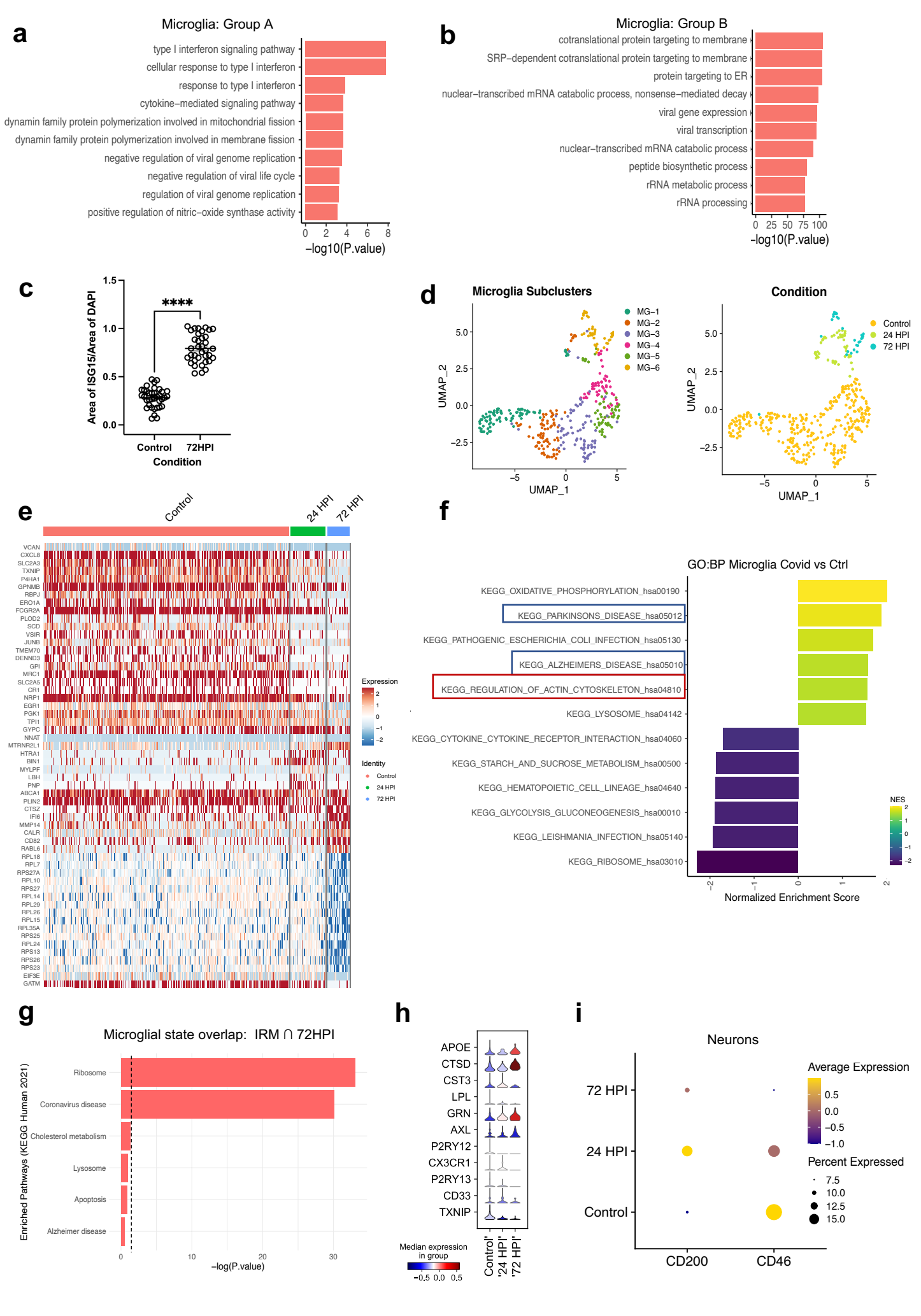
a
Microglia: Group A
type I interferon signaling pathway
cellular response to type I interferon
response to type I interferon
cytokine−mediated signaling pathway
dynamin family protein polymerization involved in mitochondrial fission
dynamin family protein polymerization involved in membrane fission
negative regulation of viral genome replication
negative regulation of viral life cycle
regulation of viral genome replication
positive regulation of nitric−oxide synthase activity
0 2 4 6 8
−log10(P.value)
b
Microglia: Group B
cotranslational protein targeting to membrane
SRP−dependent cotranslational protein targeting to membrane
protein targeting to ER
nuclear−transcribed mRNA catabolic process, nonsense−mediated decay
viral gene expression
viral transcription
nuclear−transcribed mRNA catabolic process
peptide biosynthetic process
rRNA metabolic process
rRNA processing
0 25 50 75 100
−log10(P.value)
c
Area of ISG15/Area of DAPI
1.5
1.0
0.5
0.0
****
Control
72HPI
Condition
d
Microglia Subclusters
MG−1
MG−2
MG−3
MG−4
MG−5
MG−6
UMAP_2
UMAP_1
Condition
Control
24 HPI
72 HPI
e
Control
24 HPI
72 HPI
VCAN
CXCL8
SLC2A3
TXNIP
P4HA1
GPNMB
RBPJ
ERO1A
FCGR2A
PLOD2
SCD
VSIR
JUNB
TMEM70
DENND3
GPI
MRC1
SLC2A5
CR1
NRP1
EGR1
PGK1
TPI1
GYPC
NNAT
MTRNR2L1
HTRA1
BIN1
MYLPF
LBH
PNP
ABCA1
PLIN2
CTSZ
IFI6
MMP14
CALR
CD82
RABL6
RPL18
RPL7
RPS27A
RPL10
RPS27
RPL14
RPL29
RPL26
RPL15
RPL35A
RPS25
RPL24
RPS13
RPS26
RPS23
EIF3E
GATM
Expression
Identity
Control
24 HPI
72 HPI
f
GO:BP Microglia Covid vs Ctrl
KEGG_OXIDATIVE_PHOSPHORYLATION_hsa00190
KEGG_PARKINSONS_DISEASE_hsa05012
KEGG_PATHOGENIC_ESCHERICHIA_COLI_INFECTION_hsa05130
KEGG_ALZHEIMERS_DISEASE_hsa05010
KEGG_REGULATION_OF_ACTIN_CYTOSKELETON_hsa04810
KEGG_LYSOSOME_hsa04142
KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION_hsa04060
KEGG_STARCH_AND_SUCROSE_METABOLISM_hsa00500
KEGG_HEMATOPOIETIC_CELL_LINEAGE_hsa04640
KEGG_GLYCOLYSIS_GLUCONEOGENESIS_hsa00010
KEGG_LEISHMANIA_INFECTION_hsa05140
KEGG_RIBOSOME_hsa03010
NES
Normalized Enrichment Score
g
Microglial state overlap: IRM ∩ 72HPI
Enriched Pathways (KEGG Human 2021)
Ribosome
Coronavirus disease
Cholesterol metabolism
Lysosome
Apoptosis
Alzheimer disease
0 10 20 30
−log(P.value)
h
APOE
CTSD
CST3
LPL
GRN
AXL
P2RY12
CX3CR1
P2RY13
CD33
TXNIP
Control
'24 HPI'
'72 HPI'
Median expression in group
−0.5 0.0 0.5
i
Neurons
72 HPI
24 HPI
Control
CD200
CD46
Average Expression
0.5
0.0
−0.5
−1.0
Percent Expressed
7.5
10.0
12.5
15.0