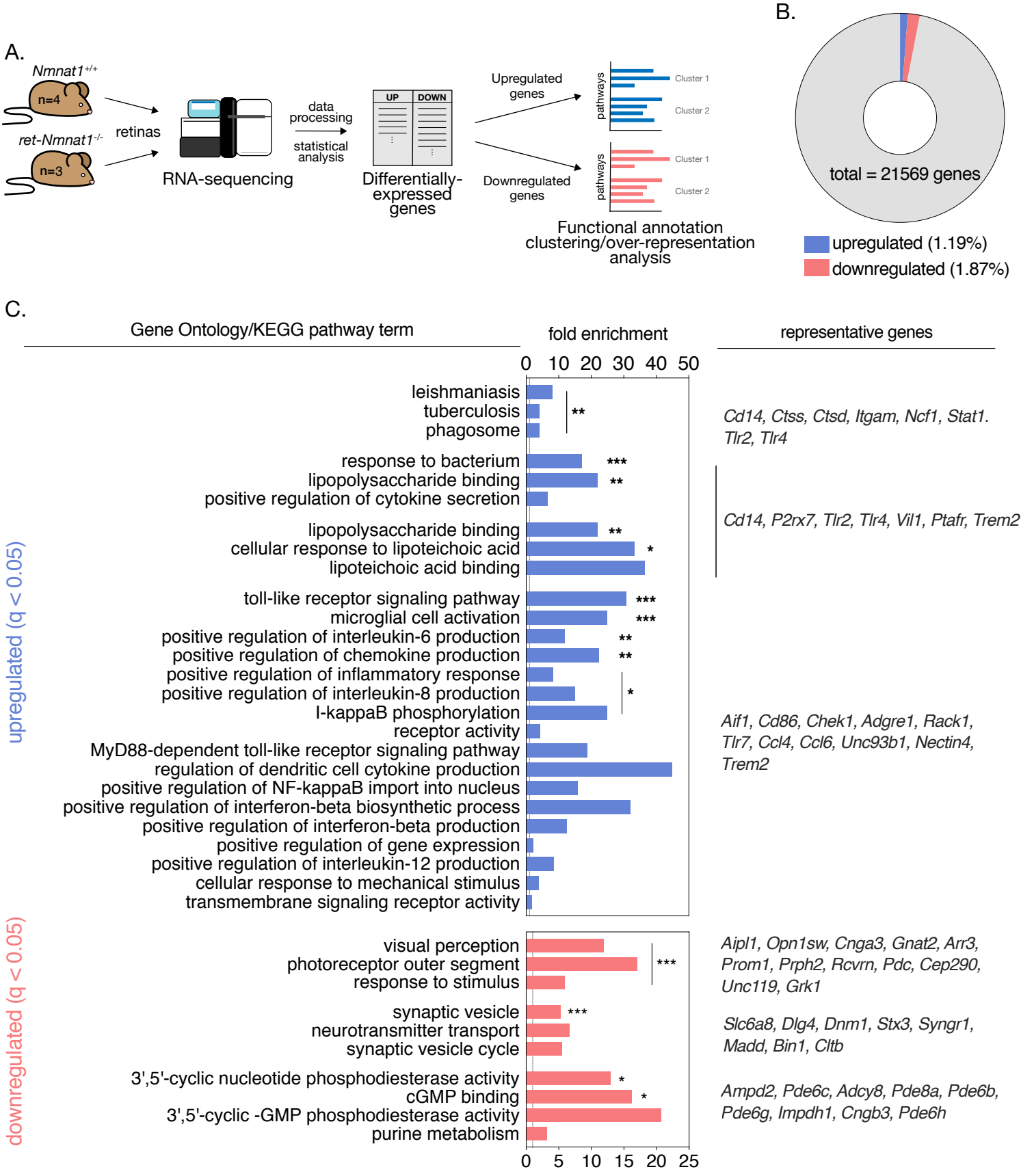
A.
Nmnat1+/+
n=4
ret-Nmnat1-/-
n=3
retinas
RNA-sequencing
data processing
statistical analysis
UP
DOWN
Differentially-expressed genes
Upregulated genes
Downregulated genes
pathways
Cluster 1
Cluster 2
Functional annotation clustering/over-representation analysis
B.
total = 21569 genes
upregulated (1.19%)
downregulated (1.87%)
C.
Gene Ontology/KEGG pathway term
fold enrichment
representative genes
upregulated (q < 0.05)
leishmaniasis
tuberculosis
phagosome
Cd14, Ctss, Ctsd, Itgam, Ncf1, Stat1. Tlr2, Tlr4
response to bacterium
lipopolysaccharide binding
positive regulation of cytokine secretion
Cd14, P2rx7, Tlr2, Tlr4, Vil1, Ptafr, Trem2
lipopolysaccharide binding
cellular response to lipoteichoic acid
lipoteichoic acid binding
toll-like receptor signaling pathway
microglial cell activation
positive regulation of interleukin-6 production
positive regulation of chemokine production
positive regulation of inflammatory response
positive regulation of interleukin-8 production
I-kappaB phosphorylation
receptor activity
MyD88-dependent toll-like receptor signaling pathway
regulation of dendritic cell cytokine production
positive regulation of NF-kappaB import into nucleus
positive regulation of interferon-beta biosynthetic process
positive regulation of interferon-beta production
positive regulation of gene expression
positive regulation of interleukin-12 production
cellular response to mechanical stimulus
transmembrane signaling receptor activity
Aif1, Cd86, Chek1, Adgre1, Rack1, Tlr7, Ccl4, Ccl6, Unc93b1, Nectin4, Trem2
downregulated (q < 0.05)
visual perception
photoreceptor outer segment
response to stimulus
Aipl1, Opn1sw, Cnga3, Gnat2, Arr3, Prom1, Prph2, Rcvrn, Pdc, Cep290, Unc119, Grk1
synaptic vesicle
neurotransmitter transport
synaptic vesicle cycle
Slc6a8, Dlg4, Dnm1, Stx3, Syngr1, Madd, Bin1, Cltb
3',5'-cyclic nucleotide phosphodiesterase activity
cGMP binding
3',5'-cyclic -GMP phosphodiesterase activity
purine metabolism
Ampd2, Pde6c, Adcy8, Pde8a, Pde6b, Pde6g, Impdh1, Cngb3, Pde6h
0 10 20 30 40 50
0 5 10 15 20 25