

312 **Supplementary Table 1** – Comparative analysis of *C1QA*, *C1QB* and *C1QC* genotypic and allelic frequency
313 (Frequency and MAF) between PD cases and controls, showing; corresponding gene, variant (cDNA position),
314 dbSNP id, predicted amino acid change (AA), genotypic and allele comparison (where P is Pearson’s chi-
315 squared probability and *f* is Fisher’s exact probability).
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Gene	Variant	dbSNP	AA	Genotype	Genotypic			Allele	Allelic		P
					Cases	Controls	P		Cases	Controls	
<i>C1QA</i>	c.215C>G	rs149230484	P4R	CC	157 (0.994)	100 (1.000)	4.3x10 ⁻¹	C	315 (0.997)	200 (1.000)	1.0x10 ^{-1f}
				CG	1 (0.006)	0 (0.000)		G	1 (0.003)	0 (0.000)	
				GG	0 (0.000)	0 (0.000)					
	c.271G>A	rs17887074	E23K	GG	157 (0.994)	100 (1.000)	4.3x10 ⁻¹	G	315 (0.997)	200 (1.000)	1.0x10 ^{-1f}
				GA	1 (0.006)	0 (0.000)		A	1 (0.003)	0 (0.000)	
				AA	0 (0.000)	0 (0.000)					
	c.284G>A	rs41507347	R27Q	GG	158 (1.000)	99 (0.990)	2.1x10 ⁻¹	G	316 (1.000)	199 (0.995)	3.9x10 ^{-1f}
				GA	0 (0.000)	1 (0.010)		A	0 (0.000)	1 (0.005)	
				AA	0 (0.000)	0 (0.000)					
	c.295A>C	rs180679721	I99L	AA	157 (0.994)	100 (1.000)	4.3x10 ⁻¹	A	315 (0.997)	200 (1.000)	1.0x10 ^{-1f}
				AC	1 (0.006)	0 (0.000)		C	1 (0.003)	0 (0.000)	
				CC	0 (0.000)	0 (0.000)					
	c.329G>A	rs20169349	R42Q	GG	157 (0.994)	100 (1.000)	4.3x10 ⁻¹	G	315 (0.997)	200 (1.000)	1.0x10 ^{-1f}
				GA	1 (0.006)	0 (0.000)		A	1 (0.003)	0 (0.000)	
				AA	0 (0.000)	0 (0.000)					
c.480A>G	rs172378	R160R	AA	57 (0.361)	44 (0.440)	3.8x10 ⁻¹	A	192 (0.607)	129 (0.775)	4.0x10 ⁻¹	
			AG	78 (0.494)	41 (0.410)		G	124 (0.393)	71 (0.225)		
			GG	23 (0.146)	15 (0.150)						
c.525C>T	rs180679721	I175I	CC	155 (0.981)	99 (0.990)	5.7x10 ⁻¹	C	313 (0.991)	199 (0.995)	1.0x10 ^{-1f}	
			CT	3 (0.019)	1 (0.010)		T	3 (0.009)	1 (0.005)		
			TT	0 (0.000)	0 (0.000)						
<i>C1QB</i>	-	-	-	-	-	-	-	-	-	-	
<i>C1QC</i>	c.244C>T	rs15940	P42P	CC	97 (0.614)	61 (0.610)	8.6x10 ⁻¹	C	243 (0.768)	155 (0.775)	9.1x10 ⁻¹
				CT	49 (0.310)	33 (0.330)		T	73 (0.232)	45 (0.225)	
				TT	12 (0.076)	6 (0.060)					
	C.232C>T	rs140114929	P78S	CC	158 (1.000)	99 (0.990)	2.1x10 ⁻¹	C	316 (1.000)	199 (0.995)	3.9x10 ^{-1f}
				CT	0 (0.000)	1 (0.010)		T	0 (0.000)	1 (0.005)	
				TT	0 (0.000)	0 (0.000)					

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321 **Supplementary Table 2** – Analysis of *MAPT* (H1/H2, rs9458), *COMT* (rs4680) and *APOE* (rs429358, rs7142)
322 genotypes on mean baseline variables (where; SD is standard deviation, P is ANOVA probability, A is affected,
323 U is unaffected and Comb. is combined, MMSE is mini-mental state exam score, UPDRS is the unified
324 Parkinson’s disease rating scale, MoCA is the Montreal cognitive assessment score, PoA is power of attention,
325 PRM is pattern recognition memory testing and SRM is spatial recognition memory testing.
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Variable	MAPT	Mean (SD)			P
		H1/H1	H1/H2	H2/H2	
MMSE	A	28.61 (1.3)	28.74 (1.2)	29.00 (1.0)	7.2x10 ⁻¹
	U	29.20 (1.1)	28.87 (1.4)	28.71 (1.1)	3.5x10 ⁻¹
	Comb.	28.78 (1.3)	28.78 (1.3)	28.80 (1.3)	9.9x10 ⁻¹
UPDRS	A	27.75 (11.5)	28.63 (12.9)	22.00 (2.64)	5.3x10 ⁻¹
	U	-	-	-	-
	Comb.	-	-	-	-
MoCA	A	25.15 (3.45)	25.29 (3.38)	27.67 (1.52)	4.5x10 ⁻¹
	U	27.32 (2.66)	26.60 (2.29)	25.71 (2.13)	1.8x10 ⁻¹
	Comb.	25.83 (3.83)	25.75 (3.09)	26.30 (2.11)	8.8x10 ⁻¹
PoA	A	1384.87 (211.17)	1326.68 (162.23)	1215.57 (43.50)	6.8x10 ⁻²
	U	1262.16 (135.49)	1298.45 (149.16)	1319.18 (100.28)	3.9x10 ⁻¹
	Comb.	1349.72 (200.09)	1317.58 (1577.85)	1284.64 (97.17)	2.7x10 ⁻¹
PRM	A	19.69 (3.20)	19.64 (3.16)	22.33 (2.88)	3.5x10 ⁻¹
	U	20.91 (2.38)	20.17 (2.74)	20.14 (1.57)	3.8x10 ⁻¹
	Comb.	20.04 (3.03)	19.82 (3.02)	20.80 (2.15)	5.8x10 ⁻¹
SRM	A	15.34 (2.17)	15.12 (2.23)	17.67 (0.57)	1.4x10 ⁻¹
	U	16.22 (1.63)	15.72 (2.17)	16.71 (1.89)	3.3x10 ⁻¹
	Comb.	15.60 (2.06)	15.32 (2.22)	17.00 (1.63)	5.3x10 ⁻²

Variable	COMT	Mean (SD)			P
		Met/Met	Met/Val	Val/Val	
MMSE	A	28.56 (1.5)	28.70 (1.22)	28.65 (1.15)	8.2x10 ⁻¹
	U	29.17 (1.1)	29.10 (1.2)	28.61 (1.3)	2.5x10 ⁻¹
	Comb.	28.80 (1.4)	28.82 (1.23)	28.64 (1.18)	6.2x10 ⁻¹
UPDRS	A	26.96 (10.09)	27.67 (3.10)	27.88 (13.20)	9.1x10 ⁻¹
	U	-	-	-	-
	Comb.	-	-	-	-
MoCA	A	25.04 (3.60)	25.35 (3.24)	25.28 (3.61)	8.8x10 ⁻¹
	U	27.06 (2.66)	26.83 (2.52)	27.17 (2.38)	8.7x10 ⁻¹
	Comb.	25.92 (3.36)	25.81 (3.10)	25.81 (3.40)	9.7x10 ⁻¹

<i>PoA</i>	<i>A</i>	1389.44 (241.57)	1351.56 (170.17)	1368.26 (199.27)	5.3×10^{-1}
	<i>U</i>	1289.63 (157.31)	1268.07 (122.26)	1272.99 (134.96)	7.9×10^{-1}
	<i>Comb.</i>	1351.31 (217.87)	1327.44 (161.90)	1343.41 (188.49)	6.3×10^{-1}
<i>PRM</i>	<i>A</i>	20.16 (2.82)	19.63 (2.90)	19.44 (3.98)	4.8×10^{-1}
	<i>U</i>	20.47 (2.54)	20.10 (2.53)	22.00 (1.45)	5.1×10^{-2}
	<i>Comb.</i>	20.29 (2.70)	19.77 (2.76)	20.12 (3.66)	4.3×10^{-1}
<i>SRM</i>	<i>A</i>	15.12 (1.84)	15.35 (2.34)	15.42 (2.25)	7.7×10^{-1}
	<i>U</i>	16.09 (1.73)	15.92 (2.00)	16.44 (1.68)	6.1×10^{-1}
	<i>Comb.</i>	15.52 (1.85)	15.52 (2.25)	15.69 (2.15)	8.4×10^{-1}

<i>Variable</i>	<i>APOE</i>	<i>Mean (SD)</i>					<i>P</i>
		<i>E2/E2</i>	<i>E2/E3</i>	<i>E3/E3</i>	<i>E3/E4</i>	<i>E4/E4</i>	
<i>MMSE</i>	<i>A</i>	28.00 (0.00)	23.31 (1.30)	28.66 (1.27)	28.70 (1.32)	28.75 (1.48)	7.8×10^{-1}
	<i>U</i>	28.00 (1.41)	29.10 (0.87)	29.13 (1.21)	29.04 (1.19)	29.00 (0.00)	7.7×10^{-1}
	<i>Comb.</i>	28.00 (0.81)	28.62 (1.20)	28.81 (1.27)	28.80 (1.28)	28.78 (1.39)	7.2×10^{-1}
<i>UPDRS</i>	<i>A</i>	20.00 (5.65)	30.88 (11.06)	27.75 (15.51)	28.89 (10.25)	27.60 (11.53)	5.1×10^{-1}
	<i>U</i>	-	-	-	-	-	-
	<i>Comb.</i>	-	-	-	-	-	-
<i>MoCA</i>	<i>A</i>	25.00 (4.24)	25.27 (3.91)	25.06 (3.59)	25.47 (3.32)	25.38 (1.47)	9.5×10^{-1}
	<i>U</i>	25.50 (0.70)	26.80 (3.29)	27.05 (2.62)	27.25 (2.11)	26.00 (0.00)	8.8×10^{-1}
	<i>Comb.</i>	25.25 (2.50)	25.88 (3.67)	25.79 (3.40)	25.99 (3.11)	25.86 (1.34)	5.1×10^{-1}
<i>PoA</i>	<i>A</i>	1513.86 (190.67)	1362.92 (124.26)	1349.27 (182.22)	1399.37 (242.73)	1327.87 (149.80)	4.3×10^{-1}
	<i>U</i>	1223.23 (101.57)	1235.60 (141.39)	1265.49 (146.14)	1311.48 (119.61)	1333.61 (0.00)	5.4×10^{-1}
	<i>Comb.</i>	1368.54 (209.07)	1317.08 (142.14)	1322.19 (175.40)	1374.26 (217.81)	1328.51 (140.14)	3.1×10^{-1}
<i>PRM</i>	<i>A</i>	24.00 (0.00)	19.87 (2.38)	19.69 (3.39)	19.51 (3.17)	20.88 (2.16)	5.5×10^{-1}
	<i>U</i>	20.50 (2.12)	19.10 (3.10)	20.93 (2.20)	20.55 (2.68)	22.00 (0.00)	2.9×10^{-1}
	<i>Comb.</i>	21.67 (2.51)	19.56 (2.66)	20.11 (3.09)	19.80 (3.06)	21.00 (2.06)	5.7×10^{-1}
<i>SRM</i>	<i>A</i>	17.00 (0.00)	14.60 (1.45)	15.54 (2.04)	15.11 (2.63)	14.63 (0.91)	3.3×10^{-1}
	<i>U</i>	13.00 (0.00)	16.40 (2.06)	16.28 (1.69)	15.95 (1.61)	19.00 (0.00)	4.3×10^{-2}
	<i>Comb.</i>	14.33 (2.30)	15.32 (1.90)	15.79 (1.96)	15.34 (2.41)	15.11 (1.69)	3.4×10^{-1}