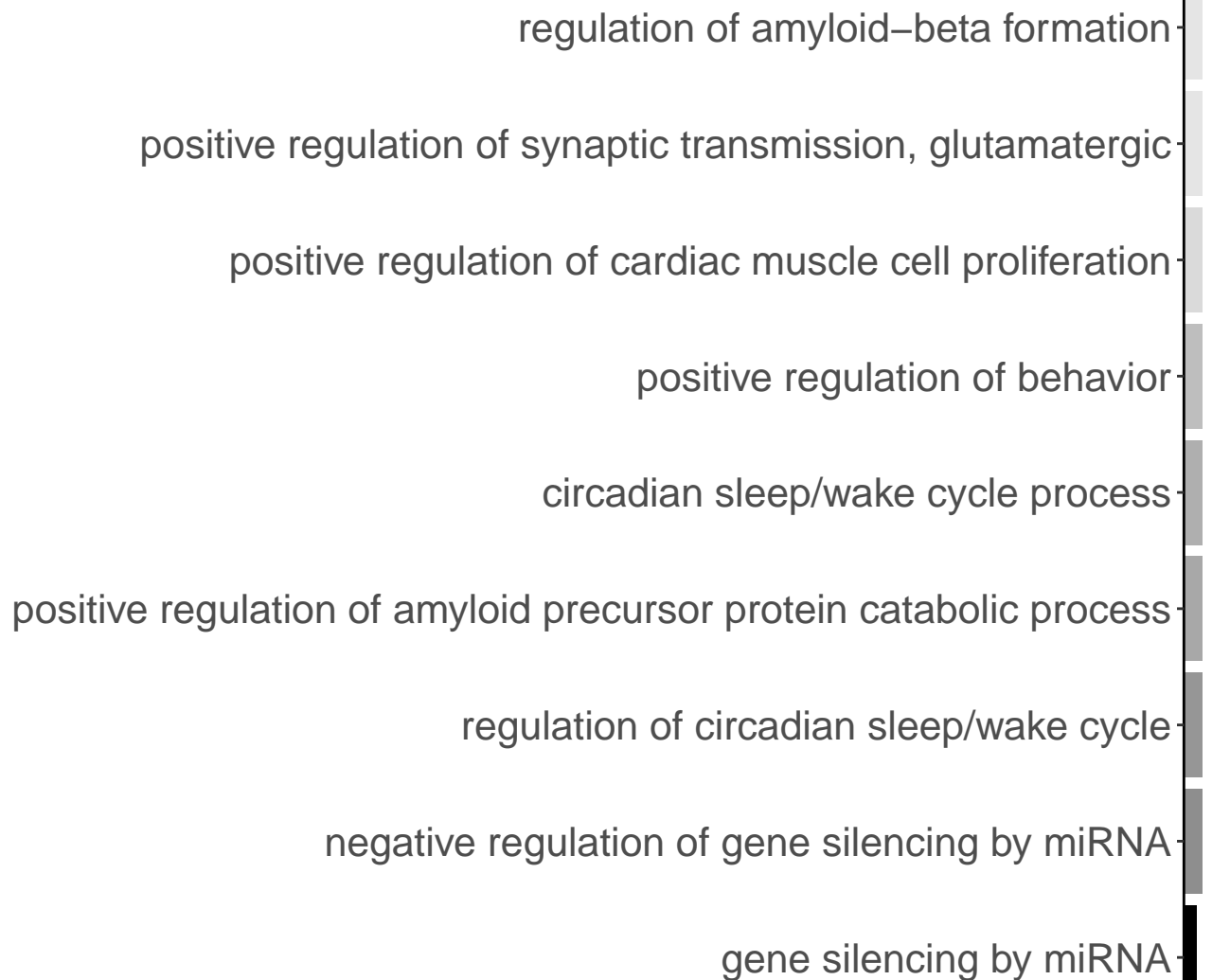


Module 181

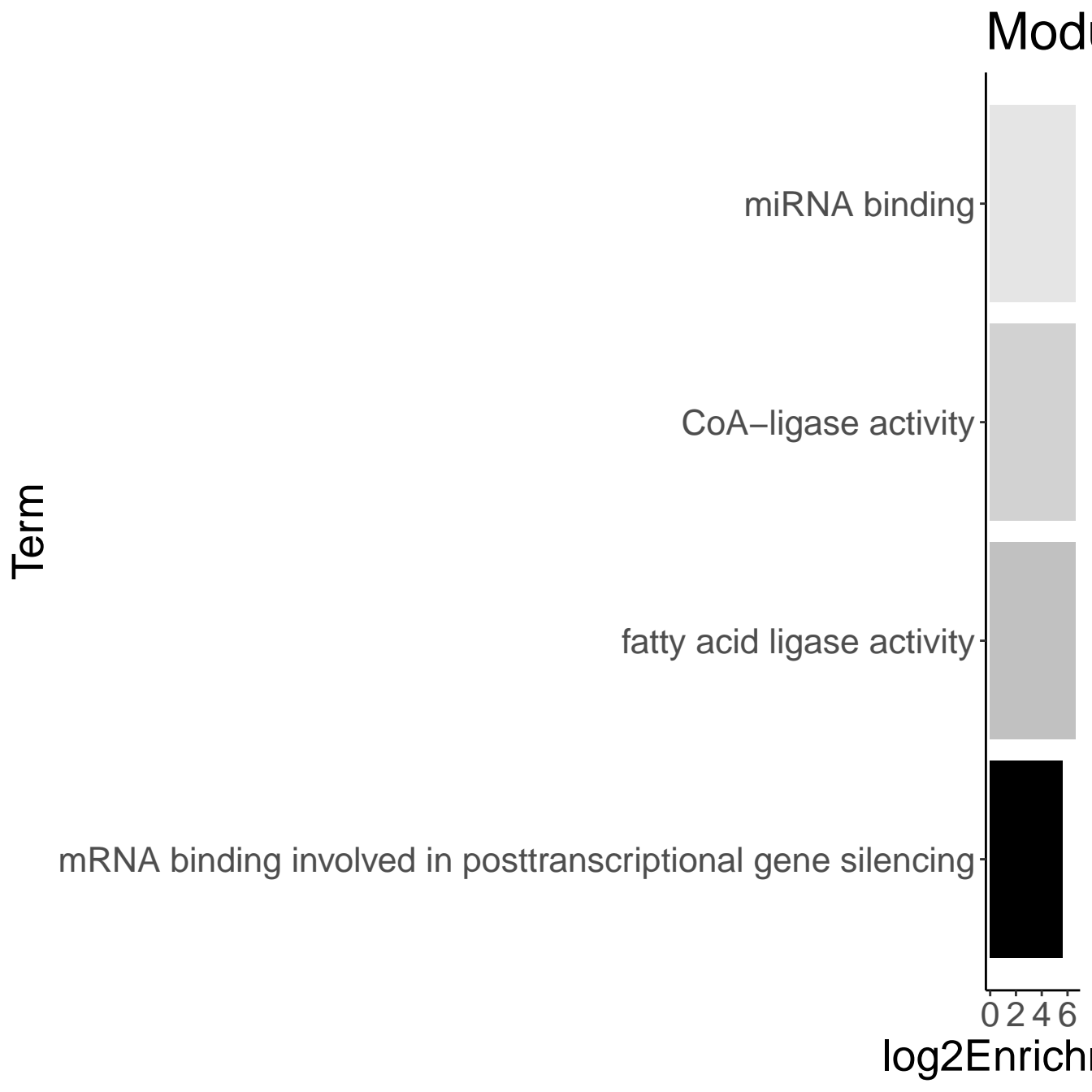
Term

log2Enrichment

Term



log2Enrichment



|||||
e

cellular response to pH

detection of chemical stimulus involved in sensory perception of smell

log2En

Module 6

Term

calcium activated cation channel activity

olfactory receptor activity

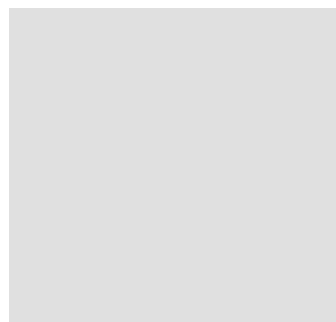
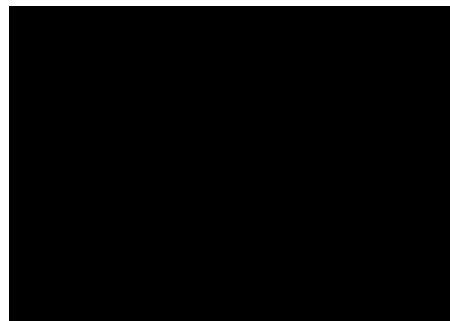
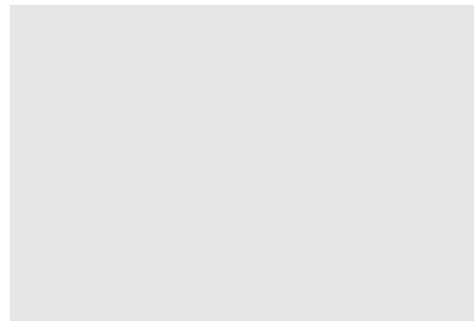
G protein-coupled receptor activity

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log2Enrichment



Module 17

Term

gene silencing by miRNA

0

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log2Enrichment



Module 17

Term

log2Enrichment

|||||
6 detection of chemical stimulus involved in sensory perception of smell

log2En

Module 40

Term

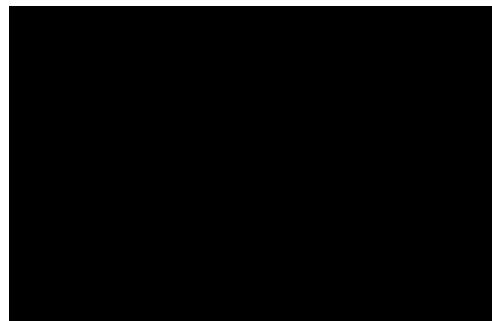
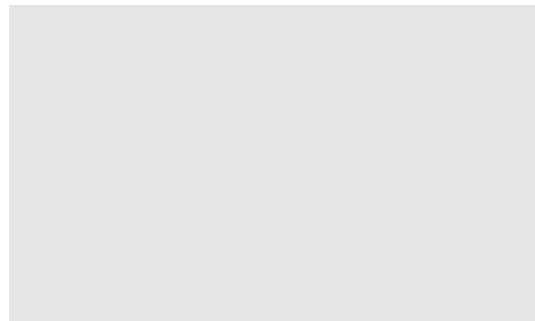
odorant binding

olfactory receptor activity

G protein-coupled receptor activity

0 2 4 6

log2Enrichment



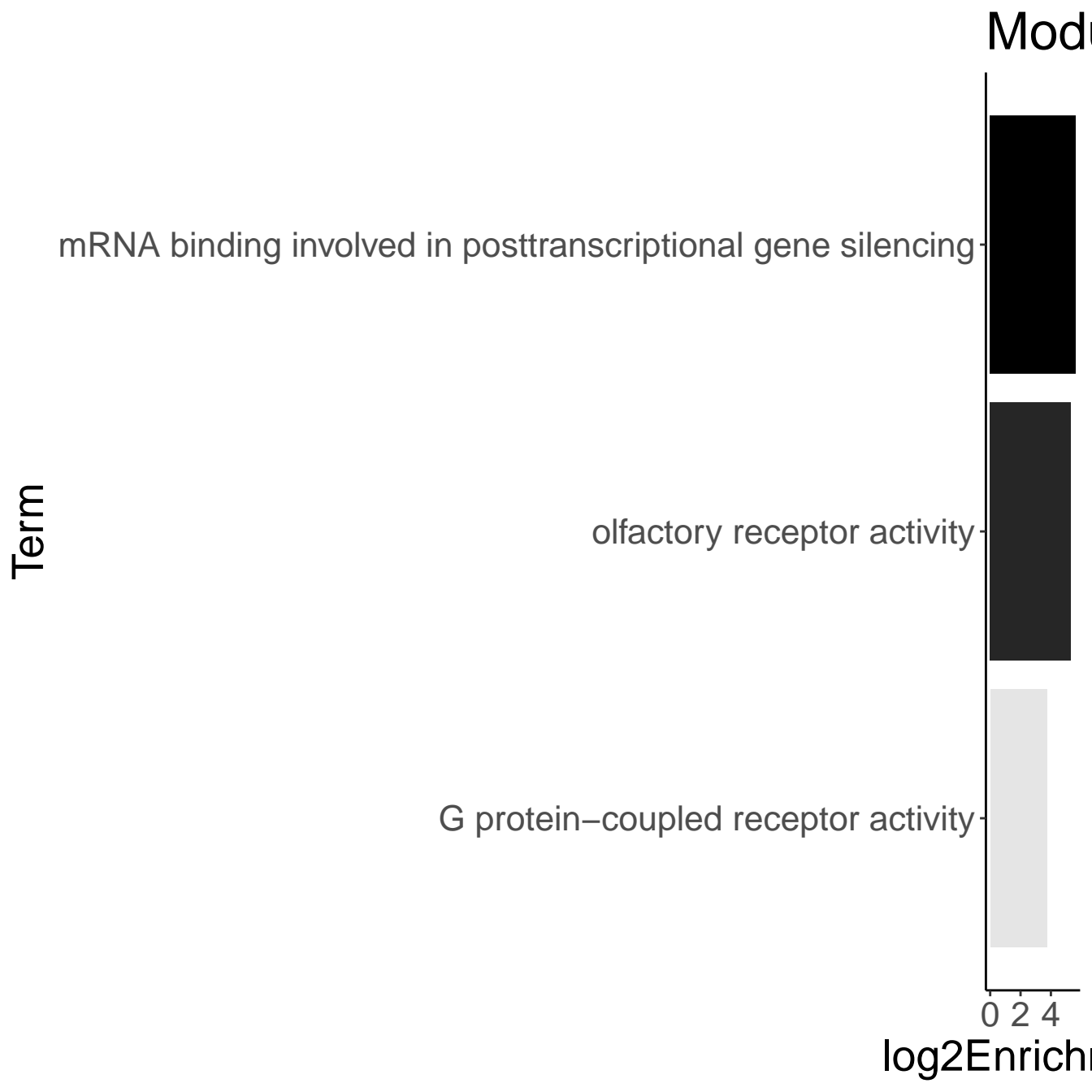
III
B

regulation of interleukin-17 production

detection of chemical stimulus involved in sensory perception of smell

gene silencing by miRNA

log2En



Module 23

Term

peptidyl–glutamic acid modification

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log2Enrichment



Module 23

Term

metallocarboxypeptidase activity

odorant binding

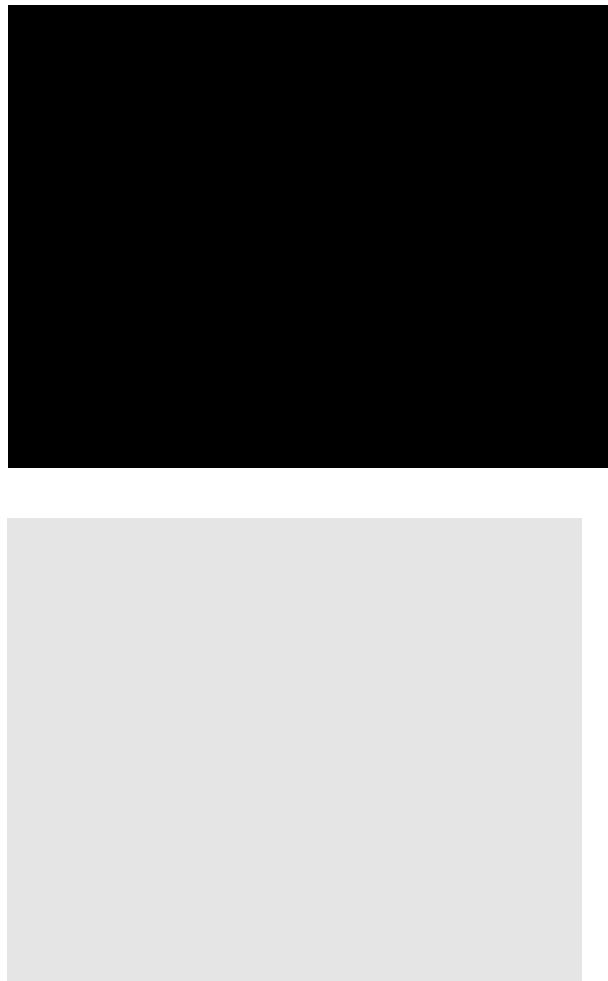
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log2Enrichment



Module 32

Term

log2Enrichment



Module 32

Term

log2Enrichment

Module 51

Term

cellular defense response

0

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4

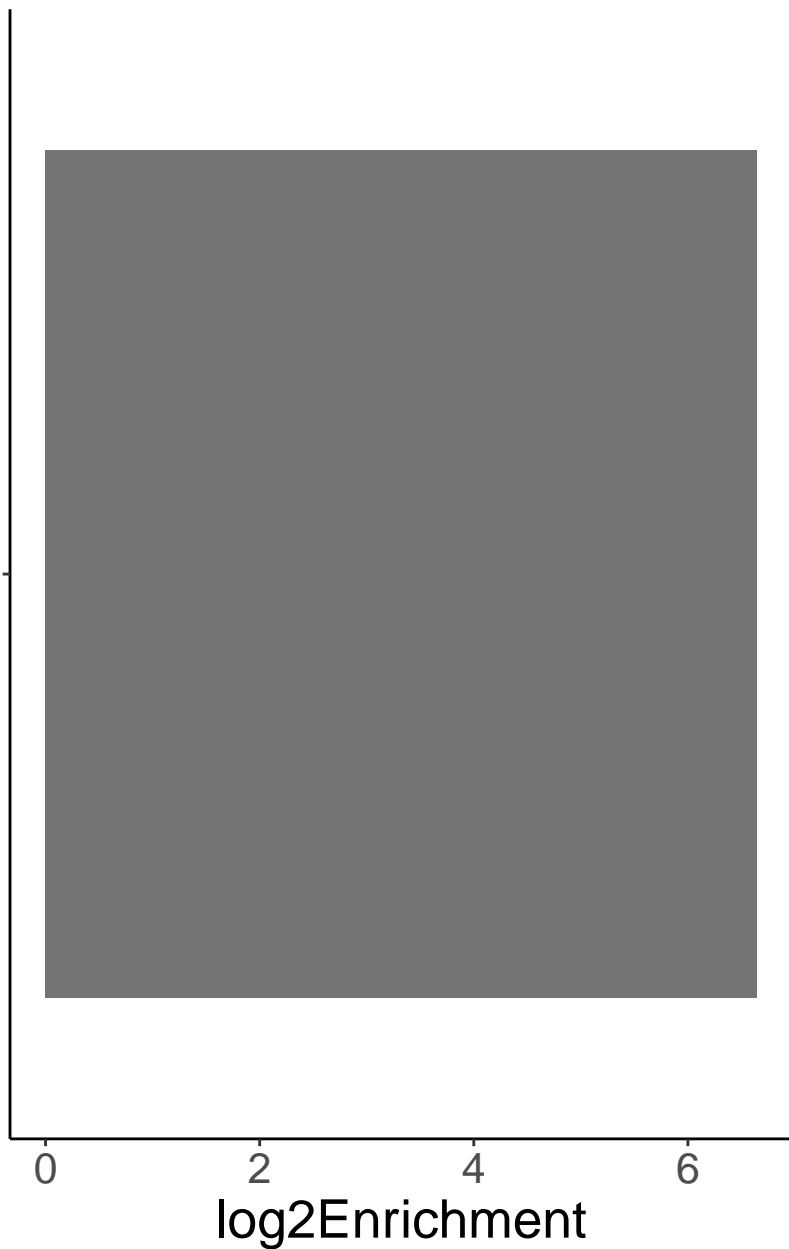
6

log2Enrichment



Module 51

Term
immune receptor activity



negative regulation of peptidyl–serine phosphorylation

negative regulation of tumor necrosis factor–mediated signaling pathway

positive regulation of interleukin–1 beta production

negative regulation of toll–like receptor signaling pathway

innate immune response

log2E

Module 55

Term

log2Enrichment



Module 56

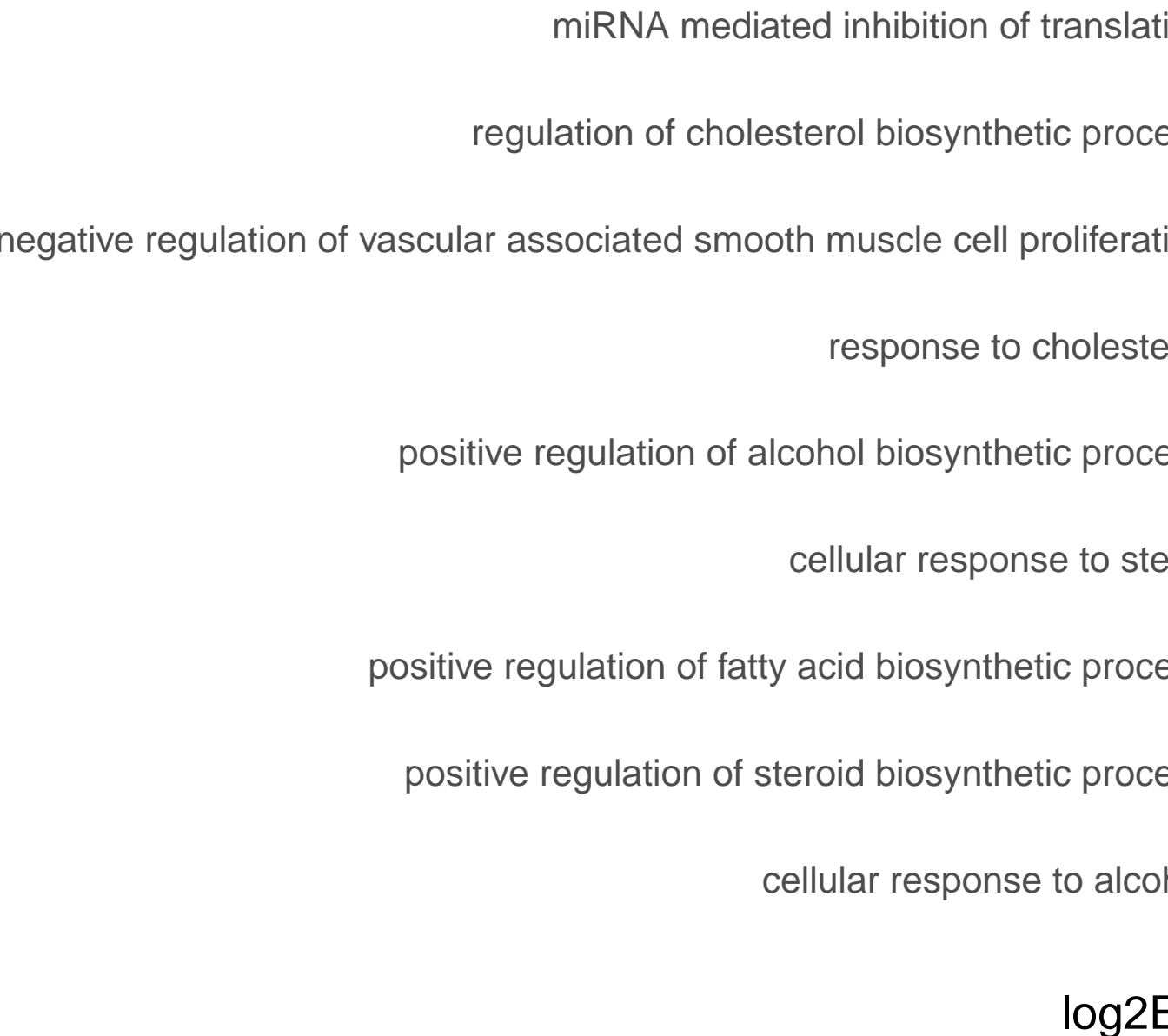
Term

log2Enrichment

Module 56

Term

log2Enrichment



Module 168

Term

log2Enrichment

negative regulation of osteoblast differentiation

regulation of vascular associated smooth muscle cell migration

negative regulation of smooth muscle cell migration

negative regulation of vascular associated smooth muscle cell proliferation

log2E

Module 175

Term

single-stranded RNA binding

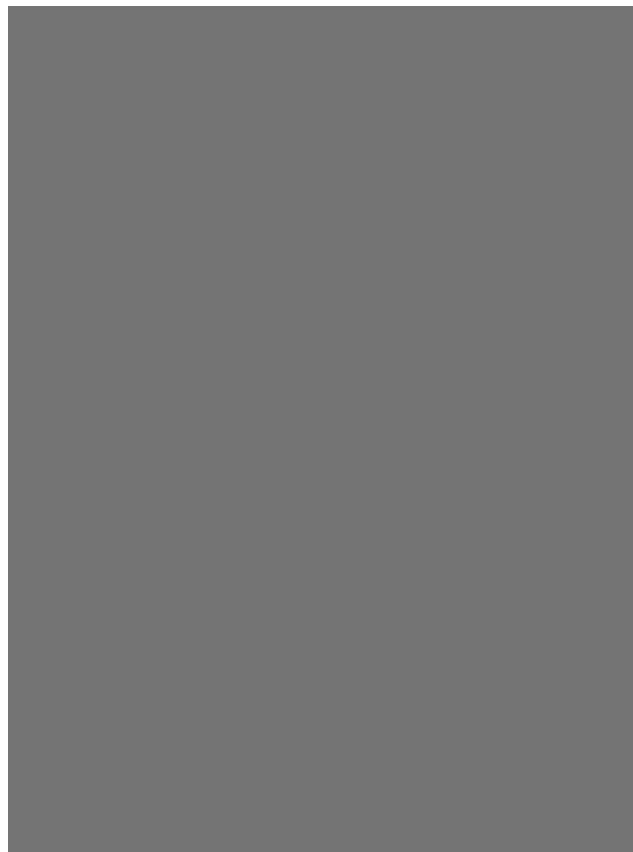
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log2Enrichment



Module 3

Term

log2Enrichment

Module 3

Term

log2Enrichment

Module 7

Term

log2Enrichment

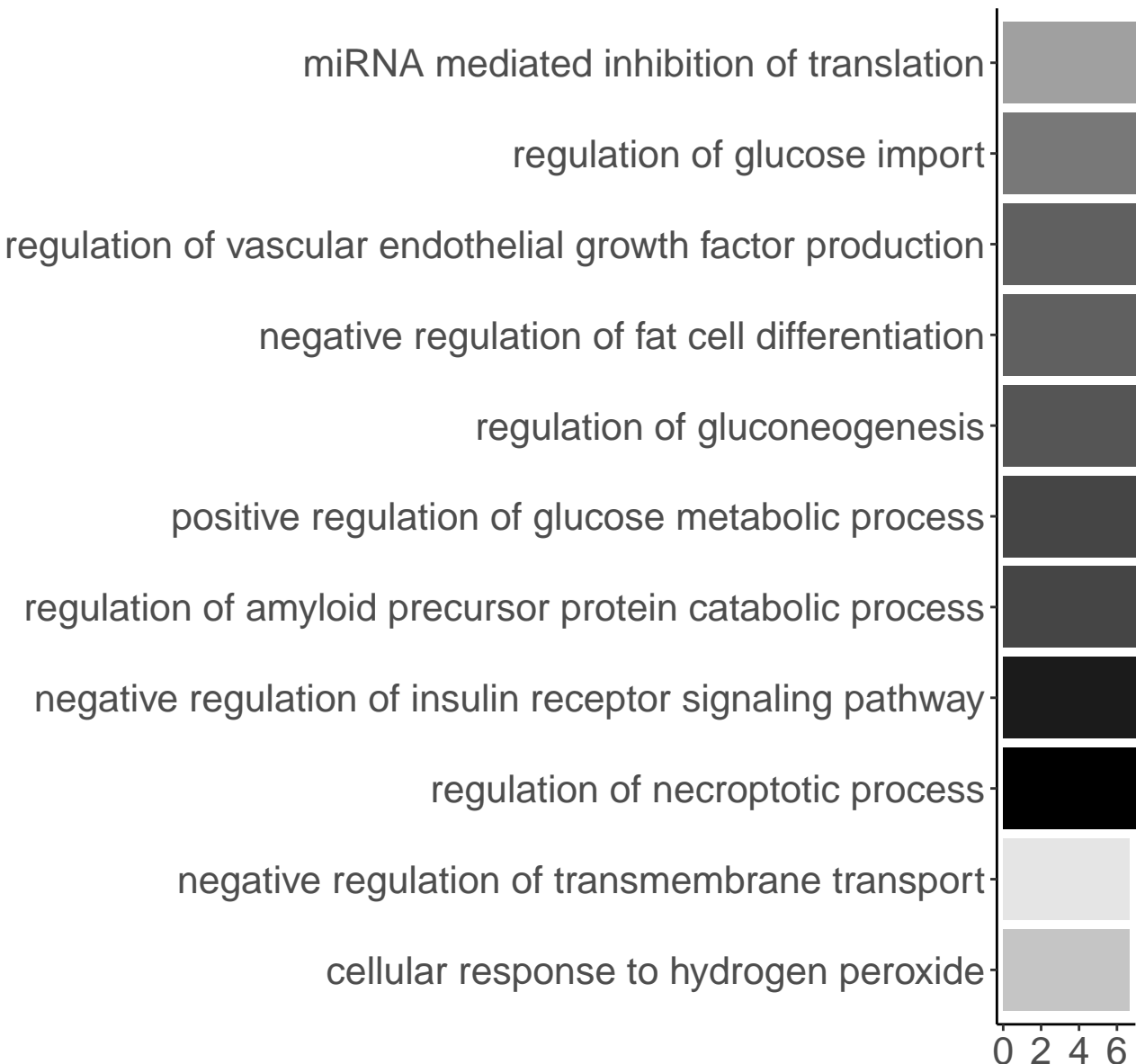
Module 7

Term

log2Enrichment

Modul

Term



log2Enrichment

Module 10

Term

log2Enrichment

Module 12

Term

log2Enrichment

Module 12

Term

log2Enrichment

Module 19

Term

log2Enrichment

Module 19

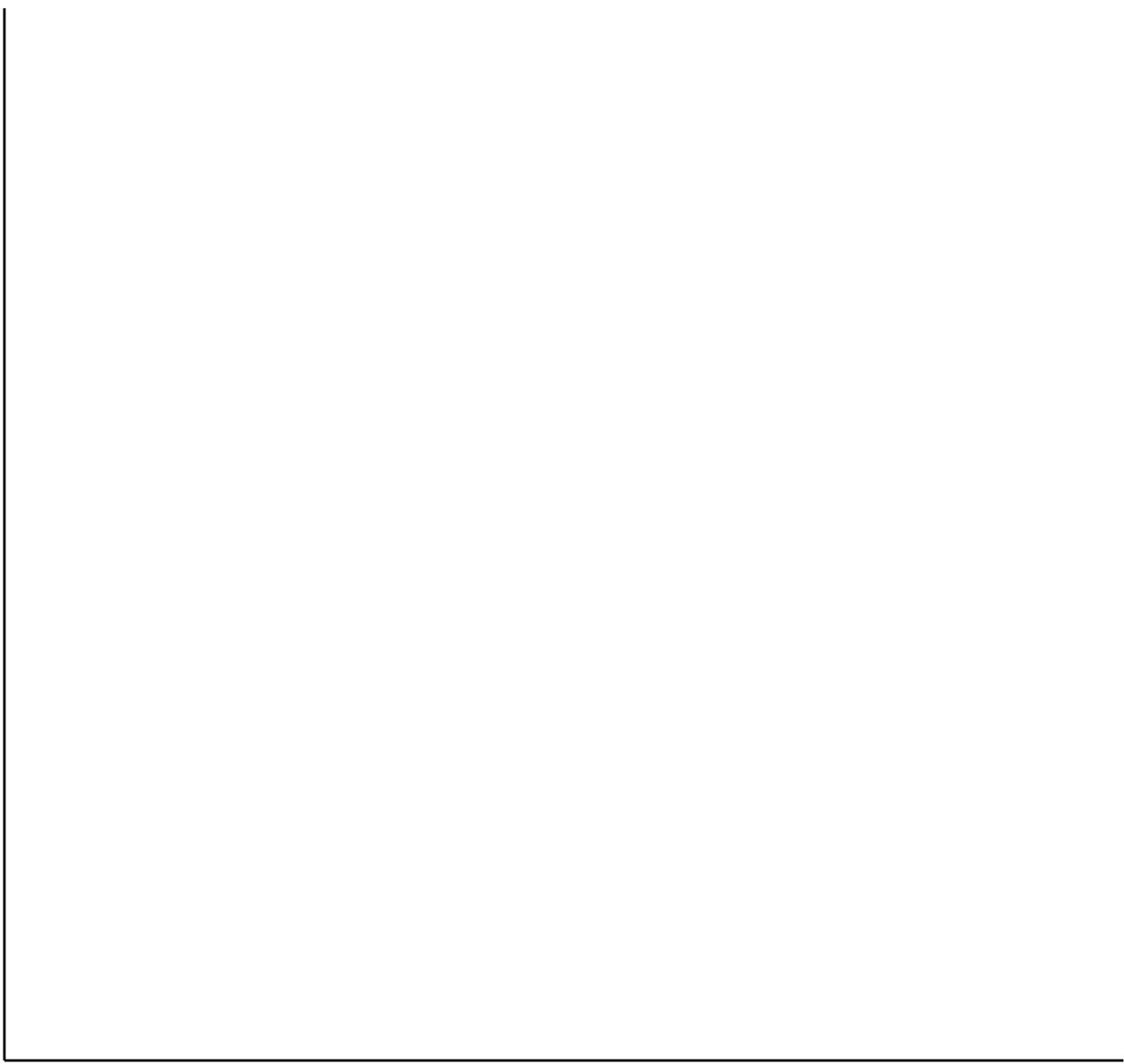
Term

log2Enrichment

Module 24

Term

log2Enrichment



Module 24

Term

log2Enrichment



Module 28

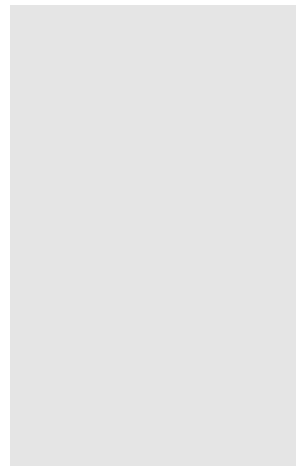
Term

mRNA cis splicing, via spliceosome

mRNA splice site selection

-0.050 -0.025 0.000 0.025 0.050

log2Enrichment



Module 28

Term

pre-mRNA binding

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log2Enrichment



Module 34

Term

log2Enrichment

Module 34

Term

log2Enrichment

Module 43

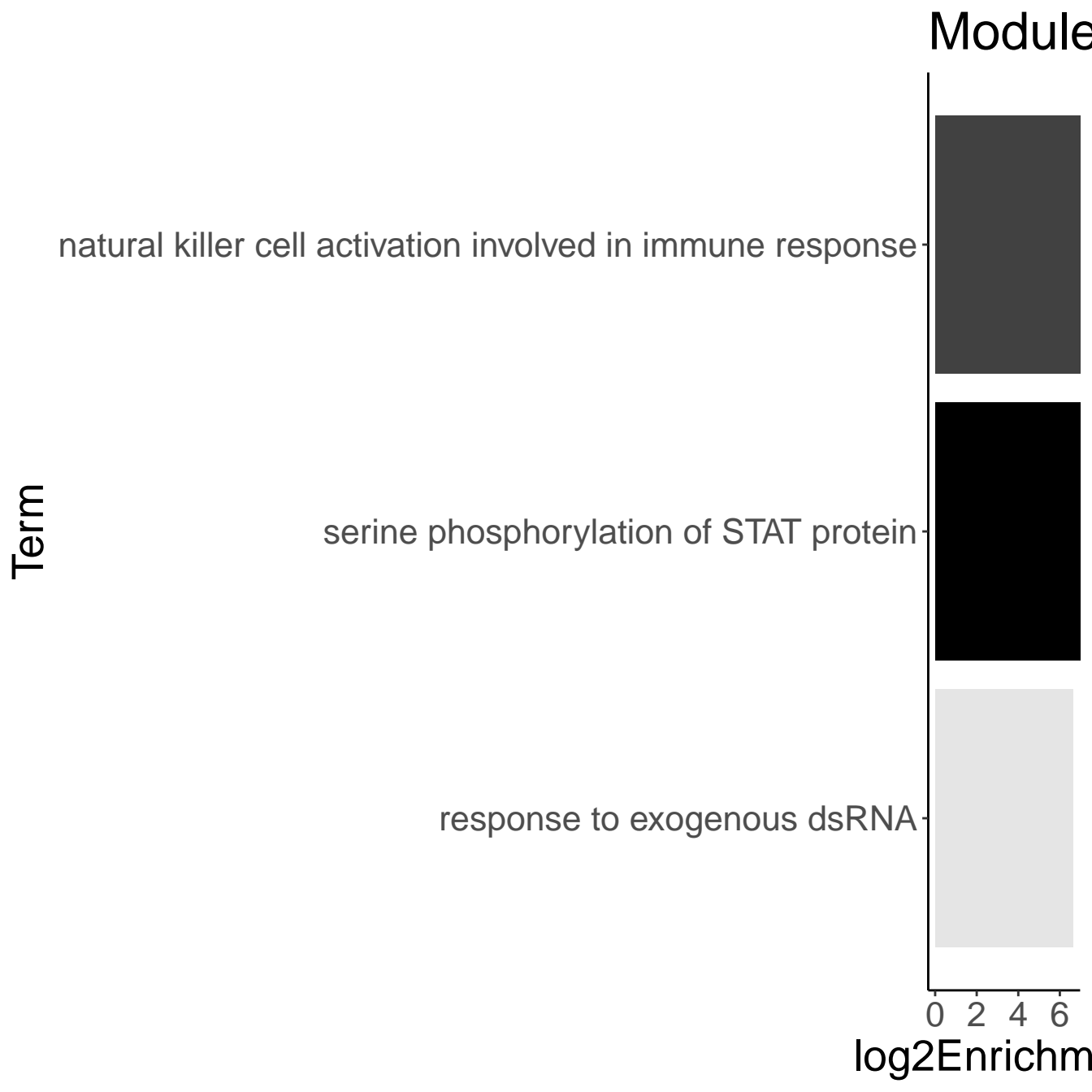
Term

log2Enrichment

Module 43

Term

log2Enrichment



Module 44

Term

log2Enrichment

Module 66

Term

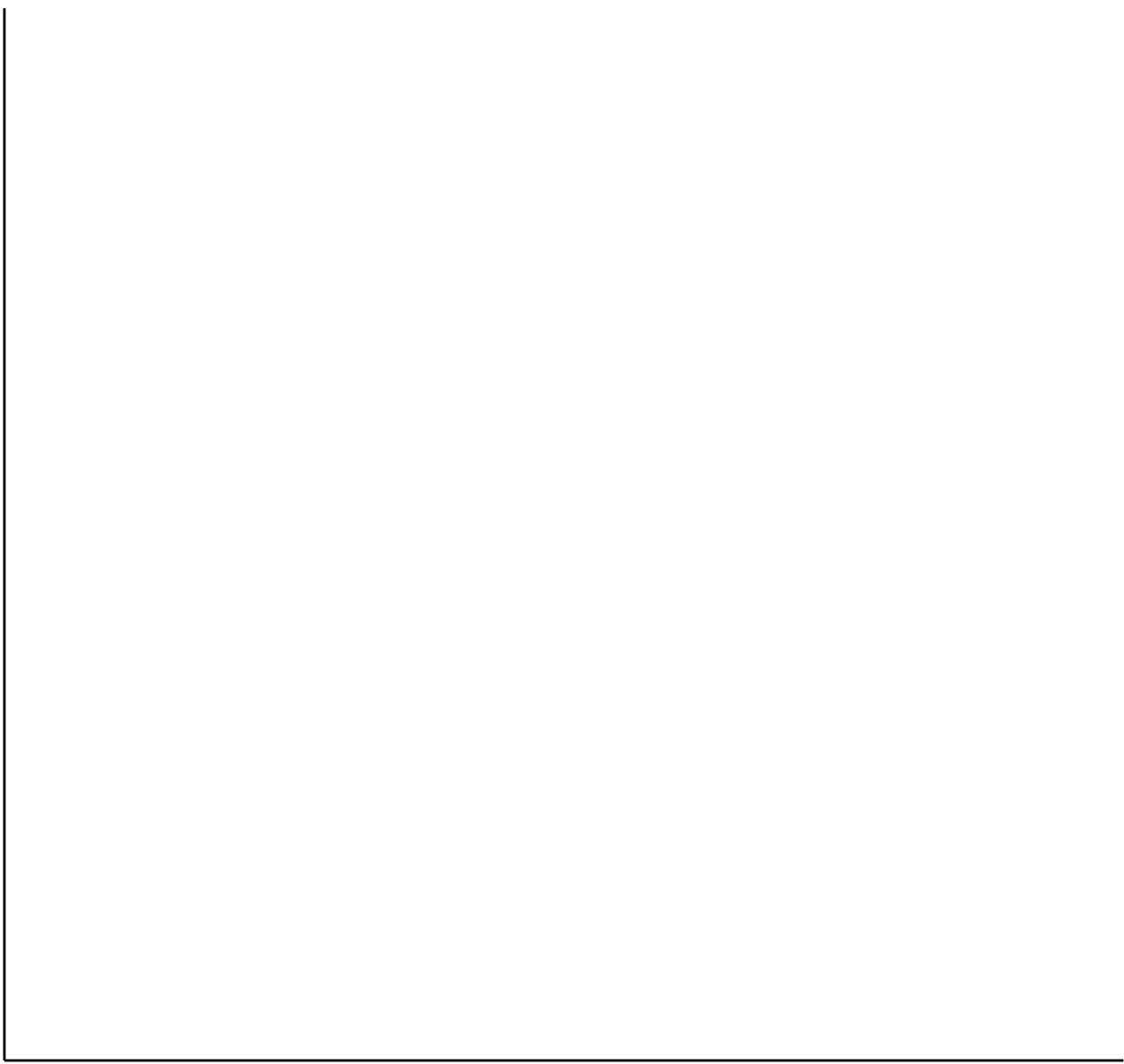
log2Enrichment



Module 66

Term

log2Enrichment



Module 67

Term

log2Enrichment

Module 67

Term

log2Enrichment

Module

Term

regulation of vascular endothelial growth factor production

log2Enrichment

0 2 4 6



Module 74

Term

log2Enrichment

Module 91

Term

log2Enrichment

Module 91

Term

odorant binding

-0.050

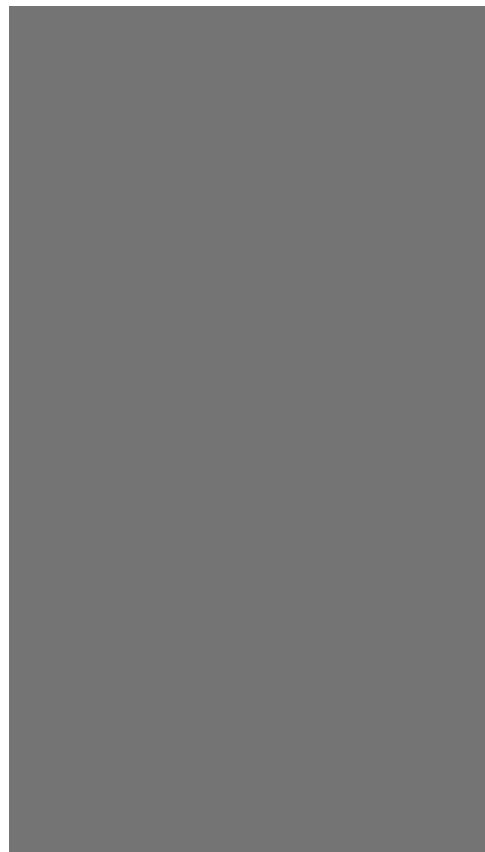
-0.025

0.000

0.025

0.050

log2Enrichment



regulation of blood vessel endothelial cell proliferation involved in sprouting

negative regulation of cell migration involved in sprouting

negative regulation of fibroblast

gene silencing

Module 92

Term

log2Enrichment

Module 100

Term

negative regulation of epithelial cell differentiation

log2Enrichmen

0 2 4 6



Module 100

Term

log2Enrichment



Module 101

Term

log2Enrichment



Module 101

Term

log2Enrichment



Module 105

Term

log2Enrichment

Module 105

Term

log2Enrichment

Module 106

Term

log2Enrichment

Module 106

Term

log2Enrichment

Module 118

Term

log2Enrichment

Module 118

Term

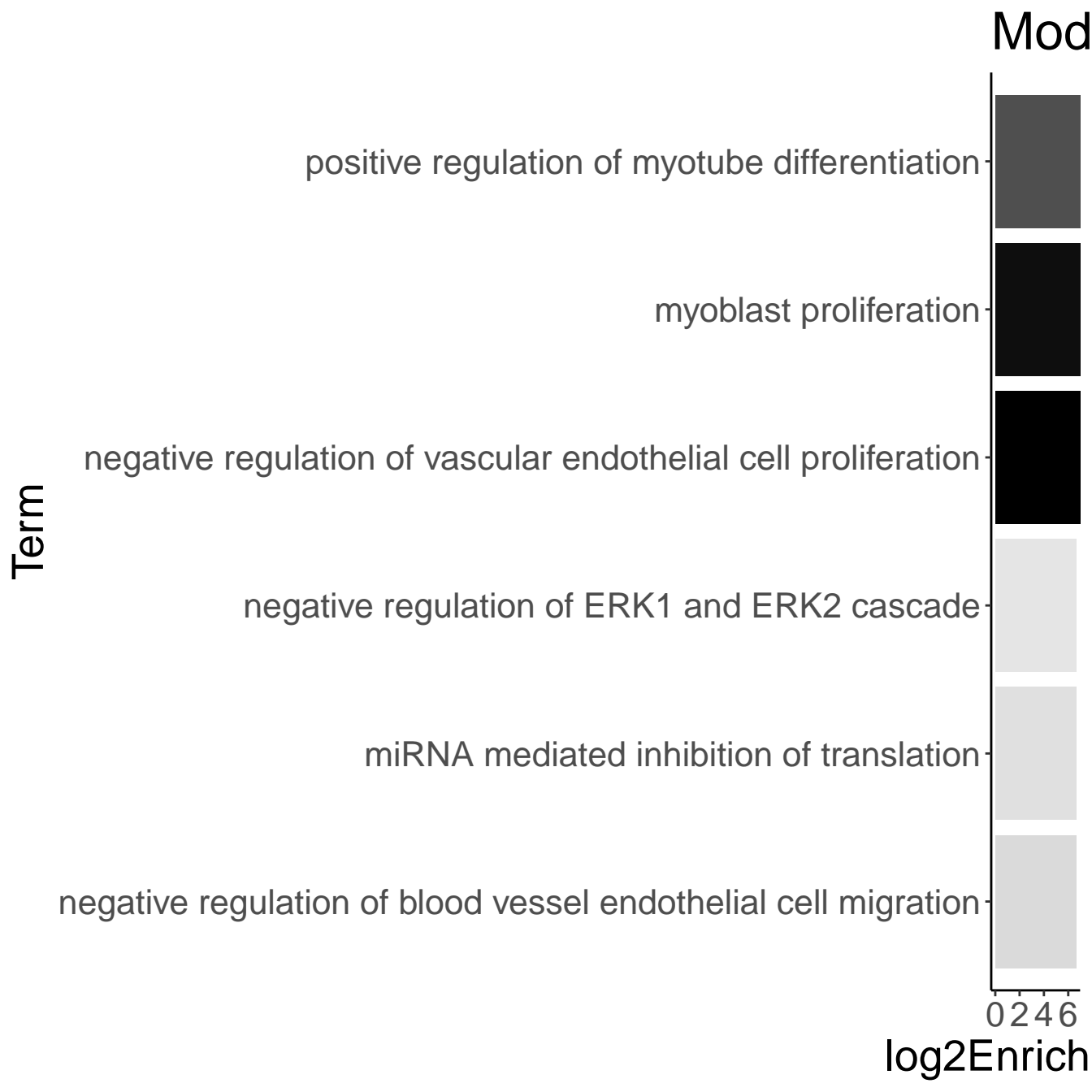
log2Enrichment

regulation of cardiac muscle ce
low-density lipoprotein parti
regulation of cell fate
positive regulation of cardiocyte c
cell fate commitment involved in formation of prima
ventricular cardiac muscle cell ac
negative regulation of calcium ion transmembrane transp
negative regulation of cardiac muscle
negative regulation of vascular associated smooth muscle cel
positive regulation of myotube c
regulation of cardiac muscle cell ac
negative regulation of cardiac muscle cell apop
negative regulation of calcium-media
adenylate cyclase-activating adrenergic receptor signa
negative regulation of potassium ion transmembrane transp
negative regulation of cAMP-media
regulation of lipoprotein parti
membrane repolarization during cardiac muscle cell ac
myoblas
regulation of ventricular cardiac muscle cell membrane r
negative regulation of hydrogen peroxide-induc
regulation of cAMP-dependent protein k
regulation of delayed rectifier potassium ch
of cardiac muscle contraction by regulation of the release of sequestere
adenylate cyclase-inhibiting G protein-coupled receptor signa
negative regulation of ERK1 and E
somatic stem cell population
negative regulation of G protein-coupled receptor signa
negative regulation of epidermal growth factor receptor signa
negative regulation of cation ch
endodermal cell c
positive regulation of stem cel

Module 120

Term

log2Enrichment



Module 135

Term

mRNA 3'-UTR binding

0

2

4

6

log2Enrichment



Module 138

Term

log2Enrichment

Module 138

Term

log2Enrichment

Module 140

Term

log2Enrichment

Module 140

Term

log2Enrichment

regulation of vascular associated smooth muscle cell migration

negative regulation of smooth muscle cell migration

negative regulation of vascular associated smooth muscle cell proliferation

negative regulation of G1/S transition of mitotic cell cycle

log2E

Module 145

Term

log2Enrichment

Term

regulation of insulin-like growth factor receptor signaling pathway

negative regulation of striated muscle cell differentiation

negative regulation of insulin receptor signaling pathway

log2Enrich

Module 158

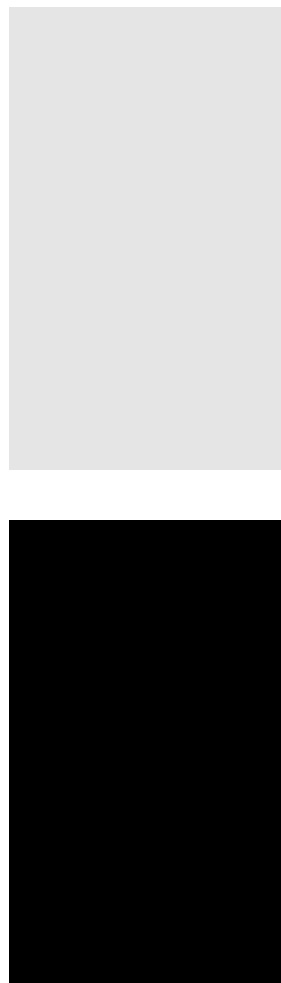
Term

phosphatidylserine binding

ubiquitin conjugating enzyme binding

-0.050 -0.025 0.000 0.025 0.050

log2Enrichment



Module 169

Term

log2Enrichment

Module 169

Term

log2Enrichment

Module 172

Term

log2Enrichment

Module 172

Term

log2Enrichment

|||||
|e|

G protein–coupled serotonin receptor signaling pathway

detection of chemical stimulus involved in sensory perception of smell

log2En

Module 186

Term

G protein–coupled serotonin receptor activity

olfactory receptor activity

0 2 4 6

log2Enrichment

