

Supplementary Table 16. Description of exposures included in Mendelian randomization analysis

Trait	#SNVs	#Samples	First author	Publication year	Consortium	Population	Unit	Build	PMID	N (threshold 1) ^a	Mean F-statistic (threshold 1) ^a	N (threshold 2) ^b	Mean F-statistic (threshold 2) ^b
25-hydroxyvitamin D level	16668957	441291	Manousaki	2020	NA	European	log(25OHD level) s.d.	GRCh37	32059762	81	153.2	322	53.4
Body mass index	2336260	681275	Yengo	2018	GIANT	European	indirect RINT(BMI) unit change	GRCh37	30124842	446	74.8	732	54.4
Years of education	10101242	766345	Lee	2018	SSGAC	European	years	GRCh37	30038396	263	49.2	610	33.8

^a Number of variants and corresponding mean F-statistic using an instrument selection threshold of $P < 5 \times 10^{-8}$; ^b Same, with an instrument selection threshold of $P < 5 \times 10^{-5}$
25OHD, 25-hydroxyvitamin D; ARMSS, age-related MS severity; BMI, body mass index; PMID, Pubmed ID; RINT, rank-based inverse normal transformation; s.d., standard deviation.