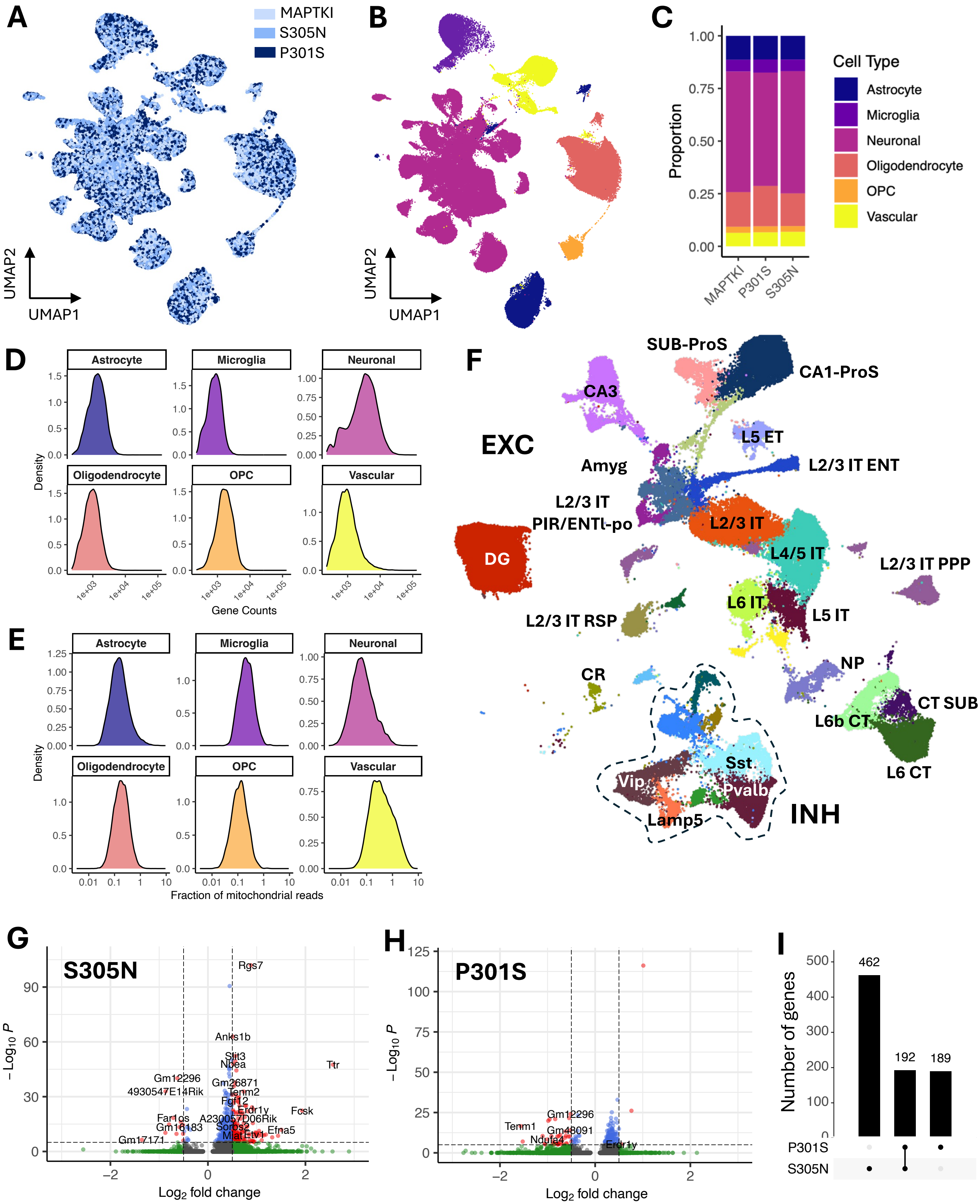
A
MAPTKI
S305N
P301S
UMAP2
UMAP1
B
UMAP2
UMAP1
C
Proportion
1.00
0.75
0.50
0.25
0.00
MAPTKI
P301S
S305N
Cell Type
Astrocyte
Microglia
Neuronal
Oligodendrocyte
OPC
Vascular
D
Astrocyte
Microglia
Neuronal
Oligodendrocyte
OPC
Vascular
Density
1e+03
1e+04
1e+05
Gene Counts
E
Astrocyte
Microglia
Neuronal
Oligodendrocyte
OPC
Vascular
Density
0.01
0.1
1
10
Fraction of mitochondrial reads
F
SUB-ProS
CA1-ProS
CA3
EXC
L5 ET
L2/3 IT ENT
Amyg
L2/3 IT
PIR/ENTl-po
L2/3 IT
DG
L4/5 IT
L2/3 IT PPP
L6 IT
L5 IT
L2/3 IT RSP
CR
NP
CT SUB
L6b CT
Sst
L6 CT
Vip
Pvalb
Lamp5
INH
G
S305N
− Log₁₀ P
Rgs7
Anks1b
Slit3
Nbea
Ttr
Gm12296
Gm26871
4930547E14Rik
Tenm2
Fgf12
Erdr1y
Fcsk
Far1os
A230057D06Rik
Gm16183
Sorbs2
Efna5
Miat
Etv1
Gm17171
Log₂ fold change
H
P301S
− Log₁₀ P
Gm12296
Tenm1
Gm48091
Ndufa4
Erdr1y
Log₂ fold change
I
Number of genes
462
192
189
P301S
S305N

Fig. S2 (**A,B**) UMAP embedding of single nuclei RNA sequencing data from CA3 of hippocampus of 24M *MAPT* KI, S305N and P301S mice (N=4, sex matched). Each dot represents a cell that is coloured according to the genotype (**A**) or broad cell-type annotation (**B**). OPC: oligodendrocyte progenitor cells. (**C)** Relative proportion of broad cell-types between lines (info in A,B). (**D,E**) Density plots per cell-types of gene counts (**D**) and fraction of mitochondrial reads (**E**). Note that x-axes are displayed in log scale. (F) UMAP embedding of neuronal cells. Each cell is coloured according to its fine-grained identity (Supplementary table 6 for a full description). (**G,H**) Volcano plots displaying differentially expressed genes (in red, $|\text{Log2FC}| > 0.5$ and adjusted $p\text{-value} < 0.05$) between S305N and *MAPT* KI (**G**) and P301S and *MAPT* KI (**H**). (**I**) Upset plot highlighting the fraction of shared or unique differentially expressed genes for each comparison.