Supplementary Table 1: Significant ($p < 5.0 \times 10^{-8}$) and suggestive ($p < 1 \times 10^{-5}$) results from the GWAS of neurofibrillary tangles adjusting for *APOE* ε4 burden

SNP	CHR	BP	Nearest Gene*	Beta (95%CI)	p-value	Beta adjusted for *APOE* ε4 (95%CI)	p adjusted for *APOE* ε4
rs429358	19	45411941	APOE/TOMM40	-0.27 (-0.21 , -0.33)	4.06E-20	-0.11 (-0.23 0)	5.92E-02
rs560380	9	9112698	PTPRD	0.1 (0.07 , 0.14)	3.14E-08	0.1 (0.06 0.13)	3.62E-08
rs2446485	6	21140299	CDKAL1	-0.13 (-0.08 , -0.17)	1.82E-07	-0.12 (-0.16 -0.07)	4.33E-07
rs9739162	12	1838008	ADIPOR2	-0.09 (-0.05 , -0.12)	2.56E-06	-0.08 (-0.12 -0.05)	7.87E-06
rs2104198	20	16653076	SNRPB2	-0.08 (-0.05 , -0.12)	4.88E-06	-0.08 (-0.12 -0.05)	6.27E-06
rs2964044	5	173720716		-0.13 (-0.08 , -0.19)	5.50E-06	-0.12 (-0.17 -0.06)	3.94E-05
rs11022147	11	1341815	TOLLIP	-0.25 (-0.14 , -0.36)	5.50E-06	-0.22 (-0.32 -0.11)	4.53E-05
chr5:167502615	5	167502615	ODZ2	-0.26 (-0.15 , -0.37)	5.85E-06	-0.24 (-0.35 -0.13)	1.06E-05
rs11743956	5	6292456	FLJ33360	-0.2 (-0.11 , -0.28)	6.40E-06	-0.17 (-0.25 -0.08)	6.58E-05
rs12609752	19	56448708	NLRP13	-0.3 (-0.17 , -0.44)	6.52E-06	-0.28 (-0.41 -0.15)	1.38E-05
rs13425639	2	184588957		-0.11 (-0.06 , -0.16)	6.57E-06	-0.1 (-0.14 -0.05)	3.42E-05
rs1494971	8	108650188		-0.15 (-0.09 , -0.22)	6.72E-06	-0.15 (-0.22 -0.09)	3.13E-06
rs10025919	4	146242907		0.16 (0.09 , 0.23)	7.25E-06	0.13 (0.06 0.2)	1.63E-04
chr6:53236216	6	53236216	ELOVL5	-0.26 (-0.14 , -0.37)	7.80E-06	-0.23 (-0.34 -0.12)	2.59E-05
rs73035809	11	131606984	NTM	-0.39 (-0.22 , -0.56)	8.18E-06	-0.37 (-0.53 -0.2)	1.36E-05
chr3:98769677	3	98769677		-0.21 (-0.12 , -0.3)	9.63E-06	-0.21 (-0.3 -0.12)	5.06E-06

* Within 100 kb of SNP

Supplemental table 2: Spearman correlation matrix for the seven pathology traits (n=909)

	Any Lewy Bodies	Neurofibrillary Tangles	Neurtic Plaques	Diffuse Plaques	Micro Infarctions	Gross Infarctions	Cerebral Amyloid Angiopathy
Any Lewy Bodies	1.0						
Neurofibrillary Tangles	0.09 (0.01)	1.0					
Neurtic Plaques	0.06 (0.08)	0.60 (<0.001)	1.0				
Diffuse Plaques	0.04 (0.19)	0.41 (<0.001)	0.69 (<0.001)	1.0			
Micro Infarctions	-0.04 (0.26)	0.02 (0.59)	<0.01 (0.91)	0.002 (0.95)	1.0		
Gross Infarctions	-0.04 (0.30)	0.01 (0.66)	0.04 (0.21)	0.05 (0.17)	0.26 (<0.001)	1.0	
Cerebral Amyloid Angiopathy	0.01 (0.89)	0.35 (<0.001)	0.37 (<0.001)	0.34 (<0.001)	0.07 (0.04)	0.02 (0.59)	1.0

Supplementary Table S3: Significant (p < 5.0 x 10-8) and suggestive (p < 1 x 10-5) results from the GWAS of Lewy Bodies

SNP	CHR	BP	*Nearest Gene**	A1	A2	AF**	P
rs7863880	9	99841323	*LOC340508*	T	C	0.66	1.78E-07
rs7867279	9	99841792	*LOC340508*	G	C	0.66	1.79E-07
rs7849720	9	99841294	*LOC340508*	G	A	0.66	2.07E-07
rs7862725	9	99841180	*LOC340508*	C	G	0.66	2.50E-07
rs3802470	9	99856397	*LOC340508*	G	A	0.72	3.43E-07
rs1985682	9	99839037	*LOC340508*	C	T	0.72	3.73E-07
rs10980538	9	99852530	*LOC340508*	T	G	0.69	4.34E-07
rs4567162	9	99853127	*LOC340508*	C	A	0.72	4.53E-07
rs4573386	9	99853128	*LOC340508*	T	C	0.72	4.59E-07
rs4537412	9	99853314	*LOC340508*	C	G	0.69	4.86E-07
rs10759435	9	99830726	*LOC340508*	G	C	0.66	6.20E-07
rs2758145	6	134481965	*SGK1*	G	A	0.81	6.24E-07
rs7848519	9	99825018	*LOC340508*	G	C	0.66	8.31E-07
rs6477855	9	99820602	*HIATL2*	T	C	0.66	8.61E-07
rs4361859	9	99824697	*LOC340508*	A	G	0.66	8.65E-07
rs6477874	9	99833332	*LOC340508*	G	T	0.66	9.22E-07
rs6477872	9	99832156	*LOC340508*	T	C	0.66	9.36E-07
rs7413698	1	205921859	*PM20D1*	A	G	0.53	9.79E-07
rs215971	6	84701763	*CYB5R4*	T	C	0.45	9.82E-07
rs7848718	9	99832448	*LOC340508*	T	C	0.66	1.08E-06
rs215973	6	84693623	*CYB5R4*	G	A	0.46	1.17E-06
rs1623002	6	134478897	*SGK1*	T	C	0.8	1.26E-06
rs2027175	6	134478848	*SGK1*	A	T	0.8	1.27E-06
rs1763514	6	134472329	*SGK1*	C	T	0.8	1.33E-06
rs1743933	6	134473445	*SGK1*	G	A	0.8	1.33E-06
rs1763517	6	134473690	*SGK1*	G	T	0.8	1.33E-06
rs1743932	6	134474365	*SGK1*	G	A	0.8	1.33E-06
rs1763518	6	134474916	*SGK1*	A	G	0.8	1.33E-06
rs2181171	6	134477468	*SGK1*	T	A	0.8	1.33E-06
rs1743935	6	134472300	*SGK1*	G	A	0.8	1.36E-06
rs6477831	9	99791912	*HIATL2*	G	A	0.67	1.53E-06
rs1743931	6	134474812	*SGK1*	G	A	0.79	1.56E-06
rs7037968	9	99799101	*HIATL2*	T	C	0.67	1.96E-06
rs2758148	6	134483116	*SGK1*	C	A	0.82	1.96E-06
rs1540940	6	134477053	*SGK1*	A	G	0.79	2.06E-06
rs1540939	6	134477154	*SGK1*	G	C	0.79	2.06E-06
rs1540941	6	134477013	*SGK1*	A	G	0.79	2.08E-06
rs10080262	6	134475526	*SGK1*	T	C	0.78	2.11E-06
rs6940679	6	5377480	*FARS2*	C	G	0.62	3.11E-06
rs12525845	6	5378009	*FARS2*	C	G	0.62	4.80E-06
rs72923401	1	63577213	*LINC00466*	C	T	0.86	5.58E-06
rs7957161	12	94665496	*PLXNC1*	T	C	0.97	6.53E-06
rs7970261	12	94665413	*PLXNC1*	A	G	0.97	6.53E-06
rs12227140	12	94664991	*PLXNC1*	T	C	0.97	6.53E-06
rs72998656	3	5565702		G	T	0.96	6.90E-06
chr12:94748104	12	94748104	*CCDC41*	C	T	0.98	6.99E-06

* Within 100 kb of SNP, ** Allele frequency of A1

Supplementary Table S3: Significant (p < 5.0 x 10-8) and suggestive (p < 1 x 10-5) results from the GWAS of Lewy Bodies

rs56750276	12	94716993	*CCDC41*	G	A	0.98	8.18E-06
chr12:94730218	12	94730218	*CCDC41*	C	T	0.98	8.18E-06
rs7206657	16	87668472	*JPH3*	C	G	0.33	8.26E-06
rs68013882	6	5375428	*FARS2*	T	C	0.62	8.28E-06
rs7185183	16	87668484	*JPH3*	T	C	0.33	8.29E-06
rs7275655	21	35358249	*LOC100506334*	G	A	0.87	8.62E-06
rs6735649	2	119972906	*STEAP3*	T	C	0.66	8.72E-06
rs7190747	16	87668719	*JPH3*	G	A	0.33	8.73E-06
rs809963	6	5355102	*FARS2*	G	A	0.61	8.74E-06
rs72810139	16	87668743	*JPH3*	T	G	0.33	8.74E-06
rs6876430	5	23728290		C	T	0.91	8.85E-06
rs28474980	5	23729599		T	C	0.91	8.88E-06
rs28460202	5	23729596		C	G	0.91	8.92E-06
rs72810143	16	87668812	*JPH3*	A	C	0.33	8.98E-06
rs9775680	9	99831564	*LOC340508*	A	G	0.55	9.04E-06
rs72810146	16	87668976	*JPH3*	T	A	0.33	9.26E-06
rs55719521	16	87668937	*JPH3*	T	A	0.33	9.27E-06
rs72810145	16	87668887	*JPH3*	A	C	0.31	9.61E-06
rs7141848	14	89917173	*FOXN3*	C	T	0.94	9.87E-06
rs11107495	12	94672306	*PLXNC1*	C	T	0.97	9.94E-06

* Within 100 kb of SNP, ** Allele frequency of A1

Supplementary Table S4: Significant (p < 5.0 x 10-8) and suggestive (p < 1 x 10-5) results from the GWAS of Neurtic Plaques

SNP	CHR	BP	*Nearest Gene**	A1	A2	AF**	P
rs429358	19	45411941	*APOE/TOMM40*	T	C	0.86	2.95E-24
rs10414043	19	45415713	*APOE/TOMM40*	G	A	0.88	7.65E-21
rs7256200	19	45415935	*APOE/TOMM40*	G	T	0.88	8.47E-21
rs769449	19	45410002	*APOE/TOMM40*	G	A	0.88	1.46E-20
rs12721051	19	45422160	*APOE/TOMM40*	C	G	0.83	1.79E-20
rs73052335	19	45420082	*APOE/TOMM40*	A	C	0.87	3.33E-20
rs56131196	19	45422846	*APOE/TOMM40*	G	A	0.83	4.59E-20
rs4420638	19	45422946	*APOE/TOMM40*	A	G	0.83	4.91E-20
rs6857	19	45392254	*APOE/TOMM40*	C	T	0.84	6.23E-20
rs59007384	19	45396665	*APOE/TOMM40*	G	T	0.8	9.64E-18
rs12721046	19	45421254	*APOE/TOMM40*	G	A	0.86	1.74E-17
rs66626994	19	45428234	*APOE/TOMM40*	G	A	0.86	6.68E-17
rs73052341	19	45427125	*APOE/TOMM40*	T	A	0.86	7.76E-17
rs157581	19	45395714	*APOE/TOMM40*	T	C	0.8	8.72E-17
rs184017	19	45394969	*APOE/TOMM40*	T	G	0.8	9.06E-17
rs157582	19	45396219	*APOE/TOMM40*	C	T	0.8	1.40E-16
rs283815	19	45390333	*APOE/TOMM40*	A	G	0.8	1.82E-16
rs2075650	19	45395619	*APOE/TOMM40*	A	G	0.86	3.80E-15
rs11556505	19	45396144	*APOE/TOMM40*	C	T	0.86	3.86E-15
rs34404554	19	45395909	*APOE/TOMM40*	C	G	0.86	3.86E-15
rs283811	19	45388500	*APOE/TOMM40*	A	G	0.79	5.18E-15
rs71352238	19	45394336	*APOE/TOMM40*	T	C	0.86	6.16E-15
rs34342646	19	45388130	*APOE/TOMM40*	G	A	0.86	8.96E-15
rs12972970	19	45387596	*APOE/TOMM40*	G	A	0.86	8.96E-15
rs12972156	19	45387459	*APOE/TOMM40*	C	G	0.86	8.96E-15
rs5117	19	45418790	*APOE/TOMM40*	T	C	0.78	2.34E-11
rs438811	19	45416741	*APOE/TOMM40*	C	T	0.78	2.97E-10
rs483082	19	45416178	*APOE/TOMM40*	G	T	0.78	3.10E-10
rs34095326	19	45395844	*APOE/TOMM40*	G	A	0.89	3.74E-09
rs11120180	1	213825272		G	C	0.82	1.58E-07
rs6693655	1	213827269		T	C	0.78	2.44E-07
rs9816597	3	139265966	*RBP1*	A	G	0.6	1.04E-06
rs6797111	3	139257194	*RBP1*	T	G	0.6	1.21E-06
rs581831	11	74195274	*LIPT2*	T	C	0.72	1.63E-06
rs601419	11	74194650	*LIPT2*	A	G	0.72	1.67E-06
rs10762540	10	53789667	*PRKG1*	C	A	0.45	1.83E-06
rs6540796	1	213821667		A	G	0.69	1.91E-06
rs10935331	3	139256732	*RBP1*	C	G	0.6	2.37E-06
rs7901487	10	53789388	*PRKG1*	T	C	0.44	2.53E-06
rs9826668	3	139271591	*RBP1*	T	C	0.61	2.97E-06
rs10762539	10	53788881	*PRKG1*	G	T	0.44	3.01E-06
rs9825927	3	139271063	*RBP1*	T	G	0.61	3.02E-06
rs11114594	12	81143463	*MYF5*	C	T	0.9	3.71E-06
rs10149826	14	34310413	*NPAS3*	C	T	0.88	5.64E-06
rs7141045	14	34311009	*NPAS3*	C	T	0.89	5.81E-06
rs10795631	10	8512382		T	C	0.66	6.08E-06

* Within 100 kb of SNP, ** Allele frequency of A1

Supplementary Table S4: Significant (p < 5.0 x 10-8) and suggestive (p < 1 x 10-5) results from the GWAS of Neurtic Plaques

rs10119	19	45406673	*APOE/TOMM40*	G	A	0.72	6.87E-06
rs4564921	3	139278558	*RBP1*	G	C	0.6	7.03E-06
rs893704	3	139252215	*RBP1*	T	G	0.61	7.26E-06
rs10137261	14	34308005	*NPAS3*	G	A	0.88	7.26E-06
rs6923713	6	167672466	*UNC93A*	C	T	0.92	7.30E-06
rs35286507	19	28719454		G	A	0.87	8.29E-06
rs35037206	19	28719290		C	A	0.87	8.38E-06
rs7085028	10	8515405		A	G	0.66	8.48E-06
rs12785018	10	8515348		C	T	0.66	8.62E-06
rs4642480	6	96214299		G	A	0.48	8.93E-06
rs4273932	9	82439058	*TLE4*	C	T	0.34	8.96E-06
rs73070466	1	203800130	*ZC3H11A*	A	G	0.8	9.17E-06
rs17482973	1	203801998	*ZC3H11A*	G	C	0.8	9.20E-06
rs7248512	19	58716363	*ZNF544*	T	C	0.51	9.37E-06
rs11138363	9	82439741	*TLE4*	T	C	0.34	9.45E-06

* Within 100 kb of SNP, ** Allele frequency of A1

Supplementary Table S5: Significant (p < 5.0 x 10-8) and suggestive (p < 1 x 10-5) results from the GWAS of Diffuse Plaques

SNP	CHR	BP	*Nearest Gene**	A1	A2	AF**	P
rs429358	19	45411941	*APOE/TOMM40*	T	C	0.86	1.30E-20
rs10414043	19	45415713	*APOE/TOMM40*	G	A	0.88	5.04E-18
rs7256200	19	45415935	*APOE/TOMM40*	G	T	0.88	5.41E-18
rs769449	19	45410002	*APOE/TOMM40*	G	A	0.88	1.04E-17
rs73052335	19	45420082	*APOE/TOMM40*	A	C	0.87	2.36E-17
rs6857	19	45392254	*APOE/TOMM40*	C	T	0.84	6.72E-17
rs12721051	19	45422160	*APOE/TOMM40*	C	G	0.83	2.41E-16
rs59007384	19	45396665	*APOE/TOMM40*	G	T	0.8	5.13E-16
rs56131196	19	45422846	*APOE/TOMM40*	G	A	0.83	6.08E-16
rs4420638	19	45422946	*APOE/TOMM40*	A	G	0.83	6.18E-16
rs157581	19	45395714	*APOE/TOMM40*	T	C	0.8	1.23E-14
rs184017	19	45394969	*APOE/TOMM40*	T	G	0.8	1.27E-14
rs157582	19	45396219	*APOE/TOMM40*	C	T	0.8	1.59E-14
rs283815	19	45390333	*APOE/TOMM40*	A	G	0.8	2.15E-14
rs12721046	19	45421254	*APOE/TOMM40*	G	A	0.86	3.35E-14
rs283811	19	45388500	*APOE/TOMM40*	A	G	0.79	1.09E-13
rs73052341	19	45427125	*APOE/TOMM40*	T	A	0.86	1.99E-13
rs66626994	19	45428234	*APOE/TOMM40*	G	A	0.86	2.08E-13
rs11556505	19	45396144	*APOE/TOMM40*	C	T	0.86	6.63E-13
rs34404554	19	45395909	*APOE/TOMM40*	C	G	0.86	6.63E-13
rs2075650	19	45395619	*APOE/TOMM40*	A	G	0.86	6.63E-13
rs71352238	19	45394336	*APOE/TOMM40*	T	C	0.86	8.57E-13
rs34342646	19	45388130	*APOE/TOMM40*	G	A	0.86	1.86E-12
rs12972970	19	45387596	*APOE/TOMM40*	G	A	0.86	1.86E-12
rs12972156	19	45387459	*APOE/TOMM40*	C	G	0.86	1.86E-12
rs5117	19	45418790	*APOE/TOMM40*	T	C	0.78	9.73E-10
rs438811	19	45416741	*APOE/TOMM40*	C	T	0.78	8.56E-09
rs483082	19	45416178	*APOE/TOMM40*	G	T	0.78	8.98E-09
rs34095326	19	45395844	*APOE/TOMM40*	G	A	0.89	1.41E-08
rs10119	19	45406673	*APOE/TOMM40*	G	A	0.72	1.36E-06
chr1:78554881	1	78554881	*GIPC2*	C	T	0.96	3.21E-06
rs62194957	20	6762557	*BMP2*	A	G	0.89	3.39E-06
rs60308736	20	6747064	*BMP2*	T	C	0.89	4.06E-06
rs7437482	4	23855974	*PPARGC1A*	C	A	0.39	4.58E-06
rs62194928	20	6756217	*BMP2*	G	A	0.89	5.48E-06
rs73651385	9	22891578	*FLJ35282*	G	C	0.98	5.81E-06
rs10850658	12	116966509	*LINC00173*	A	G	0.67	6.03E-06
rs10774867	12	116966200	*LINC00173*	C	T	0.67	6.13E-06
rs7956364	12	116964984	*LINC00173*	C	T	0.67	6.24E-06
rs10007750	4	23854920	*PPARGC1A*	G	T	0.39	7.13E-06
rs10018239	4	23854891	*PPARGC1A*	G	A	0.4	7.40E-06
rs2804986	9	15315565	*TTC39B*	G	A	0.86	8.17E-06
rs585925	6	138004710		T	C	0.98	8.39E-06
chr9:114317634	9	114317634	*PTGR1*	C	T	0.93	8.60E-06
chr9:114320269	9	114320269	*PTGR1*	A	T	0.93	8.60E-06
chr9:114300317	9	114300317	*ZNF483*	G	T	0.93	8.60E-06

* Within 100 kb of SNP, ** Allele frequency of A1

Supplementary Table S5: Significant (p < 5.0 x 10-8) and suggestive (p < 1 x 10-5) results from the GWAS of Diffuse Plaques

chr9:114297701	9	114297701	*ZNF483*	A	G	0.93	8.60E-06
chr9:114295357	9	114295357	*ZNF483*	C	T	0.93	8.60E-06
chr9:114294432	9	114294432	*ZNF483*	A	T	0.93	8.60E-06
chr9:114291438	9	114291438	*ZNF483*	C	G	0.93	8.60E-06
chr9:114291383	9	114291383	*ZNF483*	C	A	0.93	8.60E-06
chr9:114288341	9	114288341	*ZNF483*	C	A	0.93	8.60E-06
rs10850657	12	116962949	*LINC00173*	C	T	0.67	8.98E-06
rs10147155	14	34304070	*NPAS3*	T	C	0.36	9.10E-06
rs601419	11	74194650	*LIPT2*	A	G	0.72	9.39E-06

* Within 100 kb of SNP, ** Allele frequency of A1

Supplementary Table S6: Significant (p < 5.0 x 10-8) and suggestive (p < 1 x 10-5) results from the GWAS of Microscopic Infarctions

SNP	CHR	BP	*Nearest Gene**	A1	A2	AF**	P
rs10197179	2	29472936	*ALK*	T	G	0.9	2.08E-06
rs28794645	7	145040150		C	T	0.76	2.85E-06
rs13391617	2	29465383	*ALK*	T	C	0.92	3.59E-06
rs13400459	2	29465411	*ALK*	G	A	0.92	3.61E-06
rs13391633	2	29465429	*ALK*	T	C	0.92	3.61E-06
rs2481118	13	112228863		C	T	0.56	4.61E-06
rs3821983	4	40435390	*RBM47*	C	T	0.7	5.35E-06
rs2774440	13	112230114		C	T	0.56	5.65E-06
rs1163634	13	112231969		A	G	0.56	5.74E-06
rs1163627	13	112225701		A	C	0.56	6.00E-06
chr3:59859597	3	59859597	*FHIT*	G	A	0.98	6.53E-06
chr3:59860587	3	59860587	*FHIT*	T	C	0.98	6.53E-06
chr3:59862637	3	59862637	*FHIT*	G	A	0.98	6.53E-06
chr3:59863041	3	59863041	*FHIT*	C	T	0.98	6.53E-06
chr3:59866336	3	59866336	*FHIT*	T	C	0.98	6.53E-06
chr3:59859234	3	59859234	*FHIT*	A	T	0.98	6.53E-06
chr3:59859302	3	59859302	*FHIT*	C	T	0.98	6.53E-06
chr3:59859382	3	59859382	*FHIT*	G	A	0.98	6.53E-06
chr3:59864629	3	59864629	*FHIT*	C	T	0.98	6.54E-06
rs11162410	1	78521931	*GIPC2*	C	T	0.86	6.94E-06
rs13397113	2	29462405	*ALK*	A	G	0.89	7.23E-06
rs12123953	1	78515147	*GIPC2*	C	T	0.86	7.24E-06
rs9827257	3	59857876	*FHIT*	A	C	0.98	7.33E-06
rs12125903	1	78522625	*GIPC2*	C	G	0.86	7.39E-06
rs17387740	1	78512726	*GIPC2*	C	G	0.86	7.88E-06
rs6477963	9	115625023	*SNX9*	G	A	0.62	8.66E-06
rs12121914	1	78513615	*GIPC2*	C	G	0.86	8.69E-06
rs12140633	1	78513624	*GIPC2*	A	G	0.86	8.69E-06
chr2:29458405	2	29458405	*ALK*	T	C	0.89	9.16E-06
chr2:29458797	2	29458797	*ALK*	C	T	0.89	9.30E-06
chr2:29458564	2	29458564	*ALK*	G	C	0.89	9.35E-06
chr2:29458170	2	29458170	*ALK*	T	C	0.89	9.37E-06
chr2:29458113	2	29458113	*ALK*	A	G	0.89	9.38E-06
chr2:29458286	2	29458286	*ALK*	A	C	0.89	9.40E-06
chr2:29458612	2	29458612	*ALK*	G	A	0.89	9.40E-06
chr2:29459025	2	29459025	*ALK*	A	G	0.89	9.40E-06
chr2:29458184	2	29458184	*ALK*	A	G	0.89	9.42E-06
rs263998	1	45438877	*UROD*	C	T	0.43	9.51E-06
rs352194	6	158198693	*SNX9*	A	T	0.59	9.53E-06
rs399628	1	45435492	*UROD*	A	C	0.43	9.64E-06
rs398200	1	45435955	*UROD*	G	C	0.43	9.69E-06

* Within 100 kb of SNP, ** Allele frequency of A1

Supplementary Table S7: Significant (p < 5.0 x 10-8) and suggestive (p < 1 x 10-5) results from the GWAS of Gross Infarctions

SNP	CHR	BP	*Nearest Gene**	A1	A2	AF**	P
rs7521660	1	234335046	*SLC35F3*	G	A	0.9	2.99E-06
rs10910379	1	234333259	*SLC35F3*	C	T	0.9	3.01E-06
rs7535154	1	234335087	*SLC35F3*	A	C	0.9	3.19E-06
rs7530954	1	234335394	*SLC35F3*	C	T	0.9	3.20E-06
rs7535464	1	234335447	*SLC35F3*	A	G	0.9	3.20E-06
rs4920222	1	234338043	*SLC35F3*	T	A	0.9	3.35E-06
rs7539531	1	234331454	*SLC35F3*	A	G	0.9	3.43E-06
rs7531501	1	234338303	*SLC35F3*	G	A	0.89	3.64E-06
rs7531988	1	234330571	*SLC35F3*	C	T	0.9	3.70E-06
chr3:43209300	3	43209300	*C3orf39*	G	A	0.95	3.94E-06
rs8107388	19	52407286	*ZNF649*	C	A	0.9	4.05E-06
rs10910381	1	234338788	*SLC35F3*	C	T	0.89	4.10E-06
rs9973239	19	52406779	*ZNF649*	G	A	0.9	4.12E-06
chr19:52402093	19	52402093	*ZNF649*	A	G	0.9	4.38E-06
rs7547589	1	234338338	*SLC35F3*	T	G	0.89	4.40E-06
rs12070104	1	234339353	*SLC35F3*	A	G	0.9	4.62E-06
rs12954196	18	10424214	*APCDD1*	A	G	0.72	4.64E-06
rs4920171	1	234320816	*SLC35F3*	A	T	0.9	5.97E-06
rs638155	1	234330793	*SLC35F3*	A	T	0.89	6.05E-06
rs4920223	1	234339908	*SLC35F3*	A	G	0.9	6.98E-06
rs482000	1	234330527	*SLC35F3*	C	T	0.89	7.65E-06
rs9294978	6	169633917	*THBS2*	G	A	0.71	8.15E-06
rs507699	1	234330097	*SLC35F3*	C	A	0.89	8.71E-06
rs11810097	1	234290652	*SLC35F3*	C	T	0.91	8.97E-06
rs17572749	1	234290511	*SLC35F3*	G	A	0.91	1.00E-05

* Within 100 kb of SNP, ** Allele frequency of A1

Supplementary Table S8: Significant (p < 5.0 x 10-8) and suggestive (p < 1 x 10-5) results from the GWAS of Cerebral Amyloid Angiopathy

SNP	CHR	BP	*Nearest Gene**	A1	A2	AF**	P
rs429358	19	45411941	*APOE/TOMM40*	T	C	0.86	5.22E-25
rs7256200	19	45415935	*APOE/TOMM40*	G	T	0.88	2.42E-24
rs10414043	19	45415713	*APOE/TOMM40*	G	A	0.88	2.64E-24
rs73052335	19	45420082	*APOE/TOMM40*	A	C	0.87	6.79E-24
rs769449	19	45410002	*APOE/TOMM40*	G	A	0.88	1.01E-23
rs5117	19	45418790	*APOE/TOMM40*	T	C	0.78	2.18E-22
rs438811	19	45416741	*APOE/TOMM40*	C	T	0.78	1.44E-21
rs483082	19	45416178	*APOE/TOMM40*	G	T	0.78	1.47E-21
rs6857	19	45392254	*APOE/TOMM40*	C	T	0.84	1.86E-21
rs59007384	19	45396665	*APOE/TOMM40*	G	T	0.80	2.50E-21
rs12721051	19	45422160	*APOE/TOMM40*	C	G	0.83	1.63E-20
rs157581	19	45395714	*APOE/TOMM40*	T	C	0.80	1.67E-20
rs184017	19	45394969	*APOE/TOMM40*	T	G	0.80	1.86E-20
rs157582	19	45396219	*APOE/TOMM40*	C	T	0.79	3.77E-20
rs283815	19	45390333	*APOE/TOMM40*	A	G	0.80	4.02E-20
rs56131196	19	45422846	*APOE/TOMM40*	G	A	0.83	4.47E-20
rs4420638	19	45422946	*APOE/TOMM40*	A	G	0.83	4.48E-20
rs12721046	19	45421254	*APOE/TOMM40*	G	A	0.85	4.13E-19
rs2075650	19	45395619	*APOE/TOMM40*	A	G	0.86	1.13E-18
rs11556505	19	45396144	*APOE/TOMM40*	C	T	0.86	1.14E-18
rs34404554	19	45395909	*APOE/TOMM40*	C	G	0.86	1.14E-18
rs71352238	19	45394336	*APOE/TOMM40*	T	C	0.86	2.32E-18
rs66626994	19	45428234	*APOE/TOMM40*	G	A	0.86	2.36E-18
rs73052341	19	45427125	*APOE/TOMM40*	T	A	0.86	2.92E-18
rs34342646	19	45388130	*APOE/TOMM40*	G	A	0.86	6.04E-18
rs12972970	19	45387596	*APOE/TOMM40*	G	A	0.86	6.04E-18
rs12972156	19	45387459	*APOE/TOMM40*	C	G	0.86	6.04E-18
rs10119	19	45406673	*APOE/TOMM40*	G	A	0.72	1.48E-14
rs34095326	19	45395844	*APOE/TOMM40*	G	A	0.89	2.98E-08
chr2:23743850	2	23743850	*KLHL29*	T	C	0.95	5.92E-07
chr2:23708760	2	23708760	*KLHL29*	T	C	0.89	6.34E-07
rs10169305	2	23710223	*KLHL29*	G	A	0.89	9.13E-07
rs10193850	2	23710442	*KLHL29*	C	T	0.89	9.84E-07
rs72613817	2	23709014	*KLHL29*	G	A	0.89	1.01E-06
rs10208318	2	23710200	*KLHL29*	T	C	0.89	1.01E-06
chr2:23711863	2	23711863	*KLHL29*	C	T	0.89	1.14E-06
rs12460347	19	45455905	*APOE/TOMM40*	T	C	0.41	1.17E-06
rs7249138	19	45449491	*APOE/TOMM40*	T	A	0.61	1.25E-06
rs4803774	19	45450872	*APOE/TOMM40*	A	G	0.58	1.33E-06
rs9304646	19	45450408	*APOE/TOMM40*	T	C	0.58	1.37E-06
rs9304644	19	45450033	*APOE/TOMM40*	C	T	0.58	1.37E-06
rs7257476	19	45453165	*APOE/TOMM40*	T	C	0.45	1.48E-06
rs7258345	19	45453151	*APOE/TOMM40*	G	T	0.45	1.49E-06
rs7257468	19	45453144	*APOE/TOMM40*	T	C	0.45	1.49E-06
rs10423208	19	45453656	*APOE/TOMM40*	A	G	0.45	1.50E-06
rs7256684	19	45451442	*APOE/TOMM40*	G	A	0.45	1.51E-06

* Within 100 kb of SNP, ** Allele frequency of A1

Supplementary Table S8: Significant (p < 5.0 x 10-8) and suggestive (p < 1 x 10-5) results from the GWAS of Cerebral Amyloid Angiopathy

rs7248162	19	45454686	*APOE/TOMM40*	C	T	0.45	1.56E-06
rs11083752	19	45454363	*APOE/TOMM40*	A	G	0.45	1.56E-06
rs7246900	19	45454236	*APOE/TOMM40*	A	G	0.45	1.56E-06
rs10402642	19	45453878	*APOE/TOMM40*	A	G	0.45	1.56E-06
rs7247227	19	45454759	*APOE/TOMM40*	G	A	0.45	1.56E-06
rs7251503	19	45455715	*APOE/TOMM40*	G	C	0.45	1.57E-06
rs892101	19	45455458	*APOE/TOMM40*	A	G	0.45	1.60E-06
rs7251501	19	45455706	*APOE/TOMM40*	T	C	0.45	1.61E-06
rs12460346	19	45455901	*APOE/TOMM40*	G	C	0.43	1.64E-06
rs7254723	19	45455921	*APOE/TOMM40*	G	A	0.42	1.66E-06
rs35625559	19	45452271	*APOE/TOMM40*	C	G	0.37	1.66E-06
rs59325138	19	45416291	*APOE/TOMM40*	T	C	0.38	1.67E-06
rs12460352	19	45455966	*APOE/TOMM40*	T	C	0.45	1.85E-06
rs1342884	13	77390321	*KCTD12*	C	A	0.24	2.06E-06
rs4803777	19	45456101	*APOE/TOMM40*	A	G	0.45	2.13E-06
rs6728515	2	23704874	*KLHL29*	G	A	0.88	2.26E-06
rs4665218	2	23710164	*KLHL29*	G	T	0.89	2.34E-06
chr4:96130211	4	96130211	*UNC5C*	G	T	0.98	2.39E-06
rs4803776	19	45452335	*APOE/TOMM40*	C	T	0.48	2.48E-06
rs4853365	2	78273097	*SNAR-H*	G	C	0.60	2.52E-06
rs73919730	2	23738368	*KLHL29*	T	C	0.12	2.60E-06
rs73047641	19	45457377	*APOE/TOMM40*	A	G	0.45	2.63E-06
rs3760628	19	45457225	*APOE/TOMM40*	A	G	0.45	2.63E-06
rs66867801	19	45457293	*APOE/TOMM40*	T	C	0.45	2.63E-06
rs3760627	19	45457180	*APOE/TOMM40*	C	T	0.45	2.63E-06
rs3760626	19	45457105	*APOE/TOMM40*	G	A	0.45	2.63E-06
rs4803779	19	45456497	*APOE/TOMM40*	C	T	0.45	2.63E-06
rs4803778	19	45456246	*APOE/TOMM40*	C	T	0.45	2.64E-06
rs3760625	19	45456941	*APOE/TOMM40*	A	G	0.45	2.66E-06
rs4803780	19	45456628	*APOE/TOMM40*	T	C	0.45	2.66E-06
rs7259679	19	45457306	*APOE/TOMM40*	T	C	0.45	2.68E-06
rs66771331	19	45457319	*APOE/TOMM40*	A	G	0.45	2.70E-06
chr4:96163984	4	96163984	*UNC5C*	A	G	0.98	2.79E-06
chr4:96148504	4	96148504	*UNC5C*	A	G	0.98	2.83E-06
chr4:96136118	4	96136118	*UNC5C*	A	C	0.98	2.92E-06
chr4:96142169	4	96142169	*UNC5C*	G	A	0.98	2.92E-06
chr4:96127609	4	96127609	*UNC5C*	G	A	0.98	3.03E-06
rs3988345	8	17336670	*SLC7A2*	T	C	0.44	3.20E-06
rs7318487	13	77389129	*KCTD12*	G	A	0.24	3.21E-06
chr4:96139245	4	96139245	*UNC5C*	G	A	0.98	3.29E-06
rs28660566	4	96125762	*UNC5C*	C	T	0.96	3.30E-06
rs10518032	4	169948034	*SH3RF1*	G	A	0.93	3.33E-06
rs10026258	4	169944496	*SH3RF1*	G	A	0.93	3.45E-06
rs4803775	19	45450928	*APOE/TOMM40*	T	C	0.54	3.64E-06
rs2288911	19	45449284	*APOE/TOMM40*	T	G	0.54	3.66E-06
rs5120	19	45451620	*APOE/TOMM40*	A	T	0.48	3.69E-06
rs17054666	4	169947762	*SH3RF1*	G	A	0.93	3.72E-06

* Within 100 kb of SNP, ** Allele frequency of A1

Supplementary Table S8: Significant (p < 5.0 x 10-8) and suggestive (p < 1 x 10-5) results from the GWAS of Cerebral Amyloid Angiopathy

chr4:96116350	4	96116350	*UNC5C*	C	A	0.98	3.76E-06
chr4:96123594	4	96123594	*UNC5C*	A	G	0.98	3.77E-06
rs7247551	19	45454766	*APOE/TOMM40*	A	G	0.48	3.79E-06
rs17503950	8	17331904	*SLC7A2*	A	G	0.45	3.80E-06
rs7010455	8	17331048	*SLC7A2*	A	C	0.45	3.80E-06
rs13264099	8	17310130	*SLC7A2*	T	A	0.51	3.81E-06
rs61507117	2	23733446	*KLHL29*	C	T	0.90	3.85E-06
rs7245611	19	45457567	*APOE/TOMM40*	C	T	0.45	3.86E-06
rs17045504	2	23733781	*KLHL29*	A	G	0.90	3.86E-06
rs10024977	4	169952879	*SH3RF1*	A	G	0.93	3.95E-06
rs10426750	19	45457684	*APOE/TOMM40*	C	G	0.45	4.12E-06
rs7588479	2	78274828	*SNAR-H*	A	T	0.60	4.24E-06
rs11893557	2	78271594	*SNAR-H*	C	T	0.60	4.26E-06
rs1819000	2	78276250	*SNAR-H*	G	A	0.60	4.26E-06
rs2405952	5	119854375	*PRR16*	C	A	0.99	4.38E-06
rs13406226	2	78271739	*SNAR-H*	C	T	0.60	4.38E-06
rs11941383	4	96151958	*UNC5C*	C	T	0.96	4.39E-06
chr16:11818707	16	11818707	*ZC3H7A*	T	C	0.96	4.44E-06
rs2204598	2	78272669	*SNAR-H*	G	C	0.60	4.46E-06
rs9530601	13	77393797	*KCTD12*	C	A	0.24	4.48E-06
rs1132899	19	45448036	*APOE/TOMM40*	T	C	0.54	4.51E-06
rs1527187	2	78271327	*SNAR-H*	G	A	0.60	4.59E-06
rs73919718	2	23724746	*KLHL29*	C	T	0.90	4.76E-06
rs72848089	2	23728727	*KLHL29*	C	G	0.90	4.76E-06
rs2288912	19	45449199	*APOE/TOMM40*	C	G	0.55	4.78E-06
chr7:16819506	7	16819506	*TSPAN13*	C	T	0.97	4.80E-06
rs4803773	19	45444742	*APOE/TOMM40*	A	G	0.54	5.03E-06
rs5157	19	45447161	*APOE/TOMM40*	T	C	0.54	5.05E-06
rs10413096	19	45442962	*APOE/TOMM40*	G	A	0.55	5.06E-06
rs12977604	19	45442528	*APOE/TOMM40*	C	G	0.55	5.10E-06
rs1007691	8	17344517	*SLC7A2*	A	C	0.45	5.17E-06
rs12976395	19	45441907	*APOE/TOMM40*	G	C	0.55	5.24E-06
rs6553406	4	169952728	*SH3RF1*	G	A	0.91	5.28E-06
rs34810028	19	45440761	*APOE/TOMM40*	A	T	0.55	5.31E-06
rs11878597	19	45470298	*APOE/TOMM40*	C	T	0.41	5.45E-06
chr4:169963941	4	169963941	*SH3RF1*	C	G	0.96	5.52E-06
rs6842817	4	158530863		C	T	0.08	5.61E-06
rs73071801	7	16811139	*TSPAN13*	G	A	0.97	5.64E-06
rs35478659	8	17332016	*SLC7A2*	C	G	0.49	6.05E-06
rs10518033	4	169948058	*SH3RF1*	G	C	0.89	6.22E-06
rs6553405	4	169947266	*SH3RF1*	A	C	0.89	6.26E-06
rs4692560	4	169943794	*SH3RF1*	G	A	0.89	6.27E-06
chr5:119862230	5	119862230	*PRR16*	T	A	0.99	6.69E-06
chr5:119865859	5	119865859	*PRR16*	G	T	0.99	6.69E-06
rs73784577	5	119864710	*PRR16*	T	C	0.99	6.69E-06
rs61083029	5	119859363	*PRR16*	A	G	0.99	6.70E-06
chr5:119857829	5	119857829	*PRR16*	G	A	0.99	6.70E-06

* Within 100 kb of SNP, ** Allele frequency of A1

Supplementary Table S8: Significant (p < 5.0 x 10-8) and suggestive (p < 1 x 10-5) results from the GWAS of Cerebral Amyloid Angiopathy

chr5:119858037	5	119858037	*PRR16*	T	A	0.99	6.70E-06
rs6864428	5	119859253	*PRR16*	A	G	0.99	6.70E-06
rs73784579	5	119864712	*PRR16*	A	T	0.99	6.70E-06
rs73784584	5	119867684	*PRR16*	C	A	0.99	6.70E-06
chr5:119857587	5	119857587	*PRR16*	A	G	0.99	6.73E-06
chr2:59140917	2	59140917	*FJL30828*	T	G	0.96	7.10E-06
chr2:59143660	2	59143660	*FJL30828*	C	T	0.96	7.10E-06
chr2:59134426	2	59134426	*FJL30828*	A	G	0.96	7.10E-06
rs17146715	5	119848153	*PRR16*	C	A	0.98	7.43E-06
rs4803781	19	45459671	*APOE/TOMM40*	A	G	0.45	7.54E-06
rs2239375	19	45459851	*APOE/TOMM40*	C	T	0.45	7.54E-06
rs12915729	15	85474207	*SLC7A2*	C	T	0.41	7.59E-06
rs8100236	19	45466144	*APOE/TOMM40*	C	T	0.45	7.64E-06
rs8100120	19	45466058	*APOE/TOMM40*	C	T	0.45	7.64E-06
chr19:45466325	19	45466325	*APOE/TOMM40*	C	T	0.44	7.64E-06
rs60693875	5	119848313	*PRR16*	A	C	0.98	7.79E-06
rs17146714	5	119847588	*PRR16*	C	T	0.99	8.01E-06
rs13265486	8	17317875	*SLC7A2*	G	A	0.51	8.24E-06
rs6826001	4	169946694	*SH3RF1*	T	G	0.89	8.32E-06
rs2305367	15	85476441	*SLC7A2*	A	G	0.35	8.46E-06
rs11073820	15	85475333	*SLC7A2*	A	T	0.35	8.49E-06
rs6553404	4	169947131	*SH3RF1*	T	C	0.89	8.49E-06
rs17146717	5	119851552	*PRR16*	C	G	0.98	8.57E-06
rs11976749	7	16796037	*TSPAN13*	G	T	0.97	8.59E-06
rs73071718	7	16797861	*TSPAN13*	T	A	0.97	8.59E-06
rs58213692	7	16798015	*TSPAN13*	T	A	0.97	8.59E-06
rs1674805	7	16791241	*TSPAN13*	C	T	0.97	8.65E-06
rs10078298	5	119849000	*PRR16*	A	T	0.98	8.69E-06
rs3760629	19	45458146	*APOE/TOMM40*	C	A	0.44	8.75E-06
rs12594161	15	85474416	*SLC7A2*	T	C	0.35	9.07E-06
rs10062669	5	119834890	*PRR16*	T	C	0.98	9.11E-06
rs10014681	4	169948140	*SH3RF1*	T	C	0.89	9.20E-06
rs6893168	5	119826998	*PRR16*	A	T	0.98	9.37E-06
chr5:119831841	5	119831841	*PRR16*	C	A	0.98	9.48E-06
chr5:119832164	5	119832164	*PRR16*	G	A	0.98	9.61E-06
rs60492181	5	119829084	*PRR16*	G	T	0.98	9.64E-06
rs28702378	5	119841685	*PRR16*	G	T	0.98	9.72E-06
rs11073819	15	85475212	*SLC7A2*	G	A	0.35	9.75E-06
rs12910911	15	85474807	*SLC7A2*	C	T	0.35	9.77E-06
rs17146688	5	119842104	*PRR16*	G	T	0.98	9.80E-06
rs6887667	5	119826005	*PRR16*	T	G	0.98	9.82E-06

* Within 100 kb of SNP, ** Allele frequency of A1

Supplementary Table S9: Associations of previously published SNPs taken from the Beecham et al. paper[2].

			Beecham					**ROSMAP**		
	NFT Braak	SNP	A1*	A2*	p-value	A1*	A2*	p-value (NFT)**	p-value (Pleitropy)	p-value (AD)
Ordinal I	19 45392254	rs6857	T	C	4.73E-47	C	T	4.96E-18	8.57E-28	5.99E-12
Ordinal II					4.83E-44					
	Neuritic Plaque							**p-value (NP)****	**p-value (Pleitropy)**	**p-value (AD)**
Ordinal	19 45392254	rs6857	T	C	4.73E-47	T	C	6.23E-20	8.57E-28	6.23E-20
Case-Control	19 45392254	rs6857	T	C	1.78E-47					
Case-Control	4 174094940	rs62341097	A	G	6.00E-09					
Case-Control	21 43678066	21:43678066	T	C	8.00E-09	C	T	0.3363	0.3587	0.418
Case-Control	9 129356304	9:129356304	T	G	4.30E-08	G	T	0.0752	0.6676	0.3154
	Lewy Body							**p-value (LB)****	**p-value (Pleitropy)**	**p-value (AD)**
Ordinal I	19 45411941	rs429358	C	T	1.10E-12	T	C	0.4616	2.88E-33	8.49E-14
Ordinal II	19 45411941	rs429358	C	T	4.87E-12					
Case-Control	19 45411941	rs429358	C	T	2.83E-11					
	Cerebral Amyloid Angiopathy							**p-value (CAA)****	**p-value (Pleitropy)**	**p-value (AD)**
Case-Control	19 45392254	rs6857	T	C	2.92E-21	T	C	1.86E-21	8.57E-28	5.99E-12

*A1 = effect allele, A2 = reference allele, ** NFT & NP are modeled as continuous, LB (Lewy Bodies) as any vs. none, CAA (Cerebral Amyloid Angiopathy) as ordinal and AD as case control.