

**Table S2. Leading edge genes of gene sets associated with neurodegeneration vulnerability**

GENE	RANK IN GENE LIST	SPATIAL		N GENE SETS
		CORRELATION	CLUSTER	
KLK8	39	0.69	N1	4
APOE	203	0.62	N1	4
SLIT1	336	0.59	N1	4
OPHN1	398	0.58	N1	4
PAX2	438	0.57	N1	4
PARD3	441	0.57	N1	4
ROBO1	563	0.56	N1	4
SEMA4F	723	0.54	N1	4
ROBO2	944	0.52	N1	4
NRP2	1199	0.49	N1	4
CDK5R1	1358	0.48	N1	4
BAIAP2	1401	0.48	N1	4
MAPT	1620	0.46	N1	4
DPYSL5	1857	0.44	N1	4
KAL1	1878	0.44	N1	4
GLI2	1917	0.44	N1	4
NTNG2	2004	0.43	N1	4
YWHAH	506	0.57	N1	3
RTN4	3245	0.35	N1	3
FEZ2	3334	0.34	N1	3
NRXN1	3721	0.32	N1	3
LAMB1	1683	0.45	N1	2
CDK5	2155	0.42	N1	2
LST1	2864	0.37	N1	2
GHRL	3177	0.35	N1	2
TGFB2	2908	0.37	N1	1
NRL	2933	0.37	N1	1
YWHAB	655	0.54	N2	3
MAPK1	223	0.61	N2	3

GRB2	456	0.57 N2	3
MAPK3	940	0.52 N2	3
HRAS	1420	0.47 N2	3
MAP2K1	1606	0.46 N2	3
SHC3	1706	0.45 N2	3
NRAS	1898	0.44 N2	3
SHC2	1908	0.44 N2	3
KRAS	2377	0.41 N2	3
MAPK11	1338	0.48 N2	2
RALGDS	2409	0.40 N2	2
RALA	2989	0.37 N2	2
MAPKAPK3	4332	0.28 N2	2
SHC1	4343	0.28 N2	2
KIDINS220	3032	0.36 N2	1
FRS2	3035	0.36 N2	1
CRK	3171	0.35 N2	1
AGRN	3821	0.31 N3	2
GPC5	273	0.60 N3	2
GPC4	361	0.59 N3	2
GPC6	713	0.54 N3	2
DCN	994	0.51 N3	2
B3GALT6	1178	0.49 N3	2
B3GAT1	1526	0.47 N3	2
NCAN	1725	0.45 N3	2
GPC3	1797	0.44 N3	2
SDC4	1867	0.44 N3	2
SDC3	2502	0.40 N3	2
B3GAT2	3157	0.36 N3	2
SDC2	3496	0.34 N3	2
CSPG4	4689	0.26 N3	2
BCAN	4867	0.26 N3	2
GPC2	4892	0.25 N3	2
CSGALNACT1	356	0.59 N3	1

CHSY3	674	0.54 N3	1
CHST7	1407	0.48 N3	1
IDS	1852	0.44 N3	1
HEXA	2198	0.42 N3	1
CHST9	3480	0.34 N3	1
CSGALNACT2	4413	0.28 N3	1
RAPGEF4	35	0.70 "RAP1 SIGNALLING"	1
YWHAZ	183	0.63 "RAP1 SIGNALLING"	1
RAPGEF3	294	0.60 "RAP1 SIGNALLING"	1
PRKG1	959	0.51 "RAP1 SIGNALLING"	1
RAP1B	2055	0.43 "RAP1 SIGNALLING"	1
RAP1GAP	2546	0.39 "RAP1 SIGNALLING"	1
SIPA1	3127	0.36 "RAP1 SIGNALLING"	1
ALDH4A1	320	0.59 "OXIDOREDUCTASE ACTIVITY ACTING ON THE ALDEHYDE OR OXO GROUP OF DONORS NAD OR NADP AS ACCEPTOR"	1
ALDH2	984	0.51 "OXIDOREDUCTASE ACTIVITY ACTING ON THE ALDEHYDE OR OXO GROUP OF DONORS NAD OR NADP AS ACCEPTOR"	1
ALDH6A1	1007	0.51 "OXIDOREDUCTASE ACTIVITY ACTING ON THE ALDEHYDE OR OXO GROUP OF DONORS NAD OR NADP AS ACCEPTOR"	1
ALDH9A1	1205	0.49 "OXIDOREDUCTASE ACTIVITY ACTING ON THE ALDEHYDE OR OXO GROUP OF DONORS NAD OR NADP AS ACCEPTOR"	1
ADH5	1334	0.48 "OXIDOREDUCTASE ACTIVITY ACTING ON THE ALDEHYDE OR OXO GROUP OF DONORS NAD OR NADP AS ACCEPTOR"	1
ALDH3A2	1423	0.47 "OXIDOREDUCTASE ACTIVITY ACTING ON THE ALDEHYDE OR OXO GROUP OF DONORS NAD OR NADP AS ACCEPTOR"	1
ALDH1A2	1983	0.43 "OXIDOREDUCTASE ACTIVITY ACTING ON THE ALDEHYDE OR OXO GROUP OF DONORS NAD OR NADP AS ACCEPTOR"	1
ALDH7A1	2024	0.43 "OXIDOREDUCTASE ACTIVITY ACTING ON THE ALDEHYDE OR OXO GROUP OF DONORS NAD OR NADP AS ACCEPTOR"	1