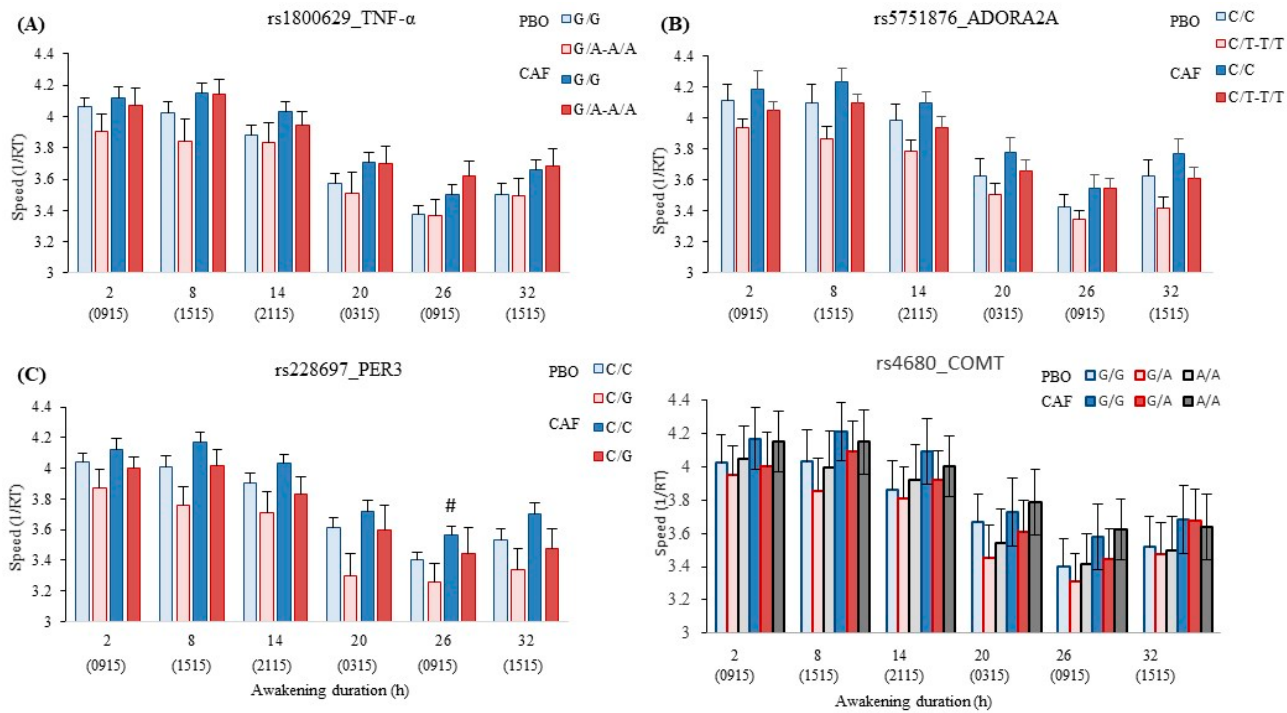


SUPPLEMENTARY FIGURE

Supplementary figure 1. PVT speed across consecutive 6-h intervals of awakening according to polymorphisms of TNF- α (A), ADORA2A (B), PER3 (C) and COMT (D) in placebo (PBO) and caffeine (CAF) conditions.



* is a SNP difference ($p < 0.05$), # condition differences ($p < 0.05$) for one genotype.

SUPPLEMENTARY TABLES

Supplementary table 1. ANOVA analysis of genetic polymorphism (SNPs) in interaction with awakening (TSD) and treatment (TRT) on PVT (psychomotor vigilance task) parameters (number of lapses and speed) and KSS score.

Parameters	SNPs	Awakening TSD F _{5,175} (p)	Treatment TRT F _{1,35} (p)	Polymorphism SNP F _{1,35} (p) *
PVT Lapses	rs1800629_TNF- α rs5751876_ADORA2A rs228697_PER3 rs4680_COMT	89.6 (<0.01) 89.8 (<0.01) 89.5 (<0.01) 83.6 (<0.01)	21.3 (<0.01) 18.5 (<0.01) 23.5 (<0.01) 19.8 (<0.01)	1.40 (0.24) 1.45 (0.24) 3.06 (0.09) 0.04 (0.85)
PVT speed	rs1800629_TNF- α rs5751876_ADORA2A rs228697_PER3 rs4680_COMT	472 (<0.01) 465 (<0.01) 464 (<0.01) 465 (<0.01)	23.6 (<0.01) 23.0 (<0.01) 26.5 (<0.01) 22.9 (<0.01)	0.19 (0.67) 2.08 (0.16) 2.54 (0.12) 0.38 (0.54)
KSS score	rs1800629_TNF- α rs5751876_ADORA2A rs228697_PER3 rs4680_COMT	215 (<0.01) 216 (<0.01) 217 (<0.01) 216 (<0.01)	8.45 (<0.01) 8.45 (<0.01) 8.67 (<0.01) 8.36 (<0.01)	0.25 (0.62) 0.40 (0.53) 2.18 (0.15) 0.02 (0.89)

Bold are significant effect (p<0.05). * F_{2,34} for COMT SNP.

Supplementary table 2. ANOVA analysis of genetic polymorphism (SNPs) in interaction with awakening (TSD) and treatment (TRT) on theta/alpha ratio in frontal and centro-temporal brain regions.

Parameters	SNPs	Awakening TSD F _{1,30} (p)	Treatment TRT F _{1,30} (p)	Polymorphism SNP F _{1,29} (p)*	Awakening x Treatment TSD x TRT F _{1,30} (p)	Awakening x Polymorphism TSD x SNP F _{1,29} (p)*	Treatment x Polymorphism TRT x SNP F _{1,29} (p)*	Interaction (SNP x TSD x TRT)* F _{1,29} (p)
EEG frontal	rs1800629_TNF- α rs5751876_ADORA2A rs228697_PER3 rs4680_COMT	3.92 (0.06) 4.02 (0.05) 3.73 (0.06) 3.70 (0.06)	11.24 (<0.01) 11.31 (<0.01) 11.82 (<0.01) 12.09 (<0.01)	2.98 (0.10) 0.16 (0.70) 1.68 (0.21) 0.14 (0.71)	1.05 (0.31) 1.07 (0.30) 1.00 (0.32) 0.99 (0.32)	4.00 (0.06) 5.59 (0.02) 0.75 (0.39) 0.31 (0.58)	0.04 (0.84) 0.23 (0.63) 1.56 (0.22) 2.24 (0.15)	0.17 (0.68) 0.14 (0.71) 0.53 (0.47) 0.46 (0.50)
EEG centro-temporal	rs1800629_TNF- α rs5751876_ADORA2A rs228697_PER3 rs4680_COMT	8.81 (<0.01) 8.26 (<0.01) 7.92 (<0.01) 8.08 (<0.01)	9.70 (<0.01) 10.31 (<0.01) 9.99 (<0.01) 9.72 (<0.01)	1.67 (0.21) 0.21 (0.65) 0.93 (0.34) 0.25 (0.62)	4.29 (0.04) 4.02 (0.05) 3.86 (0.06) 3.94 (0.06)	5.88 (0.02) 2.32 (0.13) 0.00 (0.98) 0.68 (0.41)	0.11 (0.74) 1.92 (0.18) 0.96 (0.33) 0.16 (0.69)	0.74 (0.39) 0.26 (0.61) 0.05 (0.83) 0.57 (0.45)

Bold are significant effect (p<0.05). * F_{2,28} for COMT SNP.