Supplemental file

Materials and methods

In vitro experiments
Myotubes cultivated from satellite cells of eight live athletic donors stimulated with or without electrical pulse stimulation (EPS) to mimic physical activity, glucose to mimic hyperglycemia (HG), palmitic acid (PA), which usually increase following a meal, insulin to mimic hyperinsulinemia (HI) and leptin (only in three donors) to mimic the hyperleptinemia that follows obesity. sOb-R in media from the human endothelial cells and myotubes were quantified using ELISA (R&D Systems, Minneapolis, MN, USA), at the Department of Nutrition, Institute of Basic Medical Sciences, University of Oslo.

Results

Instrument strength in multivariable Mendelian randomization analysis

We calculated instrument strength of the multivariable Mendelian randomization based on equation #12 from Sanderson and coauthors (1). Since equation #12 rely on knowing the sampling covariances between the effect of each SNP on BMI and the effect of each SNP on insulin (1), we estimated these sampling covariances using the intercept from the genetic correlation analysis of BMI and insulin; σ_{12j}=int ×SE($\hat{\pi}_{1j}$)SE($\hat{\pi}_{2j}$), as suggested by Wu and coauthors in 2021 (2).

R script:

```
Qx1 <- sum(((exp1_ES - (IvW_ES_exp1*exp2_ES))^2)/(((exp1_SE)^2) +
((IvW_ES_exp1^2)*(exp2_SE)^2))-((2*IvW_ES_exp1)*(int*(exp1_SE*exp2_SE))))

Qx2 <- sum(((exp2_ES - (IvW_ES_exp2*exp1_ES))^2)/(((exp2_SE)^2) +
((IvW_ES_exp2^2)*(exp1_SE)^2))-((2*IvW_ES_exp2)*(int*(exp1_SE*exp2_SE))))

pQx1 <- pchisq(Qx1, df=n-1, lower.tail=FALSE)

pQx2 <- pchisq(Qx2, df=n-1, lower.tail=FALSE)
```

IVW_ES_exp1 = causal effect of exposure 2 (exp2) on exposure 1 (exp1) (IVW effect size) (-0.28638)

IVW_ES_exp2 = causal effect of exp1 on exp2 (IVW effect size) (-0.01544783)

int = Genetic covariance intercept of exp1 and exp2 from genetic correlation analysis (gcov_int =

-0.0821)

exp1_ES = Effect size from GWAS summary data of exp1 for all SNPs used in the multivariable Mendelian randomization analysis (betaBMI, Supplementary Table 6)

exp2_ES <- Effect size from GWAS summary data of exp2 for all SNPs used in the multivariable Mendelian randomization analysis (betaINS, Supplementary Table 6)

exp1_SE = Standard error from GWAS summary data of exp1 for all SNPs used in the multivariable Mendelian randomization analysis (seBMI, Supplementary Table 6)

exp2_SE <- Standard error from GWAS summary data of exp2 for all SNPs used in the multivariable Mendelian randomization analysis (seINS, Supplementary Table 6)

Instrument validity in multivariable Mendelian randomization analysis

We calculated instrument validity of the multivariable Mendelian randomization based on equation #13 from Sanderson and coauthors (1), using the same modified term to estimate sampling covariances.

R script:

```
QA <- sum(((o_ES –((MVMR_ES_eksp1_o*exp1_ES)+(MVMR_ES_eksp2_o*exp2_ES)))^2)
/((o_SE^2)+((MVMR_ES_exp1_o^2)*(exp1_SE^2))+((MVMR_ES_exp2_o^2)*(exp2_SE^2))+(2
*MVMR_ES_exp1_o*MVMR_ES_exp2_o*(int*(exp1_SE*exp2_SE)))))

pQA <- pchisq(Qx1, df=207, lower.tail=FALSE)
```

o_ES = Effect size from GWAS summary data of outcome for all SNPs used in the multivariable Mendelian randomization analysis

o_SE <- Standard error from GWAS summary data of outcome for all SNPs used in the multivariable Mendelian randomization analysis (se.outcome, Supplementary Table 6)

MVMR_ES_exp1_o = causal effect of exp1 on the outcome from MVMR (IVW -0.21)

MVMR_ES_exp2_o = causal effect of exp2 on the outcome from MVMR (IVW -1.60)

int = Genetic covariance intercept (gcov_int) from genetic correlation analysis of exp1 and exp (2-0.0821)

exp1_ES = Effect size from GWAS summary data of exp1 for all SNPs used in the multivariable Mendelian randomization analysis (betaBMI, Supplementary Table 6)

exp2_ES <- Effect size from GWAS summary data of exp2 for all SNPs used in the multivariable Mendelian randomization analysis (betaINS, Supplementary Table 6)

exp1_SE = Standard error from GWAS summary data of exp1 for all SNPs used in the multivariable Mendelian randomization analysis (seBMI, Supplementary Table 6)

exp2_SE <- Standard error from GWAS summary data of exp2 for all SNPs used in the multivariable Mendelian randomization analysis (seINS, Supplementary Table 6)

Supplementary Table 1. Study details from published genome-wide association study summary data used in two-sample Mendelian randomization of causal effect of different exposures on soluble leptin receptor (sOb-R) as the outcome.

Phenotype	Author	ID*	Consortium/Study	Ancestry	n
sOb-R	Sun (3)	prot-a-1724	The INTERVAL study	European	3 301
Fasting glucose	Scott (4)	ieu-b-114	MAGIC	European	133 010
Fasting insulin	Scott (4)	ieu-b-116	MAGIC	European	108 557
BMI	Yengo (5)	ieu-b-40	GIANT	European	681 275
Body fat (%)	Lu (6)	ebi-a-GCST003435		European	65 831

* Available at IEU OpenGWAS project, https://gwas.mrcieu.ac.uk/

Supplementary Table 2. Genetic instruments for fasting glucose and GWAS summary data for their association with fasting glucose as the exposure and with sOb-R as the outcome.

SNP	chr	pos	e.a.e	o.a.e	e.a.o	o.a.o	id.exp	beta.exp	se.exp	p.exp	F statistic	n.exp	id.out	eaf.out	beta.out	se.out	p.out	n.out
rs10811661	9	22134094	C	T	C	T	ieu-b-114	-0.024	0.0028	5.65E-18	73.5	133010	prot-a-1724	0.1704	1.00E-04	0.033	1	3301
rs10814916	9	4293150	C	A	C	A	ieu-b-114	0.016	0.0022	2.26E-13	52.9	133010	prot-a-1724	0.5155	-3.00E-04	0.025	1	3301
rs11195502	10	113039667	T	C	T	C	ieu-b-114	-0.032	0.0037	1.97E-18	74.8	133010	prot-a-1724	0.0924	0.0524	0.043	0.219	3301
rs11558471	8	118185733	G	A	G	A	ieu-b-114	-0.029	0.0023	7.80E-37	159.0	133010	prot-a-1724	0.3131	-0.0385	0.027	0.148	3301
rs11603334	11	72432985	A	G	A	G	ieu-b-114	-0.019	0.0028	1.12E-11	46.0	133010	prot-a-1724	0.1506	-0.0151	0.035	0.661	3301
rs11607883	11	45839709	A	G	A	G	ieu-b-114	-0.021	0.0021	6.32E-24	100.0	133010	prot-a-1724	0.5385	0.0031	0.025	0.891	3301
rs11619319	13	28487599	G	A	G	A	ieu-b-114	0.02	0.0024	1.33E-15	69.4	133010	prot-a-1724	0.2138	-0.0143	0.03	0.631	3301
rs11708067	3	123065778	G	A	G	A	ieu-b-114	-0.023	0.0026	1.30E-18	78.3	133010	prot-a-1724	0.2415	0.0339	0.029	0.234	3301
rs11715915	3	49455330	T	C	T	C	ieu-b-114	-0.012	0.0022	4.90E-08	29.8	133010	prot-a-1724	0.3119	0.0428	0.026	0.105	3301
rs1260326	2	27730940	C	T	C	T	ieu-b-114	0.029	0.0021	2.17E-41	190.7	133010	prot-a-1724	0.5985	-0.0955	0.025	2E-04	3301
rs1280	3	170713290	C	T	C	T	ieu-b-114	-0.026	0.0031	8.56E-18	70.3	133010	prot-a-1724	0.1205	-0.049	0.038	0.195	3301
rs12888855	14	100830818	A	C	A	C	ieu-b-114	-0.016	0.0025	5.04E-10	41.0	133010	prot-a-1724	0.225	-0.061	0.03	0.04	3301
rs16913693	9	111680359	G	T	G	T	ieu-b-114	-0.043	0.0066	3.51E-11	42.4	133010	prot-a-1724	0.0264	0.0557	0.077	0.468	3301
rs17168486	7	14898282	T	C	T	C	ieu-b-114	0.031	0.0028	3.17E-28	122.6	133010	prot-a-1724	0.1719	-0.0406	0.033	0.224	3301
rs174576	11	61603510	A	C	A	C	ieu-b-114	-0.02	0.0022	1.18E-18	82.6	133010	prot-a-1724	0.3448	0.0436	0.026	0.089	3301
rs2191349	7	15064309	T	G	T	G	ieu-b-114	0.029	0.0021	1.28E-42	190.7	133010	prot-a-1724	0.54	0.0376	0.024	0.123	3301
rs3829109	9	139256766	A	G	A	G	ieu-b-114	-0.017	0.0027	1.13E-10	39.6	133010	prot-a-1724	0.2747	0.0147	0.028	0.603	3301
rs4502156	15	62383155	C	T	C	T	ieu-b-114	-0.022	0.0021	1.38E-25	109.8	133010	prot-a-1724	0.4348	0.0192	0.025	0.437	3301
rs4869272	5	95539448	T	C	T	C	ieu-b-114	0.018	0.0022	1.02E-15	66.9	133010	prot-a-1724	0.6999	-0.0052	0.027	0.851	3301
rs560887	2	169763148	C	T	C	T	ieu-b-114	0.071	0.0025	1.40E-178	806.6	133010	prot-a-1724	0.7054	0.0082	0.027	0.759	3301
rs6072275	20	39743905	A	G	A	G	ieu-b-114	0.016	0.0028	1.66E-08	32.7	133010	prot-a-1724	0.1501	-0.0138	0.035	0.692	3301
rs6113722	20	22557099	A	G	A	G	ieu-b-114	-0.035	0.0053	2.49E-11	43.6	133010	prot-a-1724	0.0397	0.0056	0.063	0.933	3301
rs6943153	7	50791579	C	T	C	T	ieu-b-114	-0.015	0.0022	1.63E-12	46.5	133010	prot-a-1724	0.6758	0.0088	0.026	0.741	3301
rs6975024	7	44231886	C	T	C	T	ieu-b-114	0.061	0.0029	2.88E-99	442.4	133010	prot-a-1724	0.1835	-0.0081	0.031	0.794	3301
rs749067	11	47318157	C	T	C	T	ieu-b-114	-0.017	0.0022	6.12E-15	59.7	133010	prot-a-1724	0.3814	0.0083	0.025	0.741	3301
rs7651090	3	185513392	G	A	G	A	ieu-b-114	0.013	0.0023	1.75E-08	31.9	133010	prot-a-1724	0.3105	0.0396	0.026	0.129	3301
rs7903146	10	114758349	T	C	T	C	ieu-b-114	0.022	0.0024	2.71E-20	84.0	133010	prot-a-1724	0.2935	-0.0778	0.027	0.004	3301
rs882020	7	44178743	T	C	T	C	ieu-b-114	0.021	0.003	3.04E-12	49.0	133010	prot-a-1724	0.1403	-0.0081	0.036	0.832	3301
rs9368222	6	20686996	A	C	A	C	ieu-b-114	0.014	0.0023	1.00E-09	37.1	133010	prot-a-1724	0.2651	0.0017	0.028	0.955	3301
rs983309	8	9177732	G	T	G	T	ieu-b-114	-0.026	0.0033	6.29E-15	62.1	133010	prot-a-1724	0.8885	0.0539	0.039	0.17	3301

e.a.e - effect allele exposure, o.a.e - other allele exposure, e.a.o - effect allele outcome, o.a.o - other allele outcome, exp - exposure, out - outcome

Supplementary Table 3. Genetic instruments for fasting insulin and GWAS summary data for their association with fasting insulin as the exposure and with sOb-R as the outcome.

SNP	chr	pos	e.a.e	o.a.e	e.a.o	o.a.o	id.exp	beta.exp	se.exp	p.exp	F statistics	n.exp	id.out	eaf.out	beta.out	se.out	p.out	n.out
rs10195252	2	165513091	C	T	C	T	ieu-b-116	-0.017	0.0021	1.26E-16	65.5	108557	prot-a-1724	0.40226	0.0366	0.0249	0.141	3301
rs1260326	2	27730940	C	T	C	T	ieu-b-116	0.021	0.0021	2.74E-22	100.0	108557	prot-a-1724	0.59849	-0.0955	0.0253	0.000	3301
rs17036328	3	12390484	C	T	C	T	ieu-b-116	-0.021	0.003	3.59E-12	49.0	108557	prot-a-1724	0.11722	-0.0346	0.0389	0.372	3301
rs2126259	8	9185146	C	T	C	T	ieu-b-116	-0.024	0.0033	3.30E-13	52.9	108557	prot-a-1724	0.90088	0.0583	0.0416	0.162	3301
rs2943645	2	227099180	T	C	T	C	ieu-b-116	0.019	0.0021	2.26E-19	81.9	108557	prot-a-1724	0.64483	0.0137	0.0254	0.589	3301
rs3822072	4	89741269	A	G	A	G	ieu-b-116	0.012	0.0021	1.80E-08	32.7	108557	prot-a-1724	0.46515	-0.0256	0.0245	0.295	3301
rs459193	5	55806751	G	A	G	A	ieu-b-116	0.015	0.0023	1.15E-10	42.5	108557	prot-a-1724	0.74246	-0.0655	0.0278	0.019	3301
rs4846565	1	219722104	A	G	A	G	ieu-b-116	-0.013	0.0022	1.76E-09	34.9	108557	prot-a-1724	0.34281	-0.0124	0.0259	0.631	3301
rs4865796	5	53272664	A	G	A	G	ieu-b-116	0.015	0.0022	2.16E-12	46.5	108557	prot-a-1724	0.69532	-0.0402	0.0263	0.126	3301
rs6822892	4	157734675	G	A	G	A	ieu-b-116	-0.014	0.0022	2.58E-10	40.5	108557	prot-a-1724	0.32238	-0.0011	0.0264	0.977	3301
rs6912327	6	34764922	C	T	C	T	ieu-b-116	-0.016	0.0029	2.26E-08	30.4	108557	prot-a-1724	0.21593	-0.0011	0.0305	0.977	3301
rs731839	19	33899065	A	G	A	G	ieu-b-116	-0.015	0.0021	5.13E-12	51.0	108557	prot-a-1724	0.66985	0.0621	0.0262	0.018	3301
rs860598	12	102898446	A	G	A	G	ieu-b-116	0.015	0.0027	1.46E-08	30.9	108557	prot-a-1724	0.84078	0.0023	0.0338	0.955	3301
rs974801	4	106071064	G	A	G	A	ieu-b-116	0.014	0.0021	3.27E-11	44.4	108557	prot-a-1724	0.35764	-0.0262	0.026	0.309	3301

e.a.e - effect allele exposure, o.a.e - other allele exposure, e.a.o - effect allele outcome, o.a.o - other allele outcome, exp - exposure, out - outcome

Supplementary Table 4. Genetic instruments for body fat percentage and GWAS summary data for their association with body fat percentage as the exposure and with sOb-R as the outcome.

SNP	chr	pos	e.a.e	o.a.e	e.a.o	o.a.o	id.exp	eaf.exp	beta.exp	se.exp	p.exp	F statistics	n.exp	id.out	eaf.out	beta.out	se.out	p.out	n.out
rs1558902	16	53803574	A	T	A	T	ebi-a-GCST003435	0.4041	0.051	0.0047	3.79E-27	117.7	65831	prot-a-1724	0.4179	-0.0212	0.0251	0.398	3301
rs2943652	2	227108446	T	C	T	C	ebi-a-GCST003435	0.6401	-0.034	0.0047	1.53E-12	50.8	65831	prot-a-1724	0.6448	0.0128	0.0254	0.617	3301
rs4788099	16	28855727	G	A	G	A	ebi-a-GCST003435	0.3826	0.0269	0.0047	1.21E-08	32.8	65831	prot-a-1724	0.3895	0.0022	0.0254	0.933	3301
rs543874	1	177889480	G	A	G	A	ebi-a-GCST003435	0.1915	0.0315	0.0058	4.53E-08	29.5	65831	prot-a-1724	0.2082	-0.0553	0.0304	0.069	3301
rs6567160	18	57829135	C	T	C	T	ebi-a-GCST003435	0.25	0.0341	0.0053	1.33E-10	41.4	65831	prot-a-1724	0.2345	-0.0419	0.0284	0.141	3301
rs6738627	2	165544450	A	G	A	G	ebi-a-GCST003435	0.37	0.0304	0.0052	5.68E-09	34.2	65831	prot-a-1724	0.3511	0.0139	0.0257	0.589	3301
rs6755502	2	635721	C	T	C	T	ebi-a-GCST003435	0.8315	0.0392	0.0061	1.41E-10	41.3	65831	prot-a-1724	0.8315	-0.0289	0.033	0.380	3301
rs6857	19	45392254	T	C	T	C	ebi-a-GCST003435	0.1609	-0.048	0.0083	6.84E-09	33.4	65831	prot-a-1724	0.1680	0.0117	0.0325	0.724	3301
rs693839	13	80958288	T	C	T	C	ebi-a-GCST003435	0.6803	-0.028	0.0049	6.56E-09	33.4	65831	prot-a-1724	0.7020	0.0022	0.0267	0.933	3301
rs9906944	17	47091420	T	C	T	C	ebi-a-GCST003435	0.3276	-0.033	0.006	2.86E-08	30.8	65831	prot-a-1724	0.3554	0.0055	0.0261	0.832	3301

e.a.e - effect allele exposure, o.a.e - other allele exposure, e.a.o - effect allele outcome, o.a.o - other allele outcome, exp - exposure, out - outcome

Supplementary Table 5. Genetic instruments for BMI and GWAS summary data for their association with BMI as the exposure and with sOb-R as the outcome.

SNP	chr	pos	e.a.e	o.a.e	e.a.o	o.a.o	id.exp	eaf.exp	beta.exp	se.exp	p.exp	F statistic	n.exp	id.out	eaf.out	beta.out	se.out	p.out	n.out
rs10009336	4	44480783	T	C	T	C	ieu-b-40	0.1638	-0.014	0.002	2.20E-10	40.5	794766	prot-a-1724	0.1575	0.0188	0.0344	0.589	3301
rs1006896	3	88104411	C	A	C	A	ieu-b-40	0.1061	-0.0234	0.003	5.50E-18	75.1	691892	prot-a-1724	0.1110	-1.00E-04	0.0395	1.000	3301
rs10132280	14	25928179	A	C	A	C	ieu-b-40	0.3017	-0.0223	0.002	5.60E-35	153.5	786578	prot-a-1724	0.3067	-0.026	0.0277	0.347	3301
rs10169594	2	41637688	C	T	C	T	ieu-b-40	0.3596	0.0121	0.002	2.00E-11	45.2	685712	prot-a-1724	0.3752	-0.0102	0.0261	0.692	3301
rs10182181	2	25150296	G	A	G	A	ieu-b-40	0.4753	0.0325	0.002	6.70E-90	412.6	792111	prot-a-1724	0.4870	0.0159	0.0245	0.513	3301
rs10192119	2	164581241	G	T	G	T	ieu-b-40	0.1673	0.0166	0.002	3.00E-14	56.9	795369	prot-a-1724	0.1651	-0.0085	0.0327	0.794	3301
rs10197031	2	105454590	C	T	C	T	ieu-b-40	0.2834	0.0166	0.002	1.90E-18	76.3	691479	prot-a-1724	0.2839	-0.0094	0.0279	0.741	3301
rs10243319	7	147674678	C	T	C	T	ieu-b-40	0.3939	-0.0107	0.002	1.20E-09	35.3	690936	prot-a-1724	0.3852	0.0119	0.0254	0.646	3301
rs10247983	7	114590228	A	G	A	G	ieu-b-40	0.9213	0.0201	0.003	1.70E-09	37.1	672411	prot-a-1724	0.9254	-0.0667	0.0477	0.162	3301
rs10248136	7	39077397	T	C	T	C	ieu-b-40	0.5142	-0.0097	0.002	2.00E-08	32.6	686892	prot-a-1724	0.5202	-0.0168	0.0253	0.501	3301
rs10269783	7	49616203	A	G	A	G	ieu-b-40	0.3896	0.0133	0.002	1.40E-15	61.2	790551	prot-a-1724	0.3857	-0.0074	0.0261	0.776	3301
rs10408324	19	51774806	T	C	T	C	ieu-b-40	0.2744	-0.0124	0.002	9.50E-11	42.6	690737	prot-a-1724	0.2949	-0.011	0.0267	0.676	3301
rs10478110	5	112445734	C	A	C	A	ieu-b-40	0.4348	0.01	0.002	9.60E-09	34.6	680441	prot-a-1724	0.4380	-0.0349	0.0252	0.166	3301
rs1048932	11	115044850	A	C	A	C	ieu-b-40	0.4162	-0.016	0.002	3.80E-22	88.6	795167	prot-a-1724	0.4092	0.0394	0.0251	0.115	3301
rs10492229	12	110602173	T	C	T	C	ieu-b-40	0.2268	0.0142	0.002	7.70E-14	55.9	794845	prot-a-1724	0.2378	0.0267	0.0291	0.355	3301
rs10510419	3	12426936	T	G	T	G	ieu-b-40	0.1416	-0.0177	0.002	2.20E-14	59.2	789318	prot-a-1724	0.1425	0.0068	0.0355	0.851	3301
rs10518694	15	53072673	A	C	A	C	ieu-b-40	0.1424	0.0146	0.003	3.30E-09	34.1	690554	prot-a-1724	0.1450	0.0573	0.0354	0.107	3301
rs1064213	2	198950240	A	G	A	G	ieu-b-40	0.492	0.012	0.002	2.40E-12	49.8	692576	prot-a-1724	0.4689	-0.0343	0.0247	0.166	3301
rs10733051	1	167280354	G	A	G	A	ieu-b-40	0.4802	-0.0097	0.002	2.90E-09	36.8	781928	prot-a-1724	0.5001	0.0104	0.0246	0.676	3301
rs10742752	11	45438374	C	T	C	T	ieu-b-40	0.6159	0.0124	0.002	1.10E-13	53.2	792704	prot-a-1724	0.6194	-0.028	0.025	0.263	3301
rs10747488	1	98299475	A	C	A	C	ieu-b-40	0.7601	-0.0123	0.002	1.20E-09	37.8	689295	prot-a-1724	0.7687	-0.0097	0.03	0.741	3301
rs10750215	11	122505344	T	G	T	G	ieu-b-40	0.3883	0.0108	0.002	1.30E-10	40.4	788895	prot-a-1724	0.3863	-0.0159	0.0255	0.537	3301
rs1075901	17	15943910	C	T	C	T	ieu-b-40	0.5639	0.0121	0.002	1.20E-13	57.2	794789	prot-a-1724	0.5652	-0.0352	0.0248	0.155	3301
rs10768994	11	43936945	C	T	C	T	ieu-b-40	0.4337	-0.0114	0.002	6.40E-12	45.0	791685	prot-a-1724	0.4366	0.0275	0.0255	0.282	3301
rs10795422	10	16759312	G	A	G	A	ieu-b-40	0.6905	0.0139	0.002	9.30E-14	53.5	692108	prot-a-1724	0.6767	-0.005	0.0269	0.851	3301
rs10811871	9	23200766	G	A	G	A	ieu-b-40	0.3829	-0.0108	0.002	1.60E-09	36.0	686376	prot-a-1724	0.3786	0.0145	0.026	0.575	3301
rs10832778	11	17394073	G	C	G	C	ieu-b-40	0.6222	0.0125	0.002	1.30E-13	54.1	783042	prot-a-1724	0.6176	-0.0045	0.0254	0.851	3301
rs10858334	9	137989785	G	C	G	C	ieu-b-40	0.1415	0.0143	0.003	2.70E-08	30.3	672640	prot-a-1724	0.1475	-0.057	0.0358	0.112	3301
rs10867256	9	81367391	T	C	T	C	ieu-b-40	0.553	-0.0118	0.002	8.70E-12	48.2	689493	prot-a-1724	0.5561	0.0292	0.0247	0.234	3301
rs10878946	12	69642315	T	C	T	C	ieu-b-40	0.714	-0.0141	0.002	3.60E-13	55.1	685707	prot-a-1724	0.7161	-0.0079	0.0279	0.776	3301
rs10914462	1	32125943	G	A	G	A	ieu-b-40	0.4255	-0.0112	0.002	1.50E-10	43.4	689808	prot-a-1724	0.4243	-0.0085	0.0248	0.724	3301

rs10915840	1	225668524	A	G	A	G	ieu-b-40	0.283	-0.0118	0.002	1.30E-09	38.6	684857	prot-a-1724	0.2796	0.0556	0.028	0.047	3301
rs10920678	1	190239907	G	A	G	A	ieu-b-40	0.5709	-0.0155	0.002	1.50E-21	93.8	788624	prot-a-1724	0.5814	-0.0416	0.0252	0.100	3301
rs10938397	4	45182527	G	A	G	A	ieu-b-40	0.4317	0.0324	0.002	3.40E-86	410.1	793518	prot-a-1724	0.4322	1.00E-04	0.026	1.000	3301
rs10942267	5	80841914	G	A	G	A	ieu-b-40	0.3088	-0.0156	0.002	3.90E-17	67.4	689084	prot-a-1724	0.3174	-0.0169	0.0271	0.537	3301
rs10953740	7	113460282	G	A	G	A	ieu-b-40	0.5534	-0.0153	0.002	1.00E-18	81.0	684419	prot-a-1724	0.5541	0.0032	0.0247	0.891	3301
rs10962550	9	16720329	C	G	C	G	ieu-b-40	0.1801	0.0182	0.002	6.20E-16	68.4	690579	prot-a-1724	0.1860	-0.0149	0.0321	0.646	3301
rs10968114	9	27800007	C	A	C	A	ieu-b-40	0.4681	-0.0113	0.002	6.10E-11	44.2	686025	prot-a-1724	0.4675	-0.0148	0.0252	0.562	3301
rs10971709	9	33804813	T	C	T	C	ieu-b-40	0.2062	0.0132	0.002	6.20E-10	39.5	688312	prot-a-1724	0.2134	-0.0049	0.0301	0.871	3301
rs10984756	9	122651784	G	C	G	C	ieu-b-40	0.1048	0.0174	0.003	1.10E-09	36.0	689917	prot-a-1724	0.1031	-0.0024	0.0411	0.955	3301
rs11030618	11	29243293	T	C	T	C	ieu-b-40	0.5679	0.011	0.002	2.40E-10	41.9	690005	prot-a-1724	0.5573	-0.0011	0.0249	0.955	3301
rs11066188	12	112610714	A	G	A	G	ieu-b-40	0.4181	-0.012	0.002	8.10E-13	49.8	792755	prot-a-1724	0.4113	0.0285	0.0251	0.257	3301
rs11084553	19	31019780	G	A	G	A	ieu-b-40	0.1518	-0.021	0.002	1.80E-18	76.6	691103	prot-a-1724	0.1466	-1.00E-04	0.0352	1.000	3301
rs11105839	12	91237920	A	T	A	T	ieu-b-40	0.3799	-0.0109	0.002	1.10E-10	41.1	781573	prot-a-1724	0.3760	0.0178	0.0261	0.490	3301
rs11115176	12	82465797	C	T	C	T	ieu-b-40	0.2399	-0.0121	0.002	2.00E-10	40.6	792384	prot-a-1724	0.2454	0.0332	0.029	0.251	3301
rs11118308	1	219633869	G	A	G	A	ieu-b-40	0.4703	-0.0101	0.002	4.80E-10	39.8	794625	prot-a-1724	0.4533	-0.0177	0.0247	0.479	3301
rs1112613	13	53651850	A	G	A	G	ieu-b-40	0.1762	-0.0133	0.002	3.40E-09	33.4	682816	prot-a-1724	0.1797	0.0131	0.0327	0.692	3301
rs11150911	18	73498528	C	A	C	A	ieu-b-40	0.7191	-0.0133	0.002	4.70E-13	54.6	781716	prot-a-1724	0.7130	0.0051	0.0276	0.851	3301
rs11165643	1	96924097	T	C	T	C	ieu-b-40	0.5828	0.0206	0.002	1.40E-35	146.8	792657	prot-a-1724	0.5875	-0.0163	0.0249	0.513	3301
rs11170468	12	39430048	C	A	C	A	ieu-b-40	0.2326	-0.0123	0.002	1.90E-10	41.9	795265	prot-a-1724	0.2382	0.0112	0.0286	0.692	3301
rs11173522	12	60953472	A	C	A	C	ieu-b-40	0.2078	0.0128	0.002	1.10E-09	37.2	691593	prot-a-1724	0.2258	-0.0013	0.0299	0.977	3301
rs11185111	1	107962328	A	G	A	G	ieu-b-40	0.3042	-0.0129	0.002	7.70E-12	46.1	686508	prot-a-1724	0.3204	-0.0077	0.0282	0.776	3301
rs11251352	10	2585792	G	A	G	A	ieu-b-40	0.5988	0.0109	0.002	7.00E-10	36.7	690804	prot-a-1724	0.5997	-0.0294	0.0254	0.245	3301
rs11496125	7	103417557	T	C	T	C	ieu-b-40	0.4212	0.0169	0.002	3.00E-22	98.8	684574	prot-a-1724	0.4288	0.0346	0.0252	0.170	3301
rs11505821	7	76818677	T	A	T	A	ieu-b-40	0.0601	0.0311	0.004	2.70E-19	79.0	758322	prot-a-1724	0.0688	0.0596	0.049	0.224	3301
rs11538	22	18220831	G	A	G	A	ieu-b-40	0.1805	0.0135	0.002	3.30E-09	34.5	692349	prot-a-1724	0.1737	-0.0176	0.0324	0.589	3301
rs1158805	18	40736590	A	C	A	C	ieu-b-40	0.3766	-0.0137	0.002	1.20E-14	57.9	691776	prot-a-1724	0.3718	-0.0079	0.0258	0.759	3301
rs11609659	12	108296260	C	T	C	T	ieu-b-40	0.2371	-0.0154	0.002	2.20E-14	59.3	679177	prot-a-1724	0.2382	0.007	0.0293	0.813	3301
rs11611246	12	939480	T	G	T	G	ieu-b-40	0.21	0.024	0.002	5.00E-32	144.0	779823	prot-a-1724	0.2094	-0.0332	0.03	0.269	3301
rs11615578	12	121714935	T	C	T	C	ieu-b-40	0.2474	0.013	0.002	8.10E-11	42.3	669422	prot-a-1724	0.2619	0.0087	0.0289	0.759	3301
rs11656076	17	31464270	A	G	A	G	ieu-b-40	0.2254	-0.0142	0.002	5.60E-12	45.7	691283	prot-a-1724	0.2255	-0.0332	0.0297	0.263	3301
rs11672660	19	46180184	T	C	T	C	ieu-b-40	0.2049	-0.034	0.002	1.70E-60	262.1	768426	prot-a-1724	0.1917	-0.0051	0.0313	0.871	3301
rs11713193	3	49924424	A	G	A	G	ieu-b-40	0.5073	0.0239	0.002	2.40E-44	197.7	692159	prot-a-1724	0.5110	-0.0365	0.0245	0.138	3301
rs11736228	4	147376805	T	A	T	A	ieu-b-40	0.2587	-0.0139	0.002	4.10E-12	48.3	691580	prot-a-1724	0.2571	0.0196	0.0284	0.490	3301
rs11738695	5	108699161	A	C	A	C	ieu-b-40	0.586	0.0097	0.002	2.00E-08	32.6	691380	prot-a-1724	0.5893	0.0134	0.0256	0.603	3301

rs11739877	5	105876806	T	C	T	C	ieu-b-40	0.6118	0.0117	0.002	6.60E-11	42.3	692540	prot-a-1724	0.6175	-0.0353	0.0257	0.170	3301
rs11781699	8	118863061	C	T	C	T	ieu-b-40	0.1896	0.0132	0.002	3.10E-10	39.5	784642	prot-a-1724	0.1878	0.0137	0.0319	0.661	3301
rs11855853	15	78012618	T	C	T	C	ieu-b-40	0.2649	-0.0145	0.002	2.40E-13	52.6	682564	prot-a-1724	0.2635	-0.0121	0.0287	0.676	3301
rs1187352	9	87293457	C	T	C	T	ieu-b-40	0.6518	0.0119	0.002	6.00E-11	43.7	688522	prot-a-1724	0.6442	-0.0349	0.0256	0.174	3301
rs11880870	19	18830704	G	A	G	A	ieu-b-40	0.4801	-0.0189	0.002	1.00E-28	123.6	717350	prot-a-1724	0.4778	0.0404	0.0247	0.102	3301
rs11889536	2	220163543	G	A	G	A	ieu-b-40	0.1493	-0.0189	0.002	6.40E-15	62.0	688977	prot-a-1724	0.1514	0.0089	0.0344	0.794	3301
rs11908637	20	47428485	A	G	A	G	ieu-b-40	0.236	-0.012	0.002	4.90E-09	32.7	691443	prot-a-1724	0.2447	-0.0015	0.0285	0.955	3301
rs11945861	4	65700865	A	G	A	G	ieu-b-40	0.2369	-0.0148	0.002	5.00E-13	54.8	682451	prot-a-1724	0.2387	0.008	0.0295	0.794	3301
rs11951673	5	95861012	T	C	T	C	ieu-b-40	0.3941	-0.0123	0.002	1.10E-13	52.3	792278	prot-a-1724	0.4103	0.0607	0.025	0.015	3301
rs12033257	1	112318484	G	A	G	A	ieu-b-40	0.3835	-0.0146	0.002	2.40E-15	65.8	664083	prot-a-1724	0.3886	0.0341	0.0261	0.191	3301
rs12041258	1	195047936	C	T	C	T	ieu-b-40	0.2287	-0.0146	0.002	9.50E-13	53.3	688602	prot-a-1724	0.2339	-0.0166	0.0295	0.575	3301
rs12044597	1	1708801	G	A	G	A	ieu-b-40	0.5029	0.0143	0.002	1.70E-18	79.9	789125	prot-a-1724	0.5154	-0.0035	0.0244	0.891	3301
rs12049202	1	77967523	T	C	T	C	ieu-b-40	0.203	0.024	0.002	1.00E-28	119.0	691566	prot-a-1724	0.1950	0.0234	0.0312	0.457	3301
rs12098284	10	76047464	T	C	T	C	ieu-b-40	0.1241	0.0178	0.003	1.80E-11	46.9	686167	prot-a-1724	0.1235	-0.0039	0.0372	0.912	3301
rs12150665	17	34914787	C	T	C	T	ieu-b-40	0.4058	-0.0162	0.002	1.60E-22	90.8	795501	prot-a-1724	0.4030	0.0391	0.0252	0.120	3301
rs1218822	13	28011963	A	G	A	G	ieu-b-40	0.6663	0.0168	0.002	1.90E-22	97.7	794711	prot-a-1724	0.6653	0.0162	0.0264	0.537	3301
rs12299814	12	90216146	A	C	A	C	ieu-b-40	0.2525	-0.0157	0.002	5.20E-15	61.6	687962	prot-a-1724	0.2508	0.0067	0.028	0.813	3301
rs12328930	2	175079125	C	T	C	T	ieu-b-40	0.4235	0.0098	0.002	1.80E-08	33.2	690521	prot-a-1724	0.4149	0.015	0.0248	0.550	3301
rs12334877	8	67194171	A	G	A	G	ieu-b-40	0.198	-0.0144	0.002	7.70E-11	42.8	683820	prot-a-1724	0.1918	-0.0548	0.032	0.087	3301
rs12364470	11	134601012	G	T	G	T	ieu-b-40	0.1626	0.0178	0.002	1.10E-15	65.5	787411	prot-a-1724	0.1670	0.0156	0.0331	0.631	3301
rs12369179	12	122963550	T	C	T	C	ieu-b-40	0.0878	-0.0359	0.003	2.50E-31	134.1	674260	prot-a-1724	0.0924	-0.0315	0.0425	0.457	3301
rs12416812	11	888632	A	G	A	G	ieu-b-40	0.5088	0.0111	0.002	6.10E-12	48.1	793338	prot-a-1724	0.4973	0.0242	0.0245	0.324	3301
rs1241986	18	6873954	A	G	A	G	ieu-b-40	0.8479	-0.0139	0.002	1.10E-08	33.5	687757	prot-a-1724	0.8429	0.03	0.0345	0.380	3301
rs12422552	12	14413931	C	G	C	G	ieu-b-40	0.2663	-0.0134	0.002	1.60E-11	44.9	689543	prot-a-1724	0.2623	0.0192	0.0281	0.490	3301
rs12429545	13	54102206	A	G	A	G	ieu-b-40	0.1248	0.0316	0.003	9.60E-38	159.8	778918	prot-a-1724	0.1332	0.0422	0.0373	0.257	3301
rs12448257	16	3599655	A	G	A	G	ieu-b-40	0.218	0.0184	0.002	8.10E-20	84.6	779628	prot-a-1724	0.2257	-0.0399	0.0299	0.182	3301
rs12546578	8	85085268	A	T	A	T	ieu-b-40	0.7246	0.0146	0.002	1.00E-13	53.3	689192	prot-a-1724	0.7313	0.0015	0.0282	0.955	3301
rs12564992	1	174478100	G	A	G	A	ieu-b-40	0.1144	0.0196	0.003	5.30E-14	56.8	795119	prot-a-1724	0.1144	0.0598	0.0391	0.126	3301
rs12593036	15	81058652	G	A	G	A	ieu-b-40	0.2993	-0.0154	0.002	3.80E-16	65.7	686055	prot-a-1724	0.3020	0.0289	0.0272	0.288	3301
rs12602912	17	65870073	T	C	T	C	ieu-b-40	0.2048	0.0176	0.002	9.90E-18	70.2	777510	prot-a-1724	0.1852	0.0108	0.0312	0.724	3301
rs1260326	2	27730940	C	T	C	T	ieu-b-40	0.5973	0.0105	0.002	3.90E-10	38.1	784462	prot-a-1724	0.5985	-0.0955	0.0253	0.000	3301
rs12629015	3	119618053	G	A	G	A	ieu-b-40	0.1852	-0.0135	0.002	2.10E-09	34.5	691059	prot-a-1724	0.1751	-0.0133	0.0324	0.676	3301
rs1266874	6	51779638	G	A	G	A	ieu-b-40	0.3558	0.014	0.002	9.80E-15	60.5	691020	prot-a-1724	0.3561	0.0759	0.0259	0.003	3301
rs12675063	8	132879047	T	A	T	A	ieu-b-40	0.1131	0.0156	0.003	1.30E-09	36.0	789771	prot-a-1724	0.1133	-0.0669	0.0384	0.081	3301

rs1268065	6	126042783	A	G	A	G	ieu-b-40	0.4794	-0.0102	0.002	1.00E-09	36.0	759626	prot-a-1724	0.4712	-0.0086	0.0249	0.724	3301
rs12680842	8	95582606	G	A	G	A	ieu-b-40	0.3205	-0.0133	0.002	4.40E-14	54.6	782549	prot-a-1724	0.3182	0.0032	0.0263	0.912	3301
rs12718572	7	50573325	T	C	T	C	ieu-b-40	0.4024	-0.0117	0.002	3.00E-11	42.3	686523	prot-a-1724	0.3980	-0.0448	0.0254	0.078	3301
rs12762034	10	33969931	C	T	C	T	ieu-b-40	0.0758	0.024	0.003	7.30E-14	56.3	692191	prot-a-1724	0.0767	-0.0132	0.0467	0.776	3301
rs12779328	10	12943973	T	C	T	C	ieu-b-40	0.2833	0.0105	0.002	4.50E-08	30.5	690736	prot-a-1724	0.2839	-0.007	0.0275	0.794	3301
rs1285997	14	91513029	G	C	G	C	ieu-b-40	0.7153	0.0142	0.002	1.20E-13	55.9	684235	prot-a-1724	0.7087	-0.042	0.0274	0.126	3301
rs12888545	14	88308044	G	A	G	A	ieu-b-40	0.2519	0.0136	0.002	9.10E-12	46.2	688605	prot-a-1724	0.2498	0.0118	0.0283	0.676	3301
rs12888955	14	103256877	A	G	A	G	ieu-b-40	0.6513	-0.0178	0.002	1.40E-22	97.8	691849	prot-a-1724	0.6616	0.0777	0.026	0.003	3301
rs12905439	15	99521883	G	C	G	C	ieu-b-40	0.3393	-0.0118	0.002	1.40E-10	43.0	675205	prot-a-1724	0.3672	-0.0211	0.0256	0.407	3301
rs12914489	15	74187937	A	G	A	G	ieu-b-40	0.1103	0.0165	0.003	3.80E-10	40.3	795244	prot-a-1724	0.1011	-0.0179	0.0418	0.676	3301
rs12922346	16	82438337	C	G	C	G	ieu-b-40	0.2657	0.0136	0.002	1.00E-11	46.2	679615	prot-a-1724	0.2780	-0.001	0.0285	0.977	3301
rs12933482	16	72189604	G	A	G	A	ieu-b-40	0.1048	0.0186	0.003	4.90E-11	44.1	691477	prot-a-1724	0.1011	-0.0539	0.0411	0.191	3301
rs12936083	17	4801887	G	A	G	A	ieu-b-40	0.3267	0.0139	0.002	4.10E-13	53.5	633615	prot-a-1724	0.3269	0.0222	0.0263	0.398	3301
rs12939549	17	78611724	G	A	G	A	ieu-b-40	0.4335	-0.018	0.002	2.70E-28	126.6	793950	prot-a-1724	0.4421	0	0.0249	1.000	3301
rs1296328	4	137083193	C	A	C	A	ieu-b-40	0.5657	-0.0179	0.002	4.90E-24	98.9	683488	prot-a-1724	0.5651	-0.0092	0.025	0.708	3301
rs12981256	19	1865901	A	G	A	G	ieu-b-40	0.5325	0.0142	0.002	1.10E-15	62.2	678327	prot-a-1724	0.5379	0.0264	0.0248	0.288	3301
rs13021737	2	632348	G	A	G	A	ieu-b-40	0.8319	0.0574	0.002	7.50E-157	747.1	789534	prot-a-1724	0.8326	-0.0268	0.0333	0.417	3301
rs13047416	21	40309436	G	C	G	C	ieu-b-40	0.3769	-0.0154	0.002	2.20E-17	73.2	683228	prot-a-1724	0.3733	-0.0328	0.0259	0.204	3301
rs13069244	3	180441172	A	G	A	G	ieu-b-40	0.0775	0.0187	0.003	3.00E-09	34.1	791327	prot-a-1724	0.0803	0.0258	0.0457	0.575	3301
rs13107325	4	103188709	T	C	T	C	ieu-b-40	0.0737	0.047	0.003	1.10E-47	215.7	792045	prot-a-1724	0.0763	0.0586	0.047	0.214	3301
rs13110266	4	162129844	A	G	A	G	ieu-b-40	0.4065	-0.0117	0.002	1.90E-12	47.4	791087	prot-a-1724	0.4200	0.0193	0.0258	0.457	3301
rs13132853	4	38680015	G	A	G	A	ieu-b-40	0.3452	-0.0142	0.002	4.70E-15	62.2	682543	prot-a-1724	0.3594	0.0057	0.0258	0.832	3301
rs13147390	4	80712000	C	T	C	T	ieu-b-40	0.3569	0.0103	0.002	1.00E-08	32.7	681032	prot-a-1724	0.3738	4.00E-04	0.0257	1.000	3301
rs13174863	5	139080745	G	A	G	A	ieu-b-40	0.1548	0.0192	0.002	2.90E-16	69.7	773762	prot-a-1724	0.1500	0.0244	0.0359	0.501	3301
rs13184896	5	122734005	T	G	T	G	ieu-b-40	0.4346	-0.0133	0.002	3.30E-16	69.1	794825	prot-a-1724	0.4313	0.02	0.0252	0.427	3301
rs13191362	6	163033350	G	A	G	A	ieu-b-40	0.1198	-0.0236	0.003	5.90E-21	89.1	792699	prot-a-1724	0.1224	0.0845	0.0376	0.025	3301
rs1320903	3	131758077	A	G	A	G	ieu-b-40	0.3174	0.0216	0.002	9.20E-32	144.0	691519	prot-a-1724	0.3252	-0.0097	0.0266	0.724	3301
rs1321432	20	6614691	C	A	C	A	ieu-b-40	0.6321	0.0201	0.002	3.50E-29	124.7	686481	prot-a-1724	0.6254	0.0112	0.0255	0.661	3301
rs13240600	7	99064466	G	A	G	A	ieu-b-40	0.1552	-0.0204	0.002	3.50E-17	72.3	692233	prot-a-1724	0.1479	-0.0347	0.0351	0.324	3301
rs13250058	8	112270826	T	G	T	G	ieu-b-40	0.6771	0.0112	0.002	2.90E-10	38.7	787870	prot-a-1724	0.6834	0.0042	0.0265	0.871	3301
rs13263601	8	14095900	C	A	C	A	ieu-b-40	0.3478	0.0154	0.002	2.20E-17	73.2	686196	prot-a-1724	0.3545	0.0069	0.026	0.794	3301
rs1327259	6	51177811	G	A	G	A	ieu-b-40	0.3872	-0.0155	0.002	1.70E-18	74.2	685922	prot-a-1724	0.3854	-0.013	0.0257	0.617	3301
rs13287131	9	92119579	C	T	C	T	ieu-b-40	0.2491	0.0123	0.002	6.80E-10	37.8	683808	prot-a-1724	0.2506	-0.0399	0.0288	0.166	3301
rs1330052	13	86536006	G	C	G	C	ieu-b-40	0.3504	0.0132	0.002	1.50E-13	53.8	691613	prot-a-1724	0.3577	0.0074	0.0256	0.776	3301

rs13329567	15	68104367	T	C	T	C	ieu-b-40	0.2308	-0.0293	0.002	1.00E-50	214.6	793953	prot-a-1724	0.2180	0.0205	0.0297	0.490	3301
rs1365466	18	36182440	T	C	T	C	ieu-b-40	0.7406	-0.0137	0.002	3.30E-13	52.0	791868	prot-a-1724	0.7395	-0.0164	0.0279	0.562	3301
rs1371108	2	81816251	A	C	A	C	ieu-b-40	0.3247	0.0119	0.002	9.00E-11	43.7	684620	prot-a-1724	0.3294	-0.0261	0.0263	0.316	3301
rs1409818	20	21381121	T	C	T	C	ieu-b-40	0.1156	0.0201	0.003	2.50E-12	48.0	690984	prot-a-1724	0.1046	0.0344	0.041	0.398	3301
rs1412235	9	28410996	C	G	C	G	ieu-b-40	0.3175	0.0246	0.002	6.00E-45	209.4	790147	prot-a-1724	0.3170	0.0656	0.0263	0.013	3301
rs1421334	8	30865733	C	A	C	A	ieu-b-40	0.5431	-0.0125	0.002	1.00E-12	48.2	680665	prot-a-1724	0.5529	0.0036	0.0253	0.891	3301
rs1430387	18	58227112	C	T	C	T	ieu-b-40	0.4295	-0.0114	0.002	5.80E-11	45.0	689325	prot-a-1724	0.4301	-0.0063	0.025	0.794	3301
rs1431659	8	73439070	G	A	G	A	ieu-b-40	0.7344	-0.0196	0.002	6.00E-24	106.4	689739	prot-a-1724	0.7302	0.0395	0.028	0.158	3301
rs1445652	2	155668460	A	G	A	G	ieu-b-40	0.1855	0.0123	0.002	4.30E-08	31.3	682166	prot-a-1724	0.1897	-0.0095	0.032	0.759	3301
rs1452075	3	62481063	T	C	T	C	ieu-b-40	0.7277	0.0141	0.002	1.30E-14	61.4	783729	prot-a-1724	0.7322	-0.0161	0.0278	0.562	3301
rs1465900	11	76473138	C	A	C	A	ieu-b-40	0.2188	-0.0125	0.002	4.80E-10	39.1	779748	prot-a-1724	0.2189	0.0048	0.0308	0.871	3301
rs1472169	9	37209396	T	C	T	C	ieu-b-40	0.3772	-0.0139	0.002	2.80E-15	59.6	689945	prot-a-1724	0.3731	-0.0015	0.0252	0.955	3301
rs1476322	3	161446055	A	G	A	G	ieu-b-40	0.569	0.0101	0.002	5.00E-09	35.3	692523	prot-a-1724	0.5542	0.0086	0.025	0.724	3301
rs1477199	16	53712135	G	A	G	A	ieu-b-40	0.1451	0.0228	0.002	9.40E-22	90.3	794442	prot-a-1724	0.1471	0.0422	0.0349	0.224	3301
rs1492767	4	55221467	T	C	T	C	ieu-b-40	0.4957	0.0094	0.002	1.00E-08	34.5	794161	prot-a-1724	0.5110	-0.0154	0.0259	0.550	3301
rs1503526	5	63020706	C	T	C	T	ieu-b-40	0.4838	0.014	0.002	5.50E-17	67.8	747347	prot-a-1724	0.4725	-0.003	0.0251	0.912	3301
rs1522569	4	171632637	G	T	G	T	ieu-b-40	0.1819	-0.0164	0.002	2.90E-13	55.6	689573	prot-a-1724	0.1929	-0.0045	0.0312	0.891	3301
rs1528435	2	181550962	T	C	T	C	ieu-b-40	0.6331	0.0164	0.002	9.10E-23	93.1	794198	prot-a-1724	0.6188	0.0166	0.0252	0.513	3301
rs1535660	9	10371073	C	T	C	T	ieu-b-40	0.8554	-0.0147	0.003	5.20E-09	34.6	690624	prot-a-1724	0.8588	0.0051	0.036	0.891	3301
rs1538247	6	153395344	C	T	C	T	ieu-b-40	0.3181	0.0108	0.002	1.00E-08	32.3	682726	prot-a-1724	0.3093	-0.0034	0.0264	0.891	3301
rs1552893	3	194851700	G	A	G	A	ieu-b-40	0.2777	-0.0126	0.002	8.10E-11	44.0	691313	prot-a-1724	0.2735	-0.0051	0.0281	0.851	3301
rs156201	6	104847441	C	G	C	G	ieu-b-40	0.7606	0.0123	0.002	5.80E-10	37.8	691835	prot-a-1724	0.7368	-0.0099	0.0288	0.724	3301
rs1624134	10	34834482	C	G	C	G	ieu-b-40	0.4068	0.0101	0.002	1.10E-08	31.5	690572	prot-a-1724	0.3895	0.0267	0.0253	0.288	3301
rs1656377	3	158285280	C	T	C	T	ieu-b-40	0.5885	0.0099	0.002	1.60E-08	33.9	691955	prot-a-1724	0.5873	-0.0229	0.025	0.363	3301
rs1681740	10	118564313	C	A	C	A	ieu-b-40	0.3933	-0.0115	0.002	1.10E-10	40.8	673459	prot-a-1724	0.3919	0.0122	0.0263	0.646	3301
rs16849710	1	202106797	G	A	G	A	ieu-b-40	0.515	-0.0116	0.002	6.00E-11	41.5	666229	prot-a-1724	0.5276	0.0083	0.0253	0.741	3301
rs16851483	3	141275436	T	G	T	G	ieu-b-40	0.0693	0.0369	0.004	3.20E-26	111.2	692316	prot-a-1724	0.0673	0.0446	0.0491	0.363	3301
rs16871902	5	3488462	A	G	A	G	ieu-b-40	0.4877	0.0125	0.002	4.60E-13	54.1	690830	prot-a-1724	0.4892	0.033	0.0244	0.178	3301
rs16903285	5	87978252	C	T	C	T	ieu-b-40	0.1407	0.0331	0.003	7.60E-38	162.1	687944	prot-a-1724	0.1365	0.0033	0.0361	0.933	3301
rs16953563	15	66686770	A	G	A	G	ieu-b-40	0.2516	-0.0134	0.002	1.50E-11	44.9	691761	prot-a-1724	0.2626	0.0139	0.0288	0.631	3301
rs17001561	4	77096118	A	G	A	G	ieu-b-40	0.1573	0.0151	0.002	3.80E-11	43.1	794327	prot-a-1724	0.1457	-0.0626	0.0349	0.072	3301
rs17014375	1	209543560	G	T	G	T	ieu-b-40	0.1348	0.0172	0.003	1.10E-11	47.3	690856	prot-a-1724	0.1408	-0.0121	0.0354	0.724	3301
rs17033117	3	35443653	T	C	T	C	ieu-b-40	0.1872	0.0137	0.002	8.90E-10	38.8	691863	prot-a-1724	0.1844	-0.0111	0.0323	0.724	3301
rs17056301	5	158271680	C	T	C	T	ieu-b-40	0.2636	0.0118	0.002	2.40E-09	34.8	688085	prot-a-1724	0.2525	-0.0347	0.0285	0.224	3301

rs17113297	10	102395982	T	C	T	C	ieu-b-40	0.2082	0.0166	0.002	2.10E-15	62.5	686357	prot-a-1724	0.2230	-0.0291	0.0297	0.331	3301
rs17119937	8	14502274	C	T	C	T	ieu-b-40	0.0691	0.0212	0.004	5.60E-09	34.7	668272	prot-a-1724	0.0582	-0.0106	0.0546	0.851	3301
rs17203016	2	208255518	G	A	G	A	ieu-b-40	0.196	0.015	0.002	2.10E-13	56.3	786272	prot-a-1724	0.2032	-0.0208	0.0314	0.501	3301
rs17207196	7	75101065	T	C	T	C	ieu-b-40	0.4118	-0.0221	0.002	2.10E-35	150.7	668894	prot-a-1724	0.4154	0.0219	0.0247	0.372	3301
rs17238110	15	62150364	G	A	G	A	ieu-b-40	0.1634	-0.0353	0.005	2.00E-12	49.8	775505	prot-a-1724	0.0241	-0.0894	0.079	0.257	3301
rs17311369	15	47709199	T	C	T	C	ieu-b-40	0.3278	-0.0104	0.002	3.10E-08	30.0	673102	prot-a-1724	0.3351	-0.0254	0.0265	0.339	3301
rs17399237	2	35471626	C	T	C	T	ieu-b-40	0.5497	-0.0129	0.002	6.70E-14	57.6	690950	prot-a-1724	0.5529	0.0102	0.0249	0.676	3301
rs17405819	8	76806584	C	T	C	T	ieu-b-40	0.301	-0.0215	0.002	4.30E-33	142.7	795493	prot-a-1724	0.2884	-0.0601	0.0271	0.026	3301
rs17424296	5	60838903	A	G	A	G	ieu-b-40	0.3659	-0.0108	0.002	2.40E-09	36.0	684366	prot-a-1724	0.3613	-0.0392	0.0265	0.138	3301
rs17425707	1	57874879	C	T	C	T	ieu-b-40	0.1003	0.0167	0.003	4.40E-09	35.6	688867	prot-a-1724	0.1013	-0.0594	0.0413	0.151	3301
rs17446257	13	40749213	A	G	A	G	ieu-b-40	0.1292	0.0153	0.003	2.90E-09	34.6	690630	prot-a-1724	0.1282	0.0478	0.0373	0.200	3301
rs17499593	2	172649755	G	C	G	C	ieu-b-40	0.1897	0.0125	0.002	1.10E-08	32.3	691663	prot-a-1724	0.2019	-0.0111	0.0305	0.708	3301
rs17513613	19	30286822	C	T	C	T	ieu-b-40	0.3236	0.0186	0.002	3.60E-26	106.8	789575	prot-a-1724	0.3276	-0.0258	0.0263	0.324	3301
rs175165	22	20116015	G	T	G	T	ieu-b-40	0.3941	-0.0103	0.002	5.20E-09	32.7	690545	prot-a-1724	0.3949	0.02	0.0253	0.427	3301
rs17535749	3	10027724	A	G	A	G	ieu-b-40	0.1023	0.015	0.003	2.50E-08	30.9	777038	prot-a-1724	0.1112	0.0035	0.0392	0.933	3301
rs17551974	2	142293146	A	C	A	C	ieu-b-40	0.1782	-0.0141	0.002	1.90E-10	41.1	691115	prot-a-1724	0.1896	0.0318	0.0315	0.316	3301
rs17636031	10	126594078	C	T	C	T	ieu-b-40	0.2701	0.016	0.002	1.20E-17	70.9	782807	prot-a-1724	0.2905	-0.0013	0.0274	0.955	3301
rs17663412	5	167595121	A	C	A	C	ieu-b-40	0.1139	0.0157	0.003	6.10E-09	33.8	691018	prot-a-1724	0.1125	0.0103	0.0395	0.794	3301
rs17710386	18	63461201	C	T	C	T	ieu-b-40	0.3319	0.0126	0.002	1.00E-12	49.0	783810	prot-a-1724	0.3191	-0.0062	0.0262	0.813	3301
rs17724992	19	18454825	G	A	G	A	ieu-b-40	0.2596	-0.0183	0.002	1.00E-22	92.8	785851	prot-a-1724	0.2721	-0.0062	0.0277	0.832	3301
rs17789218	6	100600097	C	T	C	T	ieu-b-40	0.2392	0.013	0.002	7.40E-12	46.8	793904	prot-a-1724	0.2600	0.0019	0.0283	0.955	3301
rs17806379	20	51107290	T	C	T	C	ieu-b-40	0.1789	-0.0258	0.002	1.50E-30	137.5	690043	prot-a-1724	0.1866	-0.0068	0.0317	0.832	3301
rs1784460	11	118938371	A	T	A	T	ieu-b-40	0.4035	0.0132	0.002	9.00E-14	53.8	680042	prot-a-1724	0.4090	-0.0208	0.0252	0.407	3301
rs1804528	4	146056320	A	G	A	G	ieu-b-40	0.3507	0.0109	0.002	3.00E-08	29.7	518856	prot-a-1724	0.3648	0.0087	0.0257	0.741	3301
rs1830074	7	6718674	C	T	C	T	ieu-b-40	0.288	0.0115	0.002	1.40E-09	36.6	689911	prot-a-1724	0.3044	0.0124	0.0272	0.646	3301
rs1836303	15	46539116	G	A	G	A	ieu-b-40	0.3873	0.0116	0.002	5.30E-11	41.5	688991	prot-a-1724	0.3969	-0.0271	0.0256	0.288	3301
rs1843328	12	17111188	A	C	A	C	ieu-b-40	0.5085	-0.0099	0.002	7.90E-09	33.9	686814	prot-a-1724	0.5030	0.0048	0.0253	0.851	3301
rs1863652	4	95991417	A	G	A	G	ieu-b-40	0.3449	-0.0115	0.002	1.40E-10	40.8	692539	prot-a-1724	0.3463	-0.0064	0.0262	0.813	3301
rs1884389	20	1410582	T	C	T	C	ieu-b-40	0.4289	-0.0103	0.002	4.00E-09	36.7	683669	prot-a-1724	0.4336	-0.0082	0.0252	0.741	3301
rs1885728	6	5977833	A	G	A	G	ieu-b-40	0.6787	0.0108	0.002	1.00E-08	32.3	682316	prot-a-1724	0.6718	-0.0188	0.0274	0.490	3301
rs1891216	1	7728391	G	T	G	T	ieu-b-40	0.3759	0.0107	0.002	2.40E-09	35.3	685079	prot-a-1724	0.3833	0.0098	0.0255	0.708	3301
rs1896767	16	62838304	A	G	A	G	ieu-b-40	0.5376	-0.0109	0.002	2.40E-10	41.1	686262	prot-a-1724	0.5429	-0.0476	0.0252	0.059	3301
rs1927790	13	96922191	C	T	C	T	ieu-b-40	0.4109	0.0148	0.002	1.80E-19	85.6	794326	prot-a-1724	0.4206	-0.0098	0.0245	0.692	3301
rs1928295	9	120378483	C	T	C	T	ieu-b-40	0.4461	-0.0141	0.002	5.40E-18	77.7	793649	prot-a-1724	0.4302	0.0078	0.0246	0.759	3301

rs1937683	10	53679060	T	C	T	C	ieu-b-40	0.6699	0.0109	0.002	3.20E-09	36.7	692539	prot-a-1724	0.6665	0.0693	0.0266	0.009	3301
rs1948080	9	11852043	G	T	G	T	ieu-b-40	0.3749	-0.0137	0.002	1.10E-14	57.9	690633	prot-a-1724	0.3703	0.0083	0.0259	0.741	3301
rs1982441	8	28021769	T	G	T	G	ieu-b-40	0.1381	0.0175	0.003	7.00E-12	45.3	687705	prot-a-1724	0.1304	-0.0187	0.0378	0.617	3301
rs1982725	19	30618771	T	C	T	C	ieu-b-40	0.4778	0.0097	0.002	3.30E-08	32.6	683155	prot-a-1724	0.4669	0.0169	0.0247	0.490	3301
rs1993709	1	72838529	G	A	G	A	ieu-b-40	0.8177	0.0331	0.002	1.90E-57	248.4	786001	prot-a-1724	0.8114	0.0012	0.0315	0.977	3301
rs2007231	1	115266306	T	C	T	C	ieu-b-40	0.6387	-0.0104	0.002	5.20E-09	33.4	691969	prot-a-1724	0.6371	0.0372	0.0254	0.141	3301
rs200810	6	97922184	C	T	C	T	ieu-b-40	0.3716	-0.0136	0.002	5.50E-16	64.0	793699	prot-a-1724	0.3717	0.0228	0.0258	0.380	3301
rs2009416	5	92415111	T	C	T	C	ieu-b-40	0.361	-0.0121	0.002	1.10E-11	45.2	691741	prot-a-1724	0.3528	0.0786	0.0257	0.002	3301
rs2033529	6	40350030	G	A	G	A	ieu-b-40	0.2936	0.0205	0.002	1.90E-30	129.7	792112	prot-a-1724	0.2986	0.0043	0.0273	0.871	3301
rs2051559	4	3298800	C	T	C	T	ieu-b-40	0.1308	0.0176	0.003	5.00E-12	45.8	689307	prot-a-1724	0.1349	0.0076	0.0362	0.832	3301
rs2065418	11	30422068	G	T	G	T	ieu-b-40	0.3623	-0.0166	0.002	3.60E-20	85.0	691707	prot-a-1724	0.3587	0.0323	0.0256	0.209	3301
rs208015	17	46252346	C	T	C	T	ieu-b-40	0.9216	-0.0356	0.003	1.40E-25	109.6	691575	prot-a-1724	0.9304	0.0419	0.0482	0.389	3301
rs2124499	3	123093541	C	G	C	G	ieu-b-40	0.3718	-0.0123	0.002	3.40E-13	52.3	785955	prot-a-1724	0.3761	-0.009	0.0255	0.724	3301
rs2143253	20	41987392	A	G	A	G	ieu-b-40	0.1189	-0.0188	0.003	1.10E-12	52.3	684760	prot-a-1724	0.1233	-0.0097	0.0389	0.794	3301
rs215634	7	32369148	G	A	G	A	ieu-b-40	0.6212	-0.0152	0.002	2.60E-17	71.3	681296	prot-a-1724	0.6067	0.0309	0.0254	0.224	3301
rs2162524	2	230817437	C	T	C	T	ieu-b-40	0.3321	0.0155	0.002	4.10E-17	74.2	691302	prot-a-1724	0.3275	-0.0068	0.0265	0.794	3301
rs217671	14	62360464	G	A	G	A	ieu-b-40	0.2719	0.0144	0.002	1.30E-13	57.4	691456	prot-a-1724	0.2720	0.0086	0.0276	0.759	3301
rs2228213	6	12124855	A	G	A	G	ieu-b-40	0.3481	-0.0139	0.002	4.60E-16	66.9	795595	prot-a-1724	0.3515	0.0058	0.026	0.832	3301
rs2235564	1	6713114	T	C	T	C	ieu-b-40	0.3466	0.0131	0.002	3.70E-13	53.0	691544	prot-a-1724	0.3437	0.0621	0.0259	0.017	3301
rs2246012	6	131898208	C	T	C	T	ieu-b-40	0.1628	0.0158	0.002	3.10E-13	51.6	795598	prot-a-1724	0.1664	-0.0091	0.033	0.776	3301
rs226000	14	30488699	T	C	T	C	ieu-b-40	0.8245	0.0119	0.002	3.60E-08	29.3	793480	prot-a-1724	0.8342	0.0075	0.034	0.832	3301
rs2283093	7	126721231	T	C	T	C	ieu-b-40	0.2066	0.0127	0.002	3.10E-09	36.6	691773	prot-a-1724	0.2084	-0.0479	0.0306	0.117	3301
rs2285178	22	38205989	C	T	C	T	ieu-b-40	0.3109	0.0112	0.002	9.40E-09	34.7	638268	prot-a-1724	0.3009	0.0566	0.0272	0.037	3301
rs2306537	12	133423695	G	A	G	A	ieu-b-40	0.3092	0.0133	0.002	8.70E-13	49.0	691923	prot-a-1724	0.3133	0.0384	0.0266	0.148	3301
rs2307111	5	75003678	C	T	C	T	ieu-b-40	0.3962	-0.0265	0.002	1.60E-58	274.3	795430	prot-a-1724	0.4025	-0.0308	0.0256	0.229	3301
rs2317299	2	236903093	C	T	C	T	ieu-b-40	0.5597	-0.0106	0.002	1.30E-09	38.9	677983	prot-a-1724	0.5489	0.0315	0.0253	0.214	3301
rs2325036	3	85819412	C	A	C	A	ieu-b-40	0.3845	-0.0181	0.002	3.60E-27	113.4	790870	prot-a-1724	0.3826	0.0098	0.0251	0.692	3301
rs2357760	6	120213880	A	G	A	G	ieu-b-40	0.6754	0.0145	0.002	6.80E-17	72.8	791053	prot-a-1724	0.6861	0.0229	0.0269	0.398	3301
rs2361988	16	398151	C	T	C	T	ieu-b-40	0.2539	-0.0155	0.002	5.20E-15	60.1	690251	prot-a-1724	0.2594	0.0119	0.0285	0.676	3301
rs2365389	3	61236462	T	C	T	C	ieu-b-40	0.4143	-0.0174	0.002	1.30E-25	104.8	783625	prot-a-1724	0.4104	-0.038	0.0248	0.126	3301
rs2367112	5	64168193	G	T	G	T	ieu-b-40	0.4919	-0.0119	0.002	2.30E-13	55.3	794305	prot-a-1724	0.5114	-0.041	0.0247	0.095	3301
rs2411182	17	35059718	A	G	A	G	ieu-b-40	0.6943	0.0123	0.002	7.70E-11	41.9	691730	prot-a-1724	0.7029	-0.0154	0.0274	0.575	3301
rs2423668	20	12430673	C	T	C	T	ieu-b-40	0.5505	-0.0105	0.002	2.80E-08	30.5	527352	prot-a-1724	0.5492	0.0572	0.025	0.022	3301
rs2425840	20	44904838	C	A	C	A	ieu-b-40	0.4059	0.0119	0.002	1.60E-11	43.7	681680	prot-a-1724	0.4049	-0.0054	0.0255	0.832	3301

rs2429150	12	2152655	C	A	C	A	ieu-b-40	0.4164	0.0111	0.002	2.70E-10	38.0	686276	prot-a-1724	0.4119	0.0524	0.0255	0.040	3301
rs2479958	13	111984244	G	A	G	A	ieu-b-40	0.5075	-0.0154	0.002	1.50E-17	73.2	664268	prot-a-1724	0.5202	0.0209	0.0252	0.407	3301
rs2481665	1	62594677	C	T	C	T	ieu-b-40	0.4408	-0.0161	0.002	7.20E-23	101.3	795247	prot-a-1724	0.4418	0.0202	0.0248	0.417	3301
rs2543132	8	15536311	C	G	C	G	ieu-b-40	0.8134	0.0146	0.002	5.00E-11	44.0	688326	prot-a-1724	0.8116	-0.009	0.0315	0.776	3301
rs2600226	3	12928762	T	C	T	C	ieu-b-40	0.6697	-0.0116	0.002	3.70E-10	37.3	685285	prot-a-1724	0.6793	0.0857	0.0267	0.001	3301
rs2605603	11	93221105	A	G	A	G	ieu-b-40	0.4887	-0.0103	0.002	2.50E-10	41.4	790857	prot-a-1724	0.4790	0.0263	0.0249	0.288	3301
rs2608703	12	41846769	A	C	A	C	ieu-b-40	0.4546	0.0142	0.002	1.90E-16	69.8	686700	prot-a-1724	0.4463	0.0241	0.0252	0.339	3301
rs262130	6	142853486	T	C	T	C	ieu-b-40	0.1969	0.0127	0.002	1.80E-08	30.5	679542	prot-a-1724	0.1837	-7.00E-04	0.0321	0.977	3301
rs2693826	2	6160943	A	G	A	G	ieu-b-40	0.4421	-0.0137	0.002	2.00E-15	64.9	690808	prot-a-1724	0.4323	-0.0472	0.0251	0.060	3301
rs2694047	8	116750548	G	A	G	A	ieu-b-40	0.747	0.0188	0.002	3.90E-21	88.4	690295	prot-a-1724	0.7614	-0.0548	0.0291	0.060	3301
rs273504	19	18215247	G	A	G	A	ieu-b-40	0.4266	0.0153	0.002	4.40E-18	72.3	690672	prot-a-1724	0.4289	0.0163	0.025	0.513	3301
rs2744974	6	34579431	T	C	T	C	ieu-b-40	0.338	0.0249	0.002	1.40E-45	191.4	789647	prot-a-1724	0.3349	0.0227	0.0267	0.398	3301
rs2791653	1	11129848	G	A	G	A	ieu-b-40	0.7577	-0.0141	0.002	1.30E-13	55.1	795271	prot-a-1724	0.7643	-0.0348	0.0293	0.234	3301
rs2820311	1	201841476	G	A	G	A	ieu-b-40	0.3369	0.0235	0.002	4.10E-38	170.4	691876	prot-a-1724	0.3219	0.0166	0.0264	0.525	3301
rs2832283	21	30690558	A	G	A	G	ieu-b-40	0.2208	0.0115	0.002	5.80E-09	33.1	792324	prot-a-1724	0.2208	-0.0633	0.0302	0.036	3301
rs2836964	21	40631006	C	T	C	T	ieu-b-40	0.3576	-0.011	0.002	1.30E-09	37.3	692353	prot-a-1724	0.3588	0.0295	0.0256	0.251	3301
rs2861683	2	67836507	C	A	C	A	ieu-b-40	0.407	-0.0144	0.002	1.30E-16	71.8	691163	prot-a-1724	0.4161	-0.0067	0.0255	0.794	3301
rs2868975	3	116935323	A	G	A	G	ieu-b-40	0.178	-0.0143	0.002	2.20E-10	38.7	690613	prot-a-1724	0.1976	-5.00E-04	0.0328	0.977	3301
rs287104	19	34290995	A	G	A	G	ieu-b-40	0.6604	0.0115	0.002	4.40E-11	45.8	787307	prot-a-1724	0.6495	-0.0192	0.0261	0.457	3301
rs2875762	6	124925032	C	G	C	G	ieu-b-40	0.2473	0.0139	0.002	1.20E-11	48.3	685199	prot-a-1724	0.2420	0.0139	0.0292	0.631	3301
rs2907948	7	150638484	A	G	A	G	ieu-b-40	0.2427	-0.0141	0.002	1.30E-13	55.1	794299	prot-a-1724	0.2461	-0.0394	0.0284	0.166	3301
rs2931434	5	73159098	T	C	T	C	ieu-b-40	0.3168	-0.0104	0.002	1.40E-08	33.4	690664	prot-a-1724	0.3353	0.0502	0.0258	0.052	3301
rs2943465	12	19265921	C	T	C	T	ieu-b-40	0.9444	0.0248	0.004	2.00E-10	40.4	686547	prot-a-1724	0.9434	-0.079	0.0531	0.138	3301
rs294704	5	152519088	T	G	T	G	ieu-b-40	0.7239	-0.0113	0.002	4.00E-09	35.4	690036	prot-a-1724	0.7138	-0.0039	0.0274	0.891	3301
rs3007105	14	47367616	T	C	T	C	ieu-b-40	0.4697	0.0142	0.002	1.10E-17	69.8	785488	prot-a-1724	0.4280	-0.0367	0.0251	0.145	3301
rs326896	4	112669571	T	C	T	C	ieu-b-40	0.3925	-0.0128	0.002	2.80E-13	50.6	690324	prot-a-1724	0.3921	0.0422	0.0258	0.102	3301
rs331966	4	143675717	C	A	C	A	ieu-b-40	0.3792	0.0112	0.002	3.20E-10	38.7	687189	prot-a-1724	0.3737	0.0141	0.0257	0.589	3301
rs33500	3	42427191	T	C	T	C	ieu-b-40	0.8082	-0.0167	0.002	4.30E-14	57.6	689500	prot-a-1724	0.8189	0.0375	0.0319	0.240	3301
rs339991	15	60913637	G	A	G	A	ieu-b-40	0.5631	0.0124	0.002	1.20E-12	47.5	686476	prot-a-1724	0.5708	0.0328	0.0255	0.200	3301
rs349088	11	84814393	A	C	A	C	ieu-b-40	0.4976	-0.0128	0.002	1.80E-13	56.7	684401	prot-a-1724	0.5055	-0.0129	0.0251	0.603	3301
rs355777	3	154034950	C	G	C	G	ieu-b-40	0.4106	0.0153	0.002	1.40E-18	81.0	689978	prot-a-1724	0.3996	-0.0416	0.0254	0.100	3301
rs3731695	2	203820275	C	T	C	T	ieu-b-40	0.5582	0.0116	0.002	7.90E-13	52.6	793581	prot-a-1724	0.5513	-0.0025	0.0251	0.912	3301
rs3732084	2	207174316	C	T	C	T	ieu-b-40	0.6139	0.0107	0.002	1.10E-09	35.3	691763	prot-a-1724	0.6156	-0.0098	0.025	0.692	3301
rs3736485	15	51748610	G	A	G	A	ieu-b-40	0.5443	-0.0134	0.002	2.50E-16	70.1	790404	prot-a-1724	0.5338	0.0187	0.025	0.457	3301

rs3749897	6	42532102	T	C	T	C	ieu-b-40	0.4172	0.0122	0.002	8.40E-12	45.9	638224	prot-a-1724	0.4019	-0.0174	0.0256	0.501	3301
rs3754963	2	166185707	T	A	T	A	ieu-b-40	0.2574	-0.0123	0.002	3.30E-10	37.8	691535	prot-a-1724	0.2523	-0.0019	0.0283	0.955	3301
rs3764835	2	159519368	A	G	A	G	ieu-b-40	0.1528	-0.0141	0.002	3.10E-09	34.5	689505	prot-a-1724	0.1522	-0.0232	0.0343	0.501	3301
rs3772882	3	81808602	A	C	A	C	ieu-b-40	0.3661	0.0127	0.002	6.60E-13	49.8	691912	prot-a-1724	0.3689	-0.0241	0.0258	0.355	3301
rs3800229	6	108996963	T	G	T	G	ieu-b-40	0.7123	0.0175	0.002	1.40E-22	94.5	792474	prot-a-1724	0.7138	0.0475	0.0275	0.083	3301
rs3800637	7	137403432	C	T	C	T	ieu-b-40	0.336	0.0115	0.002	5.10E-10	40.8	682001	prot-a-1724	0.3326	0.0272	0.0265	0.309	3301
rs3806114	6	20482335	A	G	A	G	ieu-b-40	0.6773	-0.0113	0.002	3.40E-10	39.4	778855	prot-a-1724	0.6677	-0.0053	0.027	0.851	3301
rs3806572	2	55238677	A	G	A	G	ieu-b-40	0.2788	-0.0145	0.002	1.60E-14	58.2	687646	prot-a-1724	0.2897	-0.0507	0.0274	0.065	3301
rs3807645	7	77830091	A	G	A	G	ieu-b-40	0.221	-0.0166	0.002	2.40E-15	62.5	683086	prot-a-1724	0.2146	-0.0384	0.0306	0.209	3301
rs380857	9	101491066	A	C	A	C	ieu-b-40	0.8878	-0.0151	0.003	3.60E-08	31.3	691507	prot-a-1724	0.8867	0.0204	0.039	0.603	3301
rs3814883	16	29994922	T	C	T	C	ieu-b-40	0.4764	0.0232	0.002	1.10E-40	186.2	685519	prot-a-1724	0.4817	-0.0155	0.0253	0.537	3301
rs3828783	6	33767727	A	G	A	G	ieu-b-40	0.1809	-0.0165	0.002	5.60E-15	61.7	792749	prot-a-1724	0.1789	-0.0136	0.0316	0.661	3301
rs3829849	9	129390800	T	C	T	C	ieu-b-40	0.3589	0.0098	0.002	5.90E-09	33.2	793851	prot-a-1724	0.3719	-0.0561	0.0257	0.029	3301
rs38314	7	70067315	A	G	A	G	ieu-b-40	0.4912	-0.012	0.002	4.70E-12	49.8	689782	prot-a-1724	0.4963	-0.0111	0.0244	0.646	3301
rs3844598	5	140992235	G	A	G	A	ieu-b-40	0.521	0.0095	0.002	3.80E-08	31.2	690704	prot-a-1724	0.5279	-0.009	0.025	0.724	3301
rs3902951	14	69789755	G	T	G	T	ieu-b-40	0.2455	0.0134	0.002	7.00E-12	44.9	773819	prot-a-1724	0.2556	0.0069	0.0303	0.813	3301
rs3904244	10	27361527	A	T	A	T	ieu-b-40	0.1377	0.0155	0.003	4.30E-10	38.4	691180	prot-a-1724	0.1503	-0.0054	0.0344	0.871	3301
rs391300	17	2216258	C	T	C	T	ieu-b-40	0.6275	-0.0119	0.002	3.10E-12	49.0	791120	prot-a-1724	0.6339	0.038	0.0262	0.148	3301
rs3935648	17	79085335	G	C	G	C	ieu-b-40	0.2328	-0.0125	0.002	6.80E-09	32.3	629303	prot-a-1724	0.2222	0.0028	0.0303	0.933	3301
rs3977755	10	104420210	T	C	T	C	ieu-b-40	0.2804	-0.0135	0.002	5.90E-13	50.5	731529	prot-a-1724	0.2975	-0.0017	0.0269	0.955	3301
rs40067	5	107439012	A	G	A	G	ieu-b-40	0.1713	-0.0266	0.002	7.10E-30	133.8	681695	prot-a-1724	0.1771	0.0336	0.032	0.295	3301
rs4012234	20	32553047	G	T	G	T	ieu-b-40	0.5924	0.0141	0.002	9.90E-16	61.4	689653	prot-a-1724	0.5798	-0.008	0.0248	0.741	3301
rs4072917	8	143300279	A	G	A	G	ieu-b-40	0.4694	0.0115	0.002	6.90E-11	40.8	684720	prot-a-1724	0.4809	0.012	0.0246	0.631	3301
rs4148155	4	89054667	G	A	G	A	ieu-b-40	0.1127	-0.0188	0.003	5.00E-13	52.3	794889	prot-a-1724	0.1125	0.0065	0.0394	0.871	3301
rs4148866	12	123425575	T	C	T	C	ieu-b-40	0.4068	0.0098	0.002	4.00E-08	29.6	676418	prot-a-1724	0.4129	-0.009	0.0251	0.724	3301
rs4237643	11	43648368	G	T	G	T	ieu-b-40	0.6938	-0.0223	0.002	4.30E-33	137.8	692491	prot-a-1724	0.6904	-0.0125	0.0271	0.646	3301
rs427943	21	46570896	C	A	C	A	ieu-b-40	0.5669	0.017	0.002	7.30E-23	100.0	712095	prot-a-1724	0.5646	0.0078	0.025	0.759	3301
rs429343	2	147903382	G	A	G	A	ieu-b-40	0.5813	-0.015	0.002	6.80E-18	77.9	689345	prot-a-1724	0.5755	0.0202	0.0252	0.427	3301
rs4307239	7	24354300	G	A	G	A	ieu-b-40	0.4578	0.0115	0.002	3.90E-11	45.8	687289	prot-a-1724	0.4529	0.0296	0.0251	0.240	3301
rs4310573	11	97855562	T	C	T	C	ieu-b-40	0.7813	0.0116	0.002	3.50E-08	30.5	682567	prot-a-1724	0.7676	0.066	0.0299	0.028	3301
rs4358081	2	29100642	C	A	C	A	ieu-b-40	0.4631	0.0097	0.002	1.50E-08	32.6	690038	prot-a-1724	0.4739	-0.0165	0.0247	0.501	3301
rs4414033	1	156406853	A	G	A	G	ieu-b-40	0.627	0.0129	0.002	1.40E-12	51.4	672697	prot-a-1724	0.6283	-0.019	0.0275	0.490	3301
rs4430672	14	63094407	C	T	C	T	ieu-b-40	0.8004	-0.0127	0.002	3.90E-09	33.3	691400	prot-a-1724	0.8011	0.0066	0.0312	0.832	3301
rs4482463	2	205375909	A	C	A	C	ieu-b-40	0.9213	-0.0331	0.003	2.80E-23	100.6	635414	prot-a-1724	0.9269	-0.1071	0.0483	0.027	3301

rs4495304	6	31080718	C	T	C	T	ieu-b-40	0.067	-0.0194	0.003	5.00E-09	34.6	774211	prot-a-1724	0.0602	-0.0013	0.0516	0.977	3301
rs4516268	17	1846831	A	C	A	C	ieu-b-40	0.1925	-0.0217	0.002	5.20E-25	106.8	786617	prot-a-1724	0.1875	-0.0071	0.0315	0.813	3301
rs4518345	5	27185904	A	G	A	G	ieu-b-40	0.2842	-0.0117	0.002	1.00E-09	37.9	688609	prot-a-1724	0.2708	-0.0344	0.0282	0.224	3301
rs4556997	2	100814858	A	C	A	C	ieu-b-40	0.1349	0.0197	0.002	6.90E-17	67.4	792972	prot-a-1724	0.1396	-0.0739	0.0355	0.038	3301
rs4589691	2	144051398	G	C	G	C	ieu-b-40	0.1579	0.0141	0.002	4.70E-09	34.5	688253	prot-a-1724	0.1673	-0.011	0.0346	0.759	3301
rs4639527	2	416815	G	A	G	A	ieu-b-40	0.3012	0.0172	0.002	3.30E-20	82.0	691706	prot-a-1724	0.3077	-0.0568	0.027	0.035	3301
rs4653017	1	33776728	T	C	T	C	ieu-b-40	0.6818	0.0122	0.002	4.50E-11	45.9	686378	prot-a-1724	0.6874	0.0059	0.027	0.832	3301
rs4660443	1	39591779	T	C	T	C	ieu-b-40	0.2218	0.0164	0.002	6.80E-15	61.0	687234	prot-a-1724	0.2167	0.0424	0.0299	0.155	3301
rs4671328	2	58935282	G	T	G	T	ieu-b-40	0.5533	-0.0219	0.002	2.20E-36	166.0	679487	prot-a-1724	0.5237	0.0381	0.0254	0.135	3301
rs4722398	7	3125220	T	C	T	C	ieu-b-40	0.1336	0.0158	0.003	3.60E-10	39.9	692509	prot-a-1724	0.1356	-0.032	0.0359	0.372	3301
rs4740619	9	15634326	C	T	C	T	ieu-b-40	0.4521	-0.0186	0.002	2.30E-30	135.1	794491	prot-a-1724	0.4497	-0.0272	0.0251	0.275	3301
rs4757144	11	13331226	A	G	A	G	ieu-b-40	0.5878	0.0169	0.002	5.60E-22	88.2	690082	prot-a-1724	0.5869	-0.0021	0.025	0.933	3301
rs4783830	16	54255346	A	G	A	G	ieu-b-40	0.3074	-0.0105	0.002	2.40E-08	30.5	675527	prot-a-1724	0.3068	-0.0116	0.0267	0.661	3301
rs4786903	16	6697104	G	A	G	A	ieu-b-40	0.7368	0.0125	0.002	3.50E-10	39.1	680139	prot-a-1724	0.7365	0.0294	0.0284	0.302	3301
rs4800191	18	22461398	C	G	C	G	ieu-b-40	0.6369	0.0103	0.002	2.50E-09	36.7	785353	prot-a-1724	0.6502	0.0317	0.026	0.224	3301
rs4813619	20	2815715	T	G	T	G	ieu-b-40	0.5101	-0.0108	0.002	2.30E-09	36.0	622760	prot-a-1724	0.4927	0.0034	0.0249	0.891	3301
rs4818225	21	42629895	G	A	G	A	ieu-b-40	0.6606	0.0117	0.002	2.30E-10	42.3	688274	prot-a-1724	0.6644	-0.0201	0.026	0.437	3301
rs4820408	22	40704052	G	T	G	T	ieu-b-40	0.592	-0.0151	0.002	2.10E-19	78.9	794185	prot-a-1724	0.5884	-0.0142	0.0265	0.589	3301
rs4842491	12	89905537	T	C	T	C	ieu-b-40	0.7138	0.0098	0.002	4.00E-08	29.6	795312	prot-a-1724	0.7180	-0.0021	0.0272	0.933	3301
rs4851029	2	104159785	G	T	G	T	ieu-b-40	0.5247	0.0121	0.002	1.70E-12	50.7	689752	prot-a-1724	0.5352	-0.0025	0.0249	0.912	3301
rs4858193	3	20441050	C	T	C	T	ieu-b-40	0.2779	-0.0129	0.002	1.60E-11	46.1	686850	prot-a-1724	0.2771	0.0046	0.0275	0.871	3301
rs4864201	4	130731284	C	T	C	T	ieu-b-40	0.6469	-0.0141	0.002	1.50E-16	68.8	795263	prot-a-1724	0.6531	-0.0227	0.0262	0.389	3301
rs4880341	10	133992689	T	C	T	C	ieu-b-40	0.5606	-0.0118	0.002	1.10E-11	48.2	689012	prot-a-1724	0.5656	-0.0086	0.025	0.724	3301
rs4906908	15	27040082	G	T	G	T	ieu-b-40	0.5253	0.0103	0.002	2.50E-09	36.7	691345	prot-a-1724	0.5338	0.022	0.0248	0.372	3301
rs491711	11	28742220	C	A	C	A	ieu-b-40	0.316	-0.0115	0.002	1.10E-09	36.6	685113	prot-a-1724	0.3186	-0.0017	0.0269	0.955	3301
rs4929923	11	8639200	C	T	C	T	ieu-b-40	0.6376	0.0181	0.002	7.20E-27	113.4	794933	prot-a-1724	0.6375	-0.0419	0.026	0.107	3301
rs4936175	11	132641959	C	T	C	T	ieu-b-40	0.4445	0.0122	0.002	1.40E-12	51.5	692569	prot-a-1724	0.4406	-0.0364	0.0253	0.148	3301
rs4937870	11	112826709	G	A	G	A	ieu-b-40	0.3172	-0.0109	0.002	8.80E-09	32.9	683154	prot-a-1724	0.3059	-0.0136	0.0272	0.617	3301
rs4952843	2	46957845	G	A	G	A	ieu-b-40	0.3807	-0.0131	0.002	6.80E-14	53.0	692482	prot-a-1724	0.3856	-0.0236	0.0251	0.347	3301
rs4954638	2	137435455	C	A	C	A	ieu-b-40	0.2492	-0.0118	0.002	2.90E-09	34.8	689971	prot-a-1724	0.2494	0.0055	0.0281	0.851	3301
rs4968656	17	61616959	G	A	G	A	ieu-b-40	0.3216	0.0116	0.002	8.20E-10	37.3	675153	prot-a-1724	0.3220	0.001	0.027	0.977	3301
rs4981693	14	29680331	A	G	A	G	ieu-b-40	0.771	0.0206	0.002	6.90E-24	106.1	689120	prot-a-1724	0.7675	-0.0178	0.0293	0.537	3301
rs4986044	17	21261560	T	C	T	C	ieu-b-40	0.4687	-0.0164	0.002	3.30E-23	105.1	787219	prot-a-1724	0.4546	0.0246	0.025	0.324	3301
rs538579	3	62711674	C	G	C	G	ieu-b-40	0.3228	0.0137	0.002	1.30E-13	52.0	688452	prot-a-1724	0.3065	0.0139	0.0267	0.603	3301

rs543874	1	177889480	G	A	G	A	ieu-b-40	0.1952	0.0475	0.002	1.20E-122	564.1	795504	prot-a-1724	0.2082	-0.0553	0.0304	0.069	3301
rs559231	18	39644247	T	G	T	G	ieu-b-40	0.3956	0.0135	0.002	2.40E-14	56.3	685154	prot-a-1724	0.3884	0.0241	0.0257	0.347	3301
rs577525	10	99769388	C	T	C	T	ieu-b-40	0.5676	0.0166	0.002	9.70E-22	95.3	690616	prot-a-1724	0.5599	0.0031	0.025	0.891	3301
rs592483	11	69445173	T	C	T	C	ieu-b-40	0.5716	-0.0147	0.002	2.00E-18	74.8	781871	prot-a-1724	0.5596	-0.0315	0.0251	0.209	3301
rs6050446	20	25195509	G	A	G	A	ieu-b-40	0.97	0.0343	0.005	4.40E-13	53.3	766287	prot-a-1724	0.9743	-0.0879	0.0793	0.269	3301
rs6235	5	95728898	G	C	G	C	ieu-b-40	0.2702	0.0175	0.002	1.50E-19	84.8	691708	prot-a-1724	0.2594	-0.0088	0.0283	0.759	3301
rs6265	11	27679916	T	C	T	C	ieu-b-40	0.1951	-0.0412	0.002	1.00E-86	384.9	795458	prot-a-1724	0.1908	0.0192	0.0314	0.537	3301
rs6443750	3	181329682	C	T	C	T	ieu-b-40	0.8068	0.0148	0.002	3.20E-12	49.7	776837	prot-a-1724	0.8100	-0.0213	0.0319	0.501	3301
rs6448587	4	28561990	C	A	C	A	ieu-b-40	0.1891	-0.0167	0.002	2.30E-13	52.7	691097	prot-a-1724	0.1760	-0.0382	0.0325	0.240	3301
rs645040	3	135926622	T	G	T	G	ieu-b-40	0.7762	0.0171	0.002	2.50E-18	73.1	795579	prot-a-1724	0.7763	-0.0097	0.0295	0.741	3301
rs6461115	7	2103668	G	A	G	A	ieu-b-40	0.2285	-0.0144	0.002	1.20E-13	57.4	791735	prot-a-1724	0.2188	0.0561	0.0298	0.060	3301
rs6471941	8	62117973	A	G	A	G	ieu-b-40	0.1684	0.0156	0.002	3.10E-13	55.2	793986	prot-a-1724	0.1743	-0.0502	0.0328	0.126	3301
rs6500208	16	49011249	A	G	A	G	ieu-b-40	0.2006	0.014	0.002	4.10E-12	49.0	781931	prot-a-1724	0.2093	-0.0173	0.031	0.575	3301
rs6512302	20	62691550	C	G	C	G	ieu-b-40	0.7511	0.0142	0.002	2.10E-12	50.4	686053	prot-a-1724	0.7368	-0.0043	0.0281	0.871	3301
rs6545714	2	59307725	A	G	A	G	ieu-b-40	0.6139	-0.0191	0.002	9.10E-31	126.2	793368	prot-a-1724	0.6040	-0.0126	0.0253	0.617	3301
rs6556301	5	176527577	T	G	T	G	ieu-b-40	0.3596	-0.0111	0.002	4.10E-10	38.0	734744	prot-a-1724	0.3657	-0.0108	0.0259	0.676	3301
rs6561943	13	58356761	T	C	T	C	ieu-b-40	0.2595	0.0119	0.002	4.20E-10	39.2	793951	prot-a-1724	0.2510	-0.0465	0.0283	0.100	3301
rs657452	1	49589847	G	A	G	A	ieu-b-40	0.6216	-0.0188	0.002	7.20E-29	122.3	767846	prot-a-1724	0.6021	-0.0029	0.0257	0.912	3301
rs6587552	1	151018861	G	A	G	A	ieu-b-40	0.7591	-0.0173	0.002	1.60E-17	74.8	689723	prot-a-1724	0.7650	0.0036	0.0292	0.891	3301
rs6591407	11	56914157	A	C	A	C	ieu-b-40	0.1861	-0.0118	0.002	1.90E-08	31.6	794246	prot-a-1724	0.1895	0.0265	0.0319	0.407	3301
rs6593688	1	96322205	G	A	G	A	ieu-b-40	0.3733	0.0137	0.002	8.60E-15	57.9	691779	prot-a-1724	0.3804	-0.0368	0.0255	0.151	3301
rs663129	18	57838401	A	G	A	G	ieu-b-40	0.2301	0.0545	0.002	1.60E-178	822.8	788948	prot-a-1724	0.2352	-0.041	0.0283	0.148	3301
rs6673081	1	154989595	C	T	C	T	ieu-b-40	0.5534	-0.01	0.002	1.80E-08	30.9	677818	prot-a-1724	0.5523	-0.0347	0.0255	0.174	3301
rs6692586	1	23299906	G	A	G	A	ieu-b-40	0.832	-0.0192	0.002	1.10E-16	69.7	690921	prot-a-1724	0.8351	-0.0173	0.0331	0.603	3301
rs6712	22	50637922	C	G	C	G	ieu-b-40	0.1368	0.0138	0.003	4.40E-08	30.5	688469	prot-a-1724	0.1418	0.0126	0.035	0.724	3301
rs6764533	3	196088464	A	G	A	G	ieu-b-40	0.359	0.0116	0.002	1.40E-10	41.5	690832	prot-a-1724	0.3684	0.0043	0.0257	0.871	3301
rs6772756	3	182312152	G	A	G	A	ieu-b-40	0.3372	-0.0104	0.002	4.00E-08	30.0	681709	prot-a-1724	0.3358	0.015	0.0258	0.562	3301
rs6785245	3	82647990	C	T	C	T	ieu-b-40	0.3969	0.0132	0.002	4.00E-14	60.3	692250	prot-a-1724	0.3935	-0.0095	0.0253	0.708	3301
rs6804842	3	25106437	G	A	G	A	ieu-b-40	0.572	0.0156	0.002	3.60E-21	84.2	789179	prot-a-1724	0.5901	-0.0235	0.0257	0.363	3301
rs6841761	4	25423538	T	G	T	G	ieu-b-40	0.5252	-0.0131	0.002	6.40E-16	67.0	793477	prot-a-1724	0.5307	0.0071	0.0252	0.776	3301
rs685870	11	64111928	C	T	C	T	ieu-b-40	0.7035	0.012	0.002	2.40E-10	39.9	688423	prot-a-1724	0.6972	0.021	0.0272	0.437	3301
rs6985109	8	10761585	A	G	A	G	ieu-b-40	0.5338	-0.0177	0.002	1.50E-26	108.4	793993	prot-a-1724	0.5523	-0.016	0.0246	0.513	3301
rs7024334	9	109072075	G	T	G	T	ieu-b-40	0.7742	-0.0138	0.002	3.10E-12	47.6	782431	prot-a-1724	0.7835	0.0206	0.0303	0.490	3301
rs7025938	9	103088321	G	C	G	C	ieu-b-40	0.3187	0.0166	0.002	3.70E-19	76.3	691581	prot-a-1724	0.3172	-0.0259	0.0267	0.331	3301

rs7037266	9	6942940	A	C	A	C	ieu-b-40	0.3739	-0.0112	0.002	3.50E-10	38.7	691603	prot-a-1724	0.3701	-0.0222	0.0256	0.389	3301
rs705217	1	34581472	G	T	G	T	ieu-b-40	0.3652	-0.0102	0.002	9.30E-09	32.1	688609	prot-a-1724	0.3592	-0.015	0.0255	0.562	3301
rs705704	12	56435412	A	G	A	G	ieu-b-40	0.3304	-0.0131	0.002	1.90E-13	53.0	743597	prot-a-1724	0.3470	-0.0125	0.0259	0.631	3301
rs7084454	10	21821274	A	G	A	G	ieu-b-40	0.335	0.0193	0.002	4.00E-25	103.2	678564	prot-a-1724	0.3270	-0.045	0.026	0.083	3301
rs709400	14	104149475	G	A	G	A	ieu-b-40	0.3818	-0.015	0.002	4.60E-19	77.9	795379	prot-a-1724	0.3858	-0.0462	0.0256	0.071	3301
rs7102454	11	65594820	C	T	C	T	ieu-b-40	0.3435	0.0158	0.002	2.40E-18	77.0	691134	prot-a-1724	0.3439	0.0242	0.0263	0.355	3301
rs7117238	11	78040259	A	G	A	G	ieu-b-40	0.168	-0.0131	0.002	2.50E-09	35.5	788879	prot-a-1724	0.1570	-0.0119	0.0346	0.724	3301
rs7124681	11	47529947	A	C	A	C	ieu-b-40	0.4133	0.0263	0.002	3.20E-58	270.2	795474	prot-a-1724	0.4158	0.0254	0.025	0.309	3301
rs7138803	12	50247468	A	G	A	G	ieu-b-40	0.3772	0.03	0.002	2.30E-71	311.4	795588	prot-a-1724	0.3671	-0.0078	0.0252	0.759	3301
rs7144011	14	79940383	T	G	T	G	ieu-b-40	0.2136	0.0282	0.002	5.20E-47	198.8	794117	prot-a-1724	0.2170	-0.0389	0.0298	0.191	3301
rs7148846	14	40133821	G	T	G	T	ieu-b-40	0.1896	0.0124	0.002	2.20E-08	31.8	687940	prot-a-1724	0.1865	0.0323	0.0322	0.316	3301
rs7172627	15	31877690	G	A	G	A	ieu-b-40	0.4719	0.0117	0.002	1.10E-11	47.4	690458	prot-a-1724	0.4624	0.0435	0.0248	0.079	3301
rs7181498	15	95271404	C	T	C	T	ieu-b-40	0.6309	-0.0163	0.002	1.00E-19	82.0	690980	prot-a-1724	0.6469	-0.0355	0.0263	0.178	3301
rs7196720	16	24534662	C	T	C	T	ieu-b-40	0.5068	-0.0129	0.002	7.30E-14	57.6	689863	prot-a-1724	0.5065	-0.0146	0.0251	0.562	3301
rs7206608	16	82872628	G	C	G	C	ieu-b-40	0.3146	0.0132	0.002	1.30E-12	48.3	689058	prot-a-1724	0.3340	-0.006	0.0272	0.832	3301
rs7222349	17	42304644	A	G	A	G	ieu-b-40	0.3441	0.0115	0.002	3.30E-10	40.8	692215	prot-a-1724	0.3437	0.0255	0.026	0.324	3301
rs7239575	18	21120035	C	T	C	T	ieu-b-40	0.4832	-0.0202	0.002	7.40E-32	141.2	692313	prot-a-1724	0.4828	-0.0171	0.0245	0.479	3301
rs7318817	13	28617708	T	C	T	C	ieu-b-40	0.6071	-0.0155	0.002	2.70E-18	74.2	691917	prot-a-1724	0.6281	-0.0173	0.026	0.501	3301
rs7334078	13	99120484	C	T	C	T	ieu-b-40	0.2882	-0.0121	0.002	2.20E-10	40.6	688374	prot-a-1724	0.2803	0.013	0.0282	0.646	3301
rs7358465	11	89990280	T	C	T	C	ieu-b-40	0.6781	0.0103	0.002	3.00E-08	29.4	686935	prot-a-1724	0.6744	0.0036	0.0264	0.891	3301
rs7488867	12	103699685	T	C	T	C	ieu-b-40	0.2639	-0.0204	0.002	8.40E-24	104.0	635746	prot-a-1724	0.2520	0.0151	0.0286	0.603	3301
rs7498665	16	28883241	G	A	G	A	ieu-b-40	0.4038	0.0271	0.002	5.60E-60	254.1	790299	prot-a-1724	0.3900	0.004	0.0255	0.871	3301
rs7519259	1	66434743	A	G	A	G	ieu-b-40	0.5356	0.0125	0.002	3.80E-13	54.1	681362	prot-a-1724	0.5182	-0.0526	0.0249	0.035	3301
rs7535528	1	2444414	A	G	A	G	ieu-b-40	0.3741	-0.0152	0.002	1.40E-16	71.3	632868	prot-a-1724	0.3804	-0.0317	0.026	0.224	3301
rs754635	3	42305131	G	C	G	C	ieu-b-40	0.8873	0.0198	0.003	2.20E-13	53.8	690346	prot-a-1724	0.8873	-0.0138	0.0389	0.724	3301
rs7550711	1	110082886	T	C	T	C	ieu-b-40	0.0306	0.0649	0.005	3.20E-38	168.5	769184	prot-a-1724	0.0255	-0.0947	0.0802	0.240	3301
rs7551507	1	74995225	T	C	T	C	ieu-b-40	0.5633	-0.0184	0.002	9.30E-30	132.3	794579	prot-a-1724	0.5592	0.0407	0.0245	0.098	3301
rs7557796	2	86766153	C	T	C	T	ieu-b-40	0.6524	-0.016	0.002	2.30E-19	79.0	692414	prot-a-1724	0.6520	0.0688	0.0257	0.007	3301
rs756717	16	72996162	A	G	A	G	ieu-b-40	0.3973	-0.0148	0.002	5.40E-18	75.8	771976	prot-a-1724	0.4017	-0.0413	0.025	0.098	3301
rs7599312	2	213413231	A	G	A	G	ieu-b-40	0.2652	-0.0186	0.002	6.90E-24	95.8	780823	prot-a-1724	0.2703	-0.0101	0.0289	0.724	3301
rs7615297	3	156299313	G	C	G	C	ieu-b-40	0.1465	-0.0149	0.002	5.70E-10	38.5	689710	prot-a-1724	0.1514	0.0488	0.0345	0.155	3301
rs7626079	3	66427259	T	C	T	C	ieu-b-40	0.3434	0.011	0.002	1.60E-09	37.3	692571	prot-a-1724	0.3397	0.0472	0.0261	0.071	3301
rs7637852	3	44041777	G	A	G	A	ieu-b-40	0.6951	-0.0139	0.002	1.70E-13	53.5	691815	prot-a-1724	0.7110	-0.0064	0.0273	0.813	3301
rs7640424	3	107820063	T	C	T	C	ieu-b-40	0.2969	-0.0136	0.002	2.30E-14	57.1	790612	prot-a-1724	0.3051	0.0306	0.0271	0.257	3301

rs765875	6	143185683	T	C	T	C	ieu-b-40	0.4808	-0.0121	0.002	3.00E-12	50.7	690961	prot-a-1724	0.4776	0.0025	0.0246	0.912	3301
rs7683836	4	180167906	A	G	A	G	ieu-b-40	0.5405	-0.0114	0.002	6.30E-11	45.0	686968	prot-a-1724	0.5650	0.03	0.0249	0.229	3301
rs7685048	4	95027784	T	C	T	C	ieu-b-40	0.4654	-0.0101	0.002	4.10E-09	35.3	692398	prot-a-1724	0.4663	3.00E-04	0.0252	1.000	3301
rs768840	14	73143457	A	G	A	G	ieu-b-40	0.4183	0.0114	0.002	2.00E-10	40.1	677485	prot-a-1724	0.4419	0.0499	0.0248	0.045	3301
rs769449	19	45410002	A	G	A	G	ieu-b-40	0.1161	-0.0254	0.003	2.30E-20	88.5	566857	prot-a-1724	0.1252	0.0199	0.0368	0.589	3301
rs7694732	4	115124089	G	A	G	A	ieu-b-40	0.4378	-0.0099	0.002	8.70E-09	33.9	690622	prot-a-1724	0.4460	0.0052	0.025	0.832	3301
rs7703576	5	144543996	C	T	C	T	ieu-b-40	0.2885	0.0103	0.002	4.80E-08	29.4	690818	prot-a-1724	0.2931	-0.0866	0.0276	0.002	3301
rs7704281	5	50591460	A	G	A	G	ieu-b-40	0.0453	0.0271	0.004	6.50E-11	43.7	788585	prot-a-1724	0.0429	-0.0067	0.0621	0.912	3301
rs7715256	5	153537893	T	G	T	G	ieu-b-40	0.5781	-0.0166	0.002	2.20E-24	107.6	795302	prot-a-1724	0.5640	-0.0162	0.0247	0.513	3301
rs7724675	5	130440010	A	G	A	G	ieu-b-40	0.2238	-0.0119	0.002	9.50E-09	32.1	691968	prot-a-1724	0.2090	-0.0348	0.0301	0.245	3301
rs7730004	5	43191033	T	C	T	C	ieu-b-40	0.6693	0.0148	0.002	9.10E-16	67.6	690164	prot-a-1724	0.6700	0.0132	0.0264	0.617	3301
rs7730898	5	170459675	A	G	A	G	ieu-b-40	0.729	0.0168	0.002	4.50E-20	87.1	792975	prot-a-1724	0.7302	-0.0105	0.0276	0.708	3301
rs774246	7	26990816	G	A	G	A	ieu-b-40	0.1444	0.0153	0.003	5.40E-10	37.5	690818	prot-a-1724	0.1432	-0.0158	0.0365	0.661	3301
rs7761673	6	70357368	A	T	A	T	ieu-b-40	0.2058	-0.0126	0.002	1.90E-09	36.0	691716	prot-a-1724	0.2241	0.0215	0.0302	0.479	3301
rs7780752	7	93241640	C	T	C	T	ieu-b-40	0.36	0.0139	0.002	1.00E-14	59.6	690830	prot-a-1724	0.3563	-0.0162	0.0262	0.537	3301
rs7788008	7	112972483	A	G	A	G	ieu-b-40	0.4445	-0.0157	0.002	1.10E-19	85.3	690410	prot-a-1724	0.4348	-0.0034	0.0244	0.891	3301
rs7811342	7	138794618	C	T	C	T	ieu-b-40	0.1058	-0.0197	0.003	1.10E-11	46.1	676265	prot-a-1724	0.0969	0.061	0.0424	0.151	3301
rs7819514	8	93204442	A	G	A	G	ieu-b-40	0.3216	-0.0107	0.002	5.70E-09	35.3	684955	prot-a-1724	0.3357	0.0103	0.0266	0.692	3301
rs7826312	8	32400115	C	T	C	T	ieu-b-40	0.5879	0.0104	0.002	4.90E-10	37.4	785343	prot-a-1724	0.5989	-4.00E-04	0.0257	0.977	3301
rs7844647	8	34503776	C	T	C	T	ieu-b-40	0.2681	-0.0123	0.002	2.80E-11	46.7	793703	prot-a-1724	0.2613	0.0433	0.0281	0.123	3301
rs7869771	9	94180627	C	A	C	A	ieu-b-40	0.2647	-0.014	0.002	4.90E-13	54.3	679436	prot-a-1724	0.2768	0.0094	0.028	0.741	3301
rs7871866	9	131027982	C	G	C	G	ieu-b-40	0.1531	0.0187	0.002	2.30E-14	60.7	683494	prot-a-1724	0.1549	0.0453	0.0347	0.191	3301
rs7899106	10	87412940	G	A	G	A	ieu-b-40	0.0478	0.0331	0.004	1.00E-18	80.0	793689	prot-a-1724	0.0461	-0.0113	0.0611	0.851	3301
rs7903146	10	114758349	T	C	T	C	ieu-b-40	0.2912	-0.0181	0.002	1.30E-23	101.1	795624	prot-a-1724	0.2935	-0.0778	0.0273	0.004	3301
rs7925214	11	130794253	T	C	T	C	ieu-b-40	0.5133	0.0147	0.002	4.40E-17	66.7	677603	prot-a-1724	0.5178	-2.00E-04	0.0253	1.000	3301
rs7970953	12	24075508	A	G	A	G	ieu-b-40	0.29	0.0135	0.002	9.80E-14	56.3	788417	prot-a-1724	0.3001	-0.023	0.0277	0.407	3301
rs7983065	13	33380786	T	C	T	C	ieu-b-40	0.4503	-0.0148	0.002	8.90E-18	75.8	690924	prot-a-1724	0.4527	-0.0219	0.0246	0.372	3301
rs7998796	13	81020036	G	A	G	A	ieu-b-40	0.3373	0.0105	0.002	1.10E-08	34.0	689430	prot-a-1724	0.3391	-0.0026	0.0258	0.912	3301
rs8027205	15	98280959	G	C	G	C	ieu-b-40	0.3967	-0.0108	0.002	1.40E-09	36.0	685725	prot-a-1724	0.3782	0.0507	0.025	0.043	3301
rs8036040	15	36402716	A	C	A	C	ieu-b-40	0.4932	0.0109	0.002	2.70E-10	41.1	691068	prot-a-1724	0.4991	-0.027	0.0245	0.269	3301
rs8047395	16	53798523	A	G	A	G	ieu-b-40	0.5061	0.0642	0.002	1.00E-200	1426.2	788856	prot-a-1724	0.5250	-0.0389	0.0252	0.123	3301
rs806600	5	172914939	G	A	G	A	ieu-b-40	0.475	-0.0095	0.002	3.30E-08	31.2	691791	prot-a-1724	0.4817	0.0141	0.0248	0.575	3301
rs8071182	17	55336155	A	G	A	G	ieu-b-40	0.1735	0.0133	0.002	2.10E-09	36.5	771437	prot-a-1724	0.1652	-0.0397	0.0335	0.234	3301
rs8090983	18	52586691	G	A	G	A	ieu-b-40	0.3314	0.0118	0.002	2.00E-10	43.0	682470	prot-a-1724	0.3428	-0.0072	0.0266	0.794	3301

rs8097672	18	1839601	T	A	T	A	ieu-b-40	0.1528	0.02	0.003	8.40E-16	64.0	686063	prot-a-1724	0.1541	-0.0097	0.035	0.776	3301
rs8097783	18	58051294	A	G	A	G	ieu-b-40	0.0755	-0.0389	0.003	7.20E-36	157.5	795408	prot-a-1724	0.0675	0.0544	0.0496	0.275	3301
rs8123881	20	15819495	G	A	G	A	ieu-b-40	0.1299	0.0196	0.002	4.40E-16	66.7	793018	prot-a-1724	0.1339	0.0335	0.0376	0.372	3301
rs8181823	13	65477940	C	A	C	A	ieu-b-40	0.7614	0.0127	0.002	4.10E-10	40.3	691345	prot-a-1724	0.7671	-0.0329	0.0292	0.257	3301
rs818524	1	85201228	C	T	C	T	ieu-b-40	0.6939	0.0106	0.002	3.40E-08	31.1	670078	prot-a-1724	0.6969	0.004	0.0279	0.891	3301
rs8192675	3	170724883	C	T	C	T	ieu-b-40	0.2888	0.0152	0.002	1.40E-17	71.3	795515	prot-a-1724	0.2850	0.0016	0.0274	0.955	3301
rs825688	16	73595718	T	C	T	C	ieu-b-40	0.456	-0.0095	0.002	4.70E-08	31.2	686144	prot-a-1724	0.4503	0.0033	0.0254	0.891	3301
rs845084	10	125220036	A	G	A	G	ieu-b-40	0.2678	0.014	0.002	1.30E-12	49.0	685413	prot-a-1724	0.2600	0.0204	0.0287	0.479	3301
rs852056	20	17102860	C	T	C	T	ieu-b-40	0.7584	-0.0128	0.002	1.80E-10	41.0	691874	prot-a-1724	0.7573	0	0.0291	1.000	3301
rs865809	3	183997735	G	A	G	A	ieu-b-40	0.7678	-0.0127	0.002	5.40E-10	40.3	689186	prot-a-1724	0.7701	-0.0149	0.03	0.617	3301
rs872281	14	40834177	T	C	T	C	ieu-b-40	0.1728	-0.0151	0.002	4.70E-11	43.1	685310	prot-a-1724	0.1675	-0.0319	0.0336	0.339	3301
rs876605	5	77801359	G	A	G	A	ieu-b-40	0.7352	-0.0108	0.002	3.40E-08	29.2	692586	prot-a-1724	0.7356	0.0137	0.0284	0.631	3301
rs879620	16	4015729	T	C	T	C	ieu-b-40	0.6179	0.0231	0.002	5.30E-38	164.7	688377	prot-a-1724	0.6076	0.0239	0.0253	0.347	3301
rs889398	16	69556715	T	C	T	C	ieu-b-40	0.4247	-0.0196	0.002	1.30E-32	150.1	789694	prot-a-1724	0.4045	0.0071	0.0256	0.776	3301
rs895330	19	4060707	G	C	G	C	ieu-b-40	0.1924	-0.0201	0.002	5.50E-19	76.4	684271	prot-a-1724	0.1909	-0.0058	0.0317	0.851	3301
rs901630	6	98539519	T	C	T	C	ieu-b-40	0.3973	-0.0146	0.002	1.90E-18	73.8	794597	prot-a-1724	0.3890	6.00E-04	0.0254	0.977	3301
rs902695	2	113955074	A	G	A	G	ieu-b-40	0.4798	-0.0103	0.002	2.20E-09	36.7	678635	prot-a-1724	0.4833	0.0035	0.0255	0.891	3301
rs9294260	6	83433228	A	G	A	G	ieu-b-40	0.4731	0.0147	0.002	1.80E-19	84.4	783533	prot-a-1724	0.4744	0.0098	0.0253	0.692	3301
rs9300422	13	98223320	G	A	G	A	ieu-b-40	0.6903	-0.0103	0.002	4.00E-09	32.7	795011	prot-a-1724	0.6759	0.0338	0.0264	0.200	3301
rs930295	2	50233352	C	A	C	A	ieu-b-40	0.8417	-0.0211	0.002	1.00E-19	84.2	690522	prot-a-1724	0.8410	0.0514	0.0336	0.126	3301
rs9304665	19	47602577	A	T	A	T	ieu-b-40	0.7633	0.0229	0.002	2.90E-29	131.1	689470	prot-a-1724	0.7615	0.0117	0.0299	0.692	3301
rs934224	2	16613889	T	C	T	C	ieu-b-40	0.7399	0.0107	0.002	4.70E-08	28.6	692568	prot-a-1724	0.7443	-0.0087	0.0275	0.759	3301
rs9362662	6	90296588	G	A	G	A	ieu-b-40	0.5201	-0.0112	0.002	1.20E-10	43.4	683953	prot-a-1724	0.5199	0.033	0.025	0.186	3301
rs9367368	6	13189275	C	T	C	T	ieu-b-40	0.3033	-0.0121	0.002	1.00E-11	45.2	786723	prot-a-1724	0.2895	-0.0043	0.0268	0.871	3301
rs9370261	6	53939516	T	C	T	C	ieu-b-40	0.046	0.0231	0.004	3.40E-08	30.3	690051	prot-a-1724	0.0491	0.0319	0.0577	0.575	3301
rs9375702	6	130384187	T	C	T	C	ieu-b-40	0.705	-0.0115	0.002	7.90E-10	36.6	690564	prot-a-1724	0.6920	-0.0054	0.0267	0.832	3301
rs9379827	6	26153335	A	C	A	C	ieu-b-40	0.2409	-0.0132	0.002	6.90E-12	48.3	795072	prot-a-1724	0.2191	0.0079	0.0302	0.794	3301
rs9408882	9	118664402	A	G	A	G	ieu-b-40	0.4594	-0.0093	0.002	1.30E-08	33.8	794283	prot-a-1724	0.4635	-9.00E-04	0.0253	0.977	3301
rs946824	1	243684019	C	T	C	T	ieu-b-40	0.859	-0.0206	0.003	1.10E-15	62.8	689849	prot-a-1724	0.8656	0.0151	0.0369	0.676	3301
rs947612	6	73738661	A	G	A	G	ieu-b-40	0.7516	-0.0116	0.002	5.60E-09	33.6	692596	prot-a-1724	0.7501	-0.0065	0.0281	0.813	3301
rs9478671	6	155987825	G	A	G	A	ieu-b-40	0.2087	0.012	0.002	1.70E-08	32.7	688072	prot-a-1724	0.2051	0.0038	0.0311	0.912	3301
rs9522285	13	112230701	A	G	A	G	ieu-b-40	0.4143	0.0127	0.002	2.50E-13	55.8	690681	prot-a-1724	0.4241	5.00E-04	0.0255	0.977	3301
rs9538162	13	59265043	C	T	C	T	ieu-b-40	0.4138	-0.0156	0.002	4.80E-19	75.1	690345	prot-a-1724	0.4291	0.0747	0.0255	0.003	3301
rs9547153	13	85903717	G	A	G	A	ieu-b-40	0.3839	0.0098	0.002	8.70E-09	33.2	775400	prot-a-1724	0.3709	0.0345	0.0264	0.191	3301

rs9571687	13	67472713	A	C	A	C	ieu-b-40	0.329	-0.0129	0.002	2.80E-12	51.4	690974	prot-a-1724	0.3364	0.0432	0.0259	0.095	3301
rs9615905	22	48875699	T	C	T	C	ieu-b-40	0.45	0.011	0.002	2.70E-10	41.9	690274	prot-a-1724	0.4461	-0.0067	0.0249	0.794	3301
rs962273	17	46978353	C	T	C	T	ieu-b-40	0.7057	0.0137	0.002	2.60E-13	52.0	692594	prot-a-1724	0.6851	-0.0361	0.0268	0.178	3301
rs9650755	9	96484342	G	A	G	A	ieu-b-40	0.2664	0.0154	0.002	2.80E-15	59.3	691183	prot-a-1724	0.2739	0.0385	0.0277	0.166	3301
rs9688431	6	73922654	C	T	C	T	ieu-b-40	0.0603	-0.0231	0.004	2.40E-11	43.6	789356	prot-a-1724	0.0599	0.0069	0.0527	0.891	3301
rs977747	1	47684677	G	T	G	T	ieu-b-40	0.5949	-0.0169	0.002	1.30E-24	98.8	793546	prot-a-1724	0.5903	0.0338	0.0251	0.178	3301
rs9783858	18	42534584	T	C	T	C	ieu-b-40	0.5191	0.0091	0.002	3.30E-08	28.7	770874	prot-a-1724	0.5176	-0.037	0.0253	0.145	3301
rs9806742	15	73051219	A	G	A	G	ieu-b-40	0.8826	0.0208	0.003	1.40E-15	64.0	692509	prot-a-1724	0.8691	-0.014	0.0365	0.708	3301
rs9816226	3	185834499	T	A	T	A	ieu-b-40	0.8199	0.0323	0.002	1.60E-52	236.6	778333	prot-a-1724	0.8215	-0.0091	0.0324	0.776	3301
rs9845966	3	13433158	G	T	G	T	ieu-b-40	0.5479	-0.0105	0.002	2.50E-10	38.1	778076	prot-a-1724	0.5485	-0.0028	0.0249	0.912	3301
rs987237	6	50803050	G	A	G	A	ieu-b-40	0.1803	0.0409	0.002	9.30E-84	379.3	795612	prot-a-1724	0.1871	0.0018	0.0315	0.955	3301
rs9926784	16	19941968	C	T	C	T	ieu-b-40	0.1822	-0.0258	0.002	9.90E-35	150.9	789617	prot-a-1724	0.1787	-0.0108	0.0321	0.741	3301
rs9927848	16	23833071	A	C	A	C	ieu-b-40	0.7326	-0.0122	0.002	6.40E-10	37.2	687060	prot-a-1724	0.7357	0.0142	0.0284	0.617	3301
rs9951619	18	56882326	G	T	G	T	ieu-b-40	0.7643	0.0156	0.002	1.40E-15	60.8	772643	prot-a-1724	0.7788	0.0666	0.0301	0.027	3301
rs998732	19	19378671	G	A	G	A	ieu-b-40	0.1578	-0.0171	0.002	2.00E-14	60.4	793852	prot-a-1724	0.1561	0.0064	0.0342	0.851	3301
rs9989141	14	94006257	T	C	T	C	ieu-b-40	0.6387	0.0162	0.002	3.60E-21	90.8	752768	prot-a-1724	0.6253	-0.0395	0.0263	0.132	3301
rs999889	10	84279949	A	G	A	G	ieu-b-40	0.2818	-0.0108	0.002	1.40E-08	32.3	690572	prot-a-1724	0.2836	-0.0422	0.0275	0.126	3301

Supplementary Table 6. Genetic instruments for the multivariable Mendelian randomization analysis; GWAS summary data for the association with BMI and fasting insulin as the exposures, and with sOb-R as the outcome.

SNP	chr	pos	betaBMI	betaINS	seBMI	seINS	nBMI	nINS	beta.out	se.out	pval.out	n.out	eaf.out	id.BMI	id.INS	id.out
rs10009336	4	44480783	-0.014	-0.00048	0.0022	0.0027	794766	108557	0.0188	0.0344	0.5888	3301	0.158	ieu-b-40	ieu-b-116	prot-a-1724
rs10132280	14	25928179	-0.0223	0.00033	0.0018	0.0022	786578	108557	-0.026	0.0277	0.3467	3301	0.307	ieu-b-40	ieu-b-116	prot-a-1724
rs10169594	2	41637688	0.0121	-0.0017	0.0018	0.0021	685712	108557	-0.0102	0.0261	0.6918	3301	0.375	ieu-b-40	ieu-b-116	prot-a-1724
rs10182181	2	25150296	0.0325	-0.0035	0.0016	0.002	792111	108557	0.0159	0.0245	0.5129	3301	0.487	ieu-b-40	ieu-b-116	prot-a-1724
rs10192119	2	164581241	0.0166	-0.0015	0.0022	0.0026	795369	108557	-0.0085	0.0327	0.7943	3301	0.165	ieu-b-40	ieu-b-116	prot-a-1724
rs10195252	2	165513091	0.011	-0.017	0.0017	0.0021	795199	108557	0.0366	0.0249	0.1413	3301	0.402	ieu-b-40	ieu-b-116	prot-a-1724
rs10269783	7	49616203	0.0133	-0.00057	0.0017	0.0021	790551	108557	-0.0074	0.0261	0.7762	3301	0.386	ieu-b-40	ieu-b-116	prot-a-1724
rs10478110	5	112445734	0.01	0.00096	0.0017	0.002	680441	108557	-0.0349	0.0252	0.166	3301	0.438	ieu-b-40	ieu-b-116	prot-a-1724
rs1048932	11	115044850	-0.016	0.00021	0.0017	0.002	795167	108557	0.0394	0.0251	0.1148	3301	0.409	ieu-b-40	ieu-b-116	prot-a-1724
rs10492229	12	110602173	0.0142	0.00086	0.0019	0.0024	794845	108557	0.0267	0.0291	0.3548	3301	0.238	ieu-b-40	ieu-b-116	prot-a-1724
rs10518694	15	53072673	0.0146	0.0029	0.0025	0.003	690554	108557	0.0573	0.0354	0.1072	3301	0.145	ieu-b-40	ieu-b-116	prot-a-1724
rs10733051	1	167280354	-0.0097	0.0027	0.0016	0.002	781928	108557	0.0104	0.0246	0.6761	3301	0.500	ieu-b-40	ieu-b-116	prot-a-1724
rs10742752	11	45438374	0.0124	-0.00097	0.0017	0.0021	792704	108557	-0.028	0.025	0.263	3301	0.619	ieu-b-40	ieu-b-116	prot-a-1724
rs10747488	1	98299475	-0.0123	-0.00017	0.002	0.0024	689295	108557	-0.0097	0.03	0.7413	3301	0.769	ieu-b-40	ieu-b-116	prot-a-1724
rs10750215	11	122505344	0.0108	-0.0039	0.0017	0.0021	788895	108557	-0.0159	0.0255	0.537	3301	0.386	ieu-b-40	ieu-b-116	prot-a-1724
rs1075901	17	15943910	0.0121	-0.0031	0.0016	0.002	794789	108557	-0.0352	0.0248	0.1549	3301	0.565	ieu-b-40	ieu-b-116	prot-a-1724
rs10768994	11	43936945	-0.0114	0.00087	0.0017	0.002	791685	108557	0.0275	0.0255	0.2818	3301	0.437	ieu-b-40	ieu-b-116	prot-a-1724
rs10811871	9	23200766	-0.0108	0.0033	0.0018	0.0021	686376	108557	0.0145	0.026	0.5754	3301	0.379	ieu-b-40	ieu-b-116	prot-a-1724
rs10832778	11	17394073	0.0125	-0.0038	0.0017	0.0032	783042	108557	-0.0045	0.0254	0.8511	3301	0.618	ieu-b-40	ieu-b-116	prot-a-1724
rs10914462	1	32125943	-0.0112	0.0022	0.0017	0.0021	689808	108557	-0.0085	0.0248	0.7244	3301	0.424	ieu-b-40	ieu-b-116	prot-a-1724
rs10920678	1	190239907	-0.0155	0.0011	0.0016	0.002	788624	108557	-0.0416	0.0252	0.1	3301	0.581	ieu-b-40	ieu-b-116	prot-a-1724
rs10938397	4	45182527	0.0324	0.0029	0.0016	0.0022	793518	108557	1.00E-04	0.026	1	3301	0.432	ieu-b-40	ieu-b-116	prot-a-1724
rs10971709	9	33804813	0.0132	0.00022	0.0021	0.0024	688312	108557	-0.0049	0.0301	0.871	3301	0.213	ieu-b-40	ieu-b-116	prot-a-1724
rs11066188	12	112610714	-0.012	0.006	0.0017	0.0022	792755	108557	0.0285	0.0251	0.257	3301	0.411	ieu-b-40	ieu-b-116	prot-a-1724
rs11084553	19	31019780	-0.021	0.00082	0.0024	0.0027	691103	108557	-1.00E-04	0.0352	1	3301	0.147	ieu-b-40	ieu-b-116	prot-a-1724
rs11115176	12	82465797	-0.0121	-0.0028	0.0019	0.0024	792384	108557	0.0332	0.029	0.2512	3301	0.245	ieu-b-40	ieu-b-116	prot-a-1724
rs1112613	13	53651850	-0.0133	0.00063	0.0023	0.0029	682816	108557	0.0131	0.0327	0.6918	3301	0.180	ieu-b-40	ieu-b-116	prot-a-1724
rs11150911	18	73498528	-0.0133	-0.0016	0.0018	0.0022	781716	108557	0.0051	0.0276	0.8511	3301	0.713	ieu-b-40	ieu-b-116	prot-a-1724
rs11165643	1	96924097	0.0206	-0.0021	0.0017	0.002	792657	108557	-0.0163	0.0249	0.5129	3301	0.587	ieu-b-40	ieu-b-116	prot-a-1724
rs11170468	12	39430048	-0.0123	0.0021	0.0019	0.0025	795265	108557	0.0112	0.0286	0.6918	3301	0.238	ieu-b-40	ieu-b-116	prot-a-1724
rs11173522	12	60953472	0.0128	-0.00053	0.0021	0.003	691593	108557	-0.0013	0.0299	0.9772	3301	0.226	ieu-b-40	ieu-b-116	prot-a-1724
rs1144387	13	78365190	0.0098	-0.0017	0.0017	0.0022	687565	108557	-0.0112	0.0251	0.6607	3301	0.559	ieu-b-40	ieu-b-116	prot-a-1724

rs11496125	7	103417557	0.0169	0.0013	0.0017	0.0021	684574	108557	0.0346	0.0252	0.1698	3301	0.429	ieu-b-40	ieu-b-116	prot-a-1724
rs11505821	7	76818677	0.0311	-0.0036	0.0035	0.0053	758322	108557	0.0596	0.049	0.2239	3301	0.069	ieu-b-40	ieu-b-116	prot-a-1724
rs11609659	12	108296260	-0.0154	0.0017	0.002	0.0023	679177	108557	0.007	0.0293	0.8128	3301	0.238	ieu-b-40	ieu-b-116	prot-a-1724
rs11611246	12	939480	0.024	-4.00E-06	0.002	0.0027	779823	108557	-0.0332	0.03	0.2692	3301	0.209	ieu-b-40	ieu-b-116	prot-a-1724
rs11672660	19	46180184	-0.034	0.0023	0.0021	0.0027	768426	108557	-0.0051	0.0313	0.871	3301	0.192	ieu-b-40	ieu-b-116	prot-a-1724
rs11713193	3	49924424	0.0239	0.0057	0.0017	0.0022	692159	108557	-0.0365	0.0245	0.138	3301	0.511	ieu-b-40	ieu-b-116	prot-a-1724
rs11880870	19	18830704	-0.0189	-0.003	0.0017	0.0024	717350	108557	0.0404	0.0247	0.1023	3301	0.478	ieu-b-40	ieu-b-116	prot-a-1724
rs11951673	5	95861012	-0.0123	-0.00035	0.0017	0.0021	792278	108557	0.0607	0.025	0.0151	3301	0.410	ieu-b-40	ieu-b-116	prot-a-1724
rs12044597	1	1708801	0.0143	-0.0051	0.0016	0.0021	789125	108557	-0.0035	0.0244	0.8913	3301	0.515	ieu-b-40	ieu-b-116	prot-a-1724
rs12049202	1	77967523	0.024	-0.0082	0.0022	0.0025	691566	108557	0.0234	0.0312	0.4571	3301	0.195	ieu-b-40	ieu-b-116	prot-a-1724
rs12150665	17	34914787	-0.0162	0.00017	0.0017	0.0021	795501	108557	0.0391	0.0252	0.1202	3301	0.403	ieu-b-40	ieu-b-116	prot-a-1724
rs1218822	13	28011963	0.0168	-0.0045	0.0017	0.0021	794711	108557	0.0162	0.0264	0.537	3301	0.665	ieu-b-40	ieu-b-116	prot-a-1724
rs12364470	11	134601012	0.0178	0.0019	0.0022	0.0028	787411	108557	0.0156	0.0331	0.631	3301	0.167	ieu-b-40	ieu-b-116	prot-a-1724
rs12416812	11	888632	0.0111	-8.50E-05	0.0016	0.0021	793338	108557	0.0242	0.0245	0.3236	3301	0.497	ieu-b-40	ieu-b-116	prot-a-1724
rs12429545	13	54102206	0.0316	0.00079	0.0025	0.0031	778918	108557	0.0422	0.0373	0.257	3301	0.133	ieu-b-40	ieu-b-116	prot-a-1724
rs12448257	16	3599655	0.0184	0.0024	0.002	0.0026	779628	108557	-0.0399	0.0299	0.182	3301	0.226	ieu-b-40	ieu-b-116	prot-a-1724
rs12602912	17	65870073	0.0176	0.0064	0.0021	0.0025	777510	108557	0.0108	0.0312	0.7244	3301	0.185	ieu-b-40	ieu-b-116	prot-a-1724
rs1260326	2	27730940	0.0105	0.021	0.0017	0.0021	784462	108557	-0.0955	0.0253	0.0002	3301	0.598	ieu-b-40	ieu-b-116	prot-a-1724
rs1260326	2	27730940	0.0105	0.021	0.0017	0.0021	784462	108557	-0.0955	0.0253	0.0002	3301	0.598	ieu-b-40	ieu-b-116	prot-a-1724
rs1268065	6	126042783	-0.0102	8.70E-05	0.0017	0.0021	759626	108557	-0.0086	0.0249	0.7244	3301	0.471	ieu-b-40	ieu-b-116	prot-a-1724
rs12680842	8	95582606	-0.0133	0.0017	0.0018	0.0022	782549	108557	0.0032	0.0263	0.912	3301	0.318	ieu-b-40	ieu-b-116	prot-a-1724
rs12914489	15	74187937	0.0165	0.0032	0.0026	0.0032	795244	108557	-0.0179	0.0418	0.6761	3301	0.101	ieu-b-40	ieu-b-116	prot-a-1724
rs12939549	17	78611724	-0.018	-0.00049	0.0016	0.002	793950	108557	0	0.0249	1	3301	0.442	ieu-b-40	ieu-b-116	prot-a-1724
rs13021737	2	632348	0.0574	-0.0061	0.0021	0.0028	789534	108557	-0.0268	0.0333	0.4169	3301	0.833	ieu-b-40	ieu-b-116	prot-a-1724
rs13069244	3	180441172	0.0187	-0.0032	0.0032	0.0042	791327	108557	0.0258	0.0457	0.5754	3301	0.080	ieu-b-40	ieu-b-116	prot-a-1724
rs13107325	4	103188709	0.047	-0.0095	0.0032	0.0048	792045	108557	0.0586	0.047	0.2138	3301	0.076	ieu-b-40	ieu-b-116	prot-a-1724
rs13110266	4	162129844	-0.0117	-0.00037	0.0017	0.0021	791087	108557	0.0193	0.0258	0.4571	3301	0.420	ieu-b-40	ieu-b-116	prot-a-1724
rs13174863	5	139080745	0.0192	0.00034	0.0023	0.0029	773762	108557	0.0244	0.0359	0.5012	3301	0.150	ieu-b-40	ieu-b-116	prot-a-1724
rs13184896	5	122734005	-0.0133	0.0027	0.0016	0.0021	794825	108557	0.02	0.0252	0.4266	3301	0.431	ieu-b-40	ieu-b-116	prot-a-1724
rs13191362	6	163033350	-0.0236	-0.0013	0.0025	0.0033	792699	108557	0.0845	0.0376	0.0245	3301	0.122	ieu-b-40	ieu-b-116	prot-a-1724
rs1321432	20	6614691	0.0201	-0.0063	0.0018	0.0021	686481	108557	0.0112	0.0255	0.6607	3301	0.625	ieu-b-40	ieu-b-116	prot-a-1724
rs13329567	15	68104367	-0.0293	0.0036	0.002	0.0026	793953	108557	0.0205	0.0297	0.4898	3301	0.218	ieu-b-40	ieu-b-116	prot-a-1724
rs1365466	18	36182440	-0.0137	0.0019	0.0019	0.0024	791868	108557	-0.0164	0.0279	0.5623	3301	0.739	ieu-b-40	ieu-b-116	prot-a-1724
rs1409818	20	21381121	0.0201	-0.003	0.0029	0.0035	690984	108557	0.0344	0.041	0.3981	3301	0.105	ieu-b-40	ieu-b-116	prot-a-1724

rs1412235	9	28410996	0.0246	0.0038	0.0017	0.0022	790147	108557	0.0656	0.0263	0.0126	3301	0.317	ieu-b-40	ieu-b-116	prot-a-1724
rs1452075	3	62481063	0.0141	0.00089	0.0018	0.0023	783729	108557	-0.0161	0.0278	0.5623	3301	0.732	ieu-b-40	ieu-b-116	prot-a-1724
rs1465900	11	76473138	-0.0125	0.00049	0.002	0.0024	779748	108557	0.0048	0.0308	0.871	3301	0.219	ieu-b-40	ieu-b-116	prot-a-1724
rs1476322	3	161446055	0.0101	-0.0054	0.0017	0.0027	692523	108557	0.0086	0.025	0.7244	3301	0.554	ieu-b-40	ieu-b-116	prot-a-1724
rs1477199	16	53712135	0.0228	-0.0059	0.0024	0.0031	794442	108557	0.0422	0.0349	0.2239	3301	0.147	ieu-b-40	ieu-b-116	prot-a-1724
rs1492767	4	55221467	0.0094	-0.00018	0.0016	0.0021	794161	108557	-0.0154	0.0259	0.5495	3301	0.511	ieu-b-40	ieu-b-116	prot-a-1724
rs1503526	5	63020706	0.014	0.001	0.0017	0.0022	747347	108557	-0.003	0.0251	0.912	3301	0.473	ieu-b-40	ieu-b-116	prot-a-1724
rs1528435	2	181550962	0.0164	0.00051	0.0017	0.0021	794198	108557	0.0166	0.0252	0.5129	3301	0.619	ieu-b-40	ieu-b-116	prot-a-1724
rs1624134	10	34834482	0.0101	-0.00066	0.0018	0.0021	690572	108557	0.0267	0.0253	0.2884	3301	0.390	ieu-b-40	ieu-b-116	prot-a-1724
rs16851483	3	141275436	0.0369	-0.0059	0.0035	0.0044	692316	108557	0.0446	0.0491	0.3631	3301	0.067	ieu-b-40	ieu-b-116	prot-a-1724
rs17001561	4	77096118	0.0151	0.0044	0.0023	0.0029	794327	108557	-0.0626	0.0349	0.0724	3301	0.146	ieu-b-40	ieu-b-116	prot-a-1724
rs17036328	3	12390484	0.0172	-0.021	0.0025	0.003	795589	108557	-0.0346	0.0389	0.3715	3301	0.117	ieu-b-40	ieu-b-116	prot-a-1724
rs17203016	2	208255518	0.015	0.00083	0.002	0.0027	786272	108557	-0.0208	0.0314	0.5012	3301	0.203	ieu-b-40	ieu-b-116	prot-a-1724
rs17405819	8	76806584	-0.0215	0.0023	0.0018	0.0022	795493	108557	-0.0601	0.0271	0.0263	3301	0.288	ieu-b-40	ieu-b-116	prot-a-1724
rs17513613	19	30286822	0.0186	-0.001	0.0018	0.0022	789575	108557	-0.0258	0.0263	0.3236	3301	0.328	ieu-b-40	ieu-b-116	prot-a-1724
rs17535749	3	10027724	0.015	-0.003	0.0027	0.0036	777038	108557	0.0035	0.0392	0.9333	3301	0.111	ieu-b-40	ieu-b-116	prot-a-1724
rs17636031	10	126594078	0.016	0.0027	0.0019	0.0026	782807	108557	-0.0013	0.0274	0.955	3301	0.291	ieu-b-40	ieu-b-116	prot-a-1724
rs17710386	18	63461201	0.0126	-0.0017	0.0018	0.0022	783810	108557	-0.0062	0.0262	0.8128	3301	0.319	ieu-b-40	ieu-b-116	prot-a-1724
rs17724992	19	18454825	-0.0183	0.0015	0.0019	0.0024	785851	108557	-0.0062	0.0277	0.8318	3301	0.272	ieu-b-40	ieu-b-116	prot-a-1724
rs17789218	6	100600097	0.013	0.002	0.0019	0.0024	793904	108557	0.0019	0.0283	0.955	3301	0.260	ieu-b-40	ieu-b-116	prot-a-1724
rs1843328	12	17111188	-0.0099	0.004	0.0017	0.002	686814	108557	0.0048	0.0253	0.8511	3301	0.503	ieu-b-40	ieu-b-116	prot-a-1724
rs1927790	13	96922191	0.0148	0.0014	0.0016	0.002	794326	108557	-0.0098	0.0245	0.6918	3301	0.421	ieu-b-40	ieu-b-116	prot-a-1724
rs1928295	9	120378483	-0.0141	0.00036	0.0016	0.002	793649	108557	0.0078	0.0246	0.7586	3301	0.430	ieu-b-40	ieu-b-116	prot-a-1724
rs1993709	1	72838529	0.0331	0.0011	0.0021	0.0027	786001	108557	0.0012	0.0315	0.9772	3301	0.811	ieu-b-40	ieu-b-116	prot-a-1724
rs200810	6	97922184	-0.0136	-0.0035	0.0017	0.0021	793699	108557	0.0228	0.0258	0.3802	3301	0.372	ieu-b-40	ieu-b-116	prot-a-1724
rs2033529	6	40350030	0.0205	-0.00096	0.0018	0.0022	792112	108557	0.0043	0.0273	0.871	3301	0.299	ieu-b-40	ieu-b-116	prot-a-1724
rs2126259	8	9185146	-0.001	-0.024	0.0027	0.0033	783743	108557	0.0583	0.0416	0.1622	3301	0.901	ieu-b-40	ieu-b-116	prot-a-1724
rs2163188	10	65314711	0.0131	0.0054	0.0017	0.002	686502	108557	0.0171	0.0251	0.5012	3301	0.483	ieu-b-40	ieu-b-116	prot-a-1724
rs2228213	6	12124855	-0.0139	-0.00034	0.0017	0.0021	795595	108557	0.0058	0.026	0.8318	3301	0.351	ieu-b-40	ieu-b-116	prot-a-1724
rs2246012	6	131898208	0.0158	0.0011	0.0022	0.0026	795598	108557	-0.0091	0.033	0.7762	3301	0.166	ieu-b-40	ieu-b-116	prot-a-1724
rs2307111	5	75003678	-0.0265	-0.00043	0.0016	0.0021	795430	108557	-0.0308	0.0256	0.2291	3301	0.402	ieu-b-40	ieu-b-116	prot-a-1724
rs2357760	6	120213880	0.0145	-0.0022	0.0017	0.0022	791053	108557	0.0229	0.0269	0.3981	3301	0.686	ieu-b-40	ieu-b-116	prot-a-1724
rs2365389	3	61236462	-0.0174	-9.30E-05	0.0017	0.002	783625	108557	-0.038	0.0248	0.1259	3301	0.410	ieu-b-40	ieu-b-116	prot-a-1724
rs2367112	5	64168193	-0.0119	0.0017	0.0016	0.0021	794305	108557	-0.041	0.0247	0.0955	3301	0.511	ieu-b-40	ieu-b-116	prot-a-1724

rs2481665	1	62594677	-0.0161	0.0038	0.0016	0.0021	795247	108557	0.0202	0.0248	0.4169	3301	0.442	ieu-b-40	ieu-b-116	prot-a-1724
rs2605603	11	93221105	-0.0103	0.00074	0.0016	0.002	790857	108557	0.0263	0.0249	0.2884	3301	0.479	ieu-b-40	ieu-b-116	prot-a-1724
rs2744974	6	34579431	0.0249	-0.0084	0.0018	0.0023	789647	108557	0.0227	0.0267	0.3981	3301	0.335	ieu-b-40	ieu-b-116	prot-a-1724
rs2791653	1	11129848	-0.0141	0.0085	0.0019	0.0023	795271	108557	-0.0348	0.0293	0.2344	3301	0.764	ieu-b-40	ieu-b-116	prot-a-1724
rs2820311	1	201841476	0.0235	2.00E-04	0.0018	0.0022	691876	108557	0.0166	0.0264	0.5248	3301	0.322	ieu-b-40	ieu-b-116	prot-a-1724
rs2832283	21	30690558	0.0115	-0.0021	0.002	0.0024	792324	108557	-0.0633	0.0302	0.0363	3301	0.221	ieu-b-40	ieu-b-116	prot-a-1724
rs287104	19	34290995	0.0115	-0.00082	0.0017	0.0021	787307	108557	-0.0192	0.0261	0.4571	3301	0.650	ieu-b-40	ieu-b-116	prot-a-1724
rs2907948	7	150638484	-0.0141	-0.0015	0.0019	0.0025	794299	108557	-0.0394	0.0284	0.166	3301	0.246	ieu-b-40	ieu-b-116	prot-a-1724
rs2931434	5	73159098	-0.0104	-0.0025	0.0018	0.0022	690664	108557	0.0502	0.0258	0.0525	3301	0.335	ieu-b-40	ieu-b-116	prot-a-1724
rs2943645	2	227099180	-0.0062	0.019	0.0017	0.0021	795592	108557	0.0137	0.0254	0.5888	3301	0.645	ieu-b-40	ieu-b-116	prot-a-1724
rs3007105	14	47367616	0.0142	0.00022	0.0017	0.0021	785488	108557	-0.0367	0.0251	0.1445	3301	0.428	ieu-b-40	ieu-b-116	prot-a-1724
rs3731695	2	203820275	0.0116	0.00061	0.0016	0.0021	793581	108557	-0.0025	0.0251	0.912	3301	0.551	ieu-b-40	ieu-b-116	prot-a-1724
rs3736485	15	51748610	-0.0134	-4.40E-05	0.0016	0.002	790404	108557	0.0187	0.025	0.4571	3301	0.534	ieu-b-40	ieu-b-116	prot-a-1724
rs3800229	6	108996963	0.0175	0.0022	0.0018	0.0022	792474	108557	0.0475	0.0275	0.0832	3301	0.714	ieu-b-40	ieu-b-116	prot-a-1724
rs3822072	4	89741269	-0.0067	0.012	0.0016	0.0021	783658	108557	-0.0256	0.0245	0.2951	3301	0.465	ieu-b-40	ieu-b-116	prot-a-1724
rs3828783	6	33767727	-0.0165	-0.0035	0.0021	0.0025	792749	108557	-0.0136	0.0316	0.6607	3301	0.179	ieu-b-40	ieu-b-116	prot-a-1724
rs3829849	9	129390800	0.0098	-6.70E-05	0.0017	0.0021	793851	108557	-0.0561	0.0257	0.0288	3301	0.372	ieu-b-40	ieu-b-116	prot-a-1724
rs3902951	14	69789755	0.0134	0.00031	0.002	0.0024	773819	108557	0.0069	0.0303	0.8128	3301	0.256	ieu-b-40	ieu-b-116	prot-a-1724
rs391300	17	2216258	-0.0119	0.00055	0.0017	0.0021	791120	108557	0.038	0.0262	0.1479	3301	0.634	ieu-b-40	ieu-b-116	prot-a-1724
rs4012234	20	32553047	0.0141	0.0039	0.0018	0.0021	689653	108557	-0.008	0.0248	0.7413	3301	0.580	ieu-b-40	ieu-b-116	prot-a-1724
rs4148155	4	89054667	-0.0188	0.0027	0.0026	0.0035	794889	108557	0.0065	0.0394	0.871	3301	0.113	ieu-b-40	ieu-b-116	prot-a-1724
rs4237643	11	43648368	-0.0223	-0.00079	0.0019	0.0022	692491	108557	-0.0125	0.0271	0.6457	3301	0.690	ieu-b-40	ieu-b-116	prot-a-1724
rs427943	21	46570896	0.017	0.0017	0.0017	0.0025	712095	108557	0.0078	0.025	0.7586	3301	0.565	ieu-b-40	ieu-b-116	prot-a-1724
rs429343	2	147903382	-0.015	0.0012	0.0017	0.0021	689345	108557	0.0202	0.0252	0.4266	3301	0.575	ieu-b-40	ieu-b-116	prot-a-1724
rs4495304	6	31080718	-0.0194	-0.0062	0.0033	0.0038	774211	108557	-0.0013	0.0516	0.9772	3301	0.060	ieu-b-40	ieu-b-116	prot-a-1724
rs4516268	17	1846831	-0.0217	-0.0023	0.0021	0.0025	786617	108557	-0.0071	0.0315	0.8128	3301	0.187	ieu-b-40	ieu-b-116	prot-a-1724
rs4556997	2	100814858	0.0197	-0.0038	0.0024	0.0029	792972	108557	-0.0739	0.0355	0.038	3301	0.140	ieu-b-40	ieu-b-116	prot-a-1724
rs459193	5	55806751	-0.0015	0.015	0.0019	0.0023	795353	108557	-0.0655	0.0278	0.0186	3301	0.742	ieu-b-40	ieu-b-116	prot-a-1724
rs4660443	1	39591779	0.0164	0.007	0.0021	0.0025	687234	108557	0.0424	0.0299	0.1549	3301	0.217	ieu-b-40	ieu-b-116	prot-a-1724
rs4740619	9	15634326	-0.0186	1.60E-05	0.0016	0.002	794491	108557	-0.0272	0.0251	0.2754	3301	0.450	ieu-b-40	ieu-b-116	prot-a-1724
rs4800191	18	22461398	0.0103	-0.001	0.0017	0.0021	785353	108557	0.0317	0.026	0.2239	3301	0.650	ieu-b-40	ieu-b-116	prot-a-1724
rs4820408	22	40704052	-0.0151	0.0023	0.0017	0.0021	794185	108557	-0.0142	0.0265	0.5888	3301	0.588	ieu-b-40	ieu-b-116	prot-a-1724
rs4846565	1	219722104	0.0087	-0.013	0.0017	0.0022	795568	108557	-0.0124	0.0259	0.631	3301	0.343	ieu-b-40	ieu-b-116	prot-a-1724
rs486359	6	160774441	0.0112	0.0061	0.0017	0.0021	770999	108557	-7.00E-04	0.0248	0.9772	3301	0.468	ieu-b-40	ieu-b-116	prot-a-1724

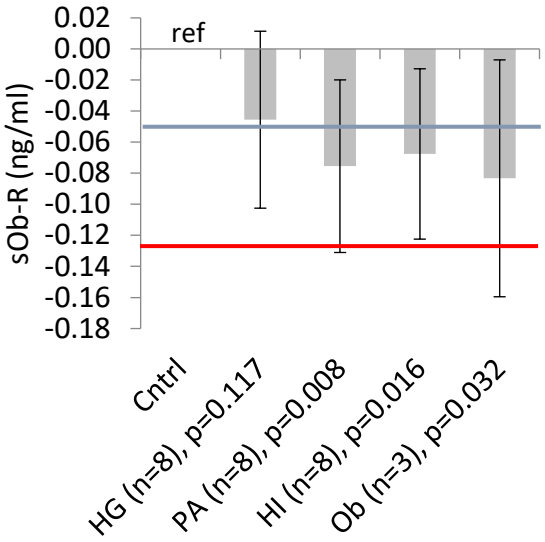
rs4864201	4	130731284	-0.0141	-0.00074	0.0017	0.0021	795263	108557	-0.0227	0.0262	0.389	3301	0.653	ieu-b-40	ieu-b-116	prot-a-1724
rs4865796	5	53272664	-0.0103	0.015	0.0018	0.0022	789716	108557	-0.0402	0.0263	0.1259	3301	0.695	ieu-b-40	ieu-b-116	prot-a-1724
rs4929923	11	8639200	0.0181	0.0021	0.0017	0.0022	794933	108557	-0.0419	0.026	0.1072	3301	0.638	ieu-b-40	ieu-b-116	prot-a-1724
rs4986044	17	21261560	-0.0164	-0.0025	0.0016	0.0021	787219	108557	0.0246	0.025	0.3236	3301	0.455	ieu-b-40	ieu-b-116	prot-a-1724
rs543874	1	177889480	0.0475	-8.00E-04	0.002	0.0027	795504	108557	-0.0553	0.0304	0.0692	3301	0.208	ieu-b-40	ieu-b-116	prot-a-1724
rs592483	11	69445173	-0.0147	0.0026	0.0017	0.0021	781871	108557	-0.0315	0.0251	0.2089	3301	0.560	ieu-b-40	ieu-b-116	prot-a-1724
rs6011457	20	61530915	-0.0116	0.0015	0.0017	0.0021	690692	108557	0.0104	0.0247	0.6761	3301	0.490	ieu-b-40	ieu-b-116	prot-a-1724
rs6050446	20	25195509	0.0343	0.0097	0.0047	0.0063	766287	108557	-0.0879	0.0793	0.2692	3301	0.974	ieu-b-40	ieu-b-116	prot-a-1724
rs6265	11	27679916	-0.0412	0.0012	0.0021	0.0026	795458	108557	0.0192	0.0314	0.537	3301	0.191	ieu-b-40	ieu-b-116	prot-a-1724
rs6443750	3	181329682	0.0148	-0.00037	0.0021	0.0028	776837	108557	-0.0213	0.0319	0.5012	3301	0.810	ieu-b-40	ieu-b-116	prot-a-1724
rs645040	3	135926622	0.0171	0.0082	0.002	0.0025	795579	108557	-0.0097	0.0295	0.7413	3301	0.776	ieu-b-40	ieu-b-116	prot-a-1724
rs6461115	7	2103668	-0.0144	0.0013	0.0019	0.0023	791735	108557	0.0561	0.0298	0.0603	3301	0.219	ieu-b-40	ieu-b-116	prot-a-1724
rs6471941	8	62117973	0.0156	0.0022	0.0021	0.0024	793986	108557	-0.0502	0.0328	0.1259	3301	0.174	ieu-b-40	ieu-b-116	prot-a-1724
rs6500208	16	49011249	0.014	0.004	0.002	0.0025	781931	108557	-0.0173	0.031	0.5754	3301	0.209	ieu-b-40	ieu-b-116	prot-a-1724
rs6545714	2	59307725	-0.0191	-0.0036	0.0017	0.002	793368	108557	-0.0126	0.0253	0.6166	3301	0.604	ieu-b-40	ieu-b-116	prot-a-1724
rs6556301	5	176527577	-0.0111	0.0057	0.0018	0.0023	734744	108557	-0.0108	0.0259	0.6761	3301	0.366	ieu-b-40	ieu-b-116	prot-a-1724
rs6561943	13	58356761	0.0119	0.0041	0.0019	0.0025	793951	108557	-0.0465	0.0283	0.1	3301	0.251	ieu-b-40	ieu-b-116	prot-a-1724
rs657452	1	49589847	-0.0188	0.0022	0.0017	0.0022	767846	108557	-0.0029	0.0257	0.912	3301	0.602	ieu-b-40	ieu-b-116	prot-a-1724
rs6591407	11	56914157	-0.0118	-0.0076	0.0021	0.0027	794246	108557	0.0265	0.0319	0.4074	3301	0.189	ieu-b-40	ieu-b-116	prot-a-1724
rs663129	18	57838401	0.0545	-0.004	0.0019	0.0026	788948	108557	-0.041	0.0283	0.1479	3301	0.235	ieu-b-40	ieu-b-116	prot-a-1724
rs6692586	1	23299906	-0.0192	0.0071	0.0023	0.0028	690921	108557	-0.0173	0.0331	0.6026	3301	0.835	ieu-b-40	ieu-b-116	prot-a-1724
rs6804842	3	25106437	0.0156	-0.0047	0.0017	0.0021	789179	108557	-0.0235	0.0257	0.3631	3301	0.590	ieu-b-40	ieu-b-116	prot-a-1724
rs6822892	4	157734675	0.0015	-0.014	0.0017	0.0022	795148	108557	-0.0011	0.0264	0.9772	3301	0.322	ieu-b-40	ieu-b-116	prot-a-1724
rs6841761	4	25423538	-0.0131	0.0038	0.0016	0.002	793477	108557	0.0071	0.0252	0.7762	3301	0.531	ieu-b-40	ieu-b-116	prot-a-1724
rs6912327	6	34764922	0.0171	-0.016	0.002	0.0029	755883	108557	-0.0011	0.0305	0.9772	3301	0.216	ieu-b-40	ieu-b-116	prot-a-1724
rs6985109	8	10761585	-0.0177	0.0066	0.0017	0.0021	793993	108557	-0.016	0.0246	0.5129	3301	0.552	ieu-b-40	ieu-b-116	prot-a-1724
rs7024334	9	109072075	-0.0138	-0.0037	0.002	0.0024	782431	108557	0.0206	0.0303	0.4898	3301	0.783	ieu-b-40	ieu-b-116	prot-a-1724
rs705704	12	56435412	-0.0131	-0.0061	0.0018	0.0023	743597	108557	-0.0125	0.0259	0.631	3301	0.347	ieu-b-40	ieu-b-116	prot-a-1724
rs709400	14	104149475	-0.015	0.0012	0.0017	0.0021	795379	108557	-0.0462	0.0256	0.0708	3301	0.386	ieu-b-40	ieu-b-116	prot-a-1724
rs7117238	11	78040259	-0.0131	-0.00047	0.0022	0.0027	788879	108557	-0.0119	0.0346	0.7244	3301	0.157	ieu-b-40	ieu-b-116	prot-a-1724
rs7124681	11	47529947	0.0263	-0.0058	0.0016	0.0021	795474	108557	0.0254	0.025	0.309	3301	0.416	ieu-b-40	ieu-b-116	prot-a-1724
rs7138803	12	50247468	0.03	0.0029	0.0017	0.0022	795588	108557	-0.0078	0.0252	0.7586	3301	0.367	ieu-b-40	ieu-b-116	prot-a-1724
rs7144011	14	79940383	0.0282	0.0041	0.002	0.0024	794117	108557	-0.0389	0.0298	0.1905	3301	0.217	ieu-b-40	ieu-b-116	prot-a-1724
rs7239575	18	21120035	-0.0202	-0.0031	0.0017	0.002	692313	108557	-0.0171	0.0245	0.4786	3301	0.483	ieu-b-40	ieu-b-116	prot-a-1724

rs731839	19	33899065	0.0064	-0.015	0.0017	0.0021	793574	108557	0.0621	0.0262	0.0178	3301	0.670	ieu-b-40	ieu-b-116	prot-a-1724
rs7498665	16	28883241	0.0271	0.0013	0.0017	0.0023	790299	108557	0.004	0.0255	0.871	3301	0.390	ieu-b-40	ieu-b-116	prot-a-1724
rs754635	3	42305131	0.0198	0.0057	0.0027	0.0033	690346	108557	-0.0138	0.0389	0.7244	3301	0.887	ieu-b-40	ieu-b-116	prot-a-1724
rs7550711	1	110082886	0.0649	-0.0062	0.005	0.0054	769184	108557	-0.0947	0.0802	0.2399	3301	0.026	ieu-b-40	ieu-b-116	prot-a-1724
rs756717	16	72996162	-0.0148	0.0029	0.0017	0.0021	771976	108557	-0.0413	0.025	0.0977	3301	0.402	ieu-b-40	ieu-b-116	prot-a-1724
rs7599312	2	213413231	-0.0186	0.00086	0.0019	0.0022	780823	108557	-0.0101	0.0289	0.7244	3301	0.270	ieu-b-40	ieu-b-116	prot-a-1724
rs7626079	3	66427259	0.011	-0.002	0.0018	0.0022	692571	108557	0.0472	0.0261	0.0708	3301	0.340	ieu-b-40	ieu-b-116	prot-a-1724
rs7637852	3	44041777	-0.0139	0.0023	0.0019	0.0021	691815	108557	-0.0064	0.0273	0.8128	3301	0.711	ieu-b-40	ieu-b-116	prot-a-1724
rs7640424	3	107820063	-0.0136	-0.0036	0.0018	0.0022	790612	108557	0.0306	0.0271	0.257	3301	0.305	ieu-b-40	ieu-b-116	prot-a-1724
rs7704281	5	50591460	0.0271	0.0087	0.0041	0.0053	788585	108557	-0.0067	0.0621	0.912	3301	0.043	ieu-b-40	ieu-b-116	prot-a-1724
rs7715256	5	153537893	-0.0166	0.00067	0.0016	0.002	795302	108557	-0.0162	0.0247	0.5129	3301	0.564	ieu-b-40	ieu-b-116	prot-a-1724
rs7730898	5	170459675	0.0168	-0.00039	0.0018	0.0022	792975	108557	-0.0105	0.0276	0.7079	3301	0.730	ieu-b-40	ieu-b-116	prot-a-1724
rs7826312	8	32400115	0.0104	-0.0011	0.0017	0.0021	785343	108557	-4.00E-04	0.0257	0.9772	3301	0.599	ieu-b-40	ieu-b-116	prot-a-1724
rs7844647	8	34503776	-0.0123	-0.00098	0.0018	0.0023	793703	108557	0.0433	0.0281	0.123	3301	0.261	ieu-b-40	ieu-b-116	prot-a-1724
rs7899106	10	87412940	0.0331	-0.0037	0.0037	0.0047	793689	108557	-0.0113	0.0611	0.8511	3301	0.046	ieu-b-40	ieu-b-116	prot-a-1724
rs7903146	10	114758349	-0.0181	-0.013	0.0018	0.0024	795624	108557	-0.0778	0.0273	0.0044	3301	0.293	ieu-b-40	ieu-b-116	prot-a-1724
rs7970953	12	24075508	0.0135	0.0071	0.0018	0.0022	788417	108557	-0.023	0.0277	0.4074	3301	0.300	ieu-b-40	ieu-b-116	prot-a-1724
rs7983065	13	33380786	-0.0148	0.00068	0.0017	0.002	690924	108557	-0.0219	0.0246	0.3715	3301	0.453	ieu-b-40	ieu-b-116	prot-a-1724
rs8047395	16	53798523	0.0642	-0.00068	0.0017	0.0021	788856	108557	-0.0389	0.0252	0.123	3301	0.525	ieu-b-40	ieu-b-116	prot-a-1724
rs8071182	17	55336155	0.0133	0.0041	0.0022	0.003	771437	108557	-0.0397	0.0335	0.2344	3301	0.165	ieu-b-40	ieu-b-116	prot-a-1724
rs8097672	18	1839601	0.02	-0.0024	0.0025	0.0028	686063	108557	-0.0097	0.035	0.7762	3301	0.154	ieu-b-40	ieu-b-116	prot-a-1724
rs8097783	18	58051294	-0.0389	0.0031	0.0031	0.0043	795408	108557	0.0544	0.0496	0.2754	3301	0.068	ieu-b-40	ieu-b-116	prot-a-1724
rs8123881	20	15819495	0.0196	0.0026	0.0024	0.003	793018	108557	0.0335	0.0376	0.3715	3301	0.134	ieu-b-40	ieu-b-116	prot-a-1724
rs8192675	3	170724883	0.0152	0.00035	0.0018	0.0023	795515	108557	0.0016	0.0274	0.955	3301	0.285	ieu-b-40	ieu-b-116	prot-a-1724
rs860598	12	102898446	4.00E-04	0.015	0.0022	0.0027	793636	108557	0.0023	0.0338	0.955	3301	0.841	ieu-b-40	ieu-b-116	prot-a-1724
rs889398	16	69556715	-0.0196	0.0021	0.0016	0.0021	789694	108557	0.0071	0.0256	0.7762	3301	0.404	ieu-b-40	ieu-b-116	prot-a-1724
rs901630	6	98539519	-0.0146	-3.30E-05	0.0017	0.0021	794597	108557	6.00E-04	0.0254	0.9772	3301	0.389	ieu-b-40	ieu-b-116	prot-a-1724
rs9294260	6	83433228	0.0147	0.00041	0.0016	0.002	783533	108557	0.0098	0.0253	0.6918	3301	0.474	ieu-b-40	ieu-b-116	prot-a-1724
rs9300422	13	98223320	-0.0103	0.003	0.0018	0.0022	795011	108557	0.0338	0.0264	0.1995	3301	0.676	ieu-b-40	ieu-b-116	prot-a-1724
rs9408882	9	118664402	-0.0093	0.00049	0.0016	0.0021	794283	108557	-9.00E-04	0.0253	0.9772	3301	0.464	ieu-b-40	ieu-b-116	prot-a-1724
rs9522285	13	112230701	0.0127	0.004	0.0017	0.002	690681	108557	5.00E-04	0.0255	0.9772	3301	0.424	ieu-b-40	ieu-b-116	prot-a-1724
rs9547153	13	85903717	0.0098	-0.00059	0.0017	0.0021	775400	108557	0.0345	0.0264	0.1905	3301	0.371	ieu-b-40	ieu-b-116	prot-a-1724
rs9688431	6	73922654	-0.0231	0.007	0.0035	0.0047	789356	108557	0.0069	0.0527	0.8913	3301	0.060	ieu-b-40	ieu-b-116	prot-a-1724
rs974801	4	106071064	3.00E-04	0.014	0.0017	0.0021	795518	108557	-0.0262	0.026	0.309	3301	0.358	ieu-b-40	ieu-b-116	prot-a-1724

rs977747	1	47684677	-0.0169	-0.0056	0.0017	0.002	793546	108557	0.0338	0.0251	0.1778	3301	0.590	ieu-b-40	ieu-b-116	prot-a-1724
rs9783858	18	42534584	0.0091	-0.0026	0.0017	0.0021	770874	108557	-0.037	0.0253	0.1445	3301	0.518	ieu-b-40	ieu-b-116	prot-a-1724
rs9845966	3	13433158	-0.0105	-0.0026	0.0017	0.0022	778076	108557	-0.0028	0.0249	0.912	3301	0.549	ieu-b-40	ieu-b-116	prot-a-1724
rs987237	6	50803050	0.0409	-0.0017	0.0021	0.0027	795612	108557	0.0018	0.0315	0.955	3301	0.187	ieu-b-40	ieu-b-116	prot-a-1724
rs9951619	18	56882326	0.0156	0.0016	0.002	0.0023	772643	108557	0.0666	0.0301	0.0269	3301	0.779	ieu-b-40	ieu-b-116	prot-a-1724
rs998732	19	19378671	-0.0171	-0.0063	0.0022	0.0045	793852	108557	0.0064	0.0342	0.8511	3301	0.156	ieu-b-40	ieu-b-116	prot-a-1724
rs9989141	14	94006257	0.0162	-0.0012	0.0017	0.0022	752768	108557	-0.0395	0.0263	0.1318	3301	0.625	ieu-b-40	ieu-b-116	prot-a-1724

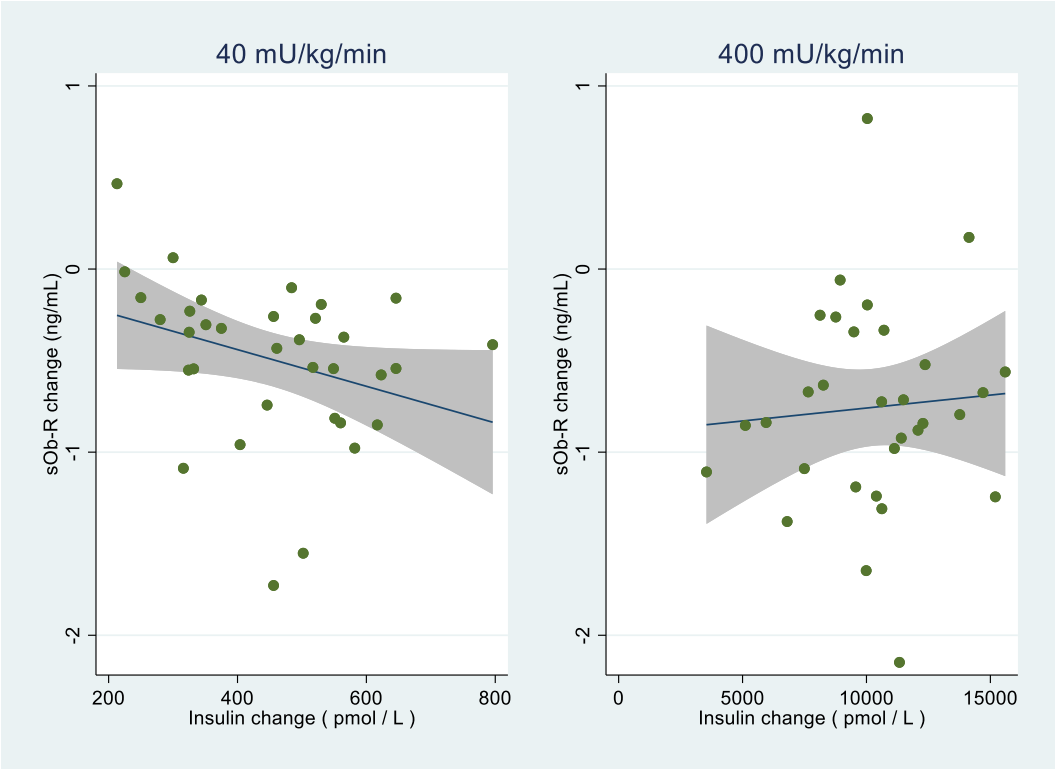
Supplementary Table 7. Leave-one-out analysis of fasting insulin.

SNP	b	se	p
rs10195252	-1.67756	0.632549	0.008
rs1260326	-1.25236	0.542439	0.020957
rs17036328	-1.94059	0.567039	0.000621
rs2126259	-1.67119	0.621844	0.007199
rs2943645	-2.04475	0.580282	0.000426
rs3822072	-1.70208	0.617502	0.005844
rs459193	-1.55358	0.588691	0.008314
rs4846565	-1.87127	0.590178	0.001521
rs4865796	-1.6543	0.619211	0.007548
rs6822892	-1.83525	0.60642	0.002475
rs6912327	-1.83212	0.606507	0.002521
rs731839	-1.54717	0.592828	0.009059
rs860598	-1.80354	0.604553	0.002852
rs974801	-1.71408	0.621432	0.005811
All	-1.72355	0.578903	0.002908

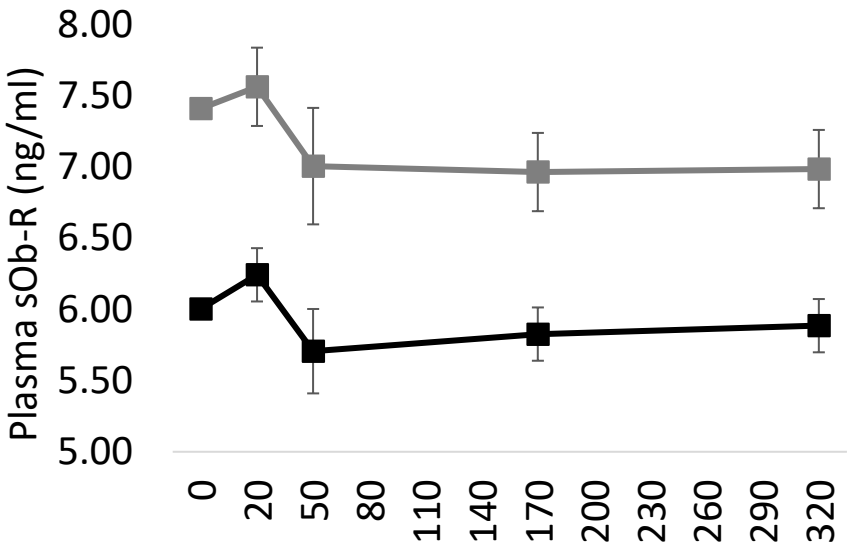


Supplementary Fig. 1. Effect of different stimuli on sOb-R levels compared to no stimulus (ref). Values are betas and 95 % Cis from mixed linear regressions. Blue line indicates the variation across parallels from sOb-R quantification. Red line indicates the reported sensitivity of the analysis kit. Cntrl=Control, HG=hyperglycemia, PA=palmitic acid, HI=hyperinsulinemia, Ob=Hyperleptinemia

Most sOb-R values were below the detection limit of the kit, and all effects of stimuli were smaller than the reported sensitivity of the ELISA kit (128 ng/L). The variation across parallels was 4 %, or 50 ng/L. In mixed models linear regression treating the individual donors as random-effects, electrical pulse stimulation (EPS) had no significant effect on sOb-R levels in conditioned cell media (p=0.50) in models adjusted for protein, nor in models adjusted for additional stimuli (p=0.052). Incubation with PA, insulin and leptin, both with or without simultaneous EPS, consistently lowered the concentrations of sOb-R in cell media, with a similar trend seen for glucose incubation in models adjusted for protein and EPS. We found no interaction with EPS and the different stimuli. However, we cannot trust these statistically significant effects because the confidence intervals overlapped the observed variation across the parallel measurements.



Supplementary Fig 2. Change in serum sOb-R versus change in insulin from fasting to 40mU/m^2/min infusion of insulin (left panel) and from fasting to infusion of 400 mU/m^2/min (right panel)



Supplementary Fig 3. Serum sOb-R response to food intake across ethnic origin. Data are betas and 95 % CIs calculated from mixed models regression with ethnicity x time interaction.

References

1. Sanderson E, Davey Smith G, Windmeijer F, Bowden J. An examination of multivariable Mendelian randomization in the single-sample and two-sample summary data settings. Int J Epidemiol 2019; 48:713-727
2. Wu Y, Zhong X, Lin Y, Zhao Z, Chen J, Zheng B, Li JJ, Fletcher JM, Lu Q. Estimating genetic nurture with summary statistics of multigenerational genome-wide association studies. Proc Natl Acad Sci U S A 2021; 118
3. Sun BB, Maranville JC, Peters JE, Stacey D, Staley JR, Blackshaw J, Burgess S, Jiang T, Paige E, Surendran P, Oliver-Williams C, Kamat MA, Prins BP, Wilcox SK, Zimmerman ES, Chi A, Bansal N, Spain SL, Wood AM, Morrell NW, Bradley JR, Janjic N, Roberts DJ, Ouwehand WH, Todd JA, Soranzo N, Suhre K, Paul DS, Fox CS, Plenge RM, Danesh J, Runz H, Butterworth AS. Genomic atlas of the human plasma proteome. Nature 2018; 558:73-79
4. Scott RA, Lagou V, Welch RP, Wheeler E, Montasser ME, Luan J, Mägi R, Strawbridge RJ, Rehnberg E, Gustafsson S, Kanoni S, Rasmussen-Torvik LJ, Yengo L, Lecoeur C, Shungin D, Sanna S, Sidore C, Johnson PC, Jukema JW, Johnson T, Mahajan A, Verweij N, Thorleifsson G, Hottenga JJ, Shah S, Smith AV, Sennblad B, Gieger C, Salo P, Perola M, Timpson NJ, Evans DM, Pourcain BS, Wu Y, Andrews JS, Hui J, Bielak LF, Zhao W, Horikoshi M, Navarro P, Isaacs A, O'Connell JR, Stirrups K, Vitart V, Hayward C, Esko T, Mihailov E, Fraser RM, Fall T, Voight BF, Raychaudhuri S, Chen H, Lindgren CM, Morris AP, Rayner NW, Robertson N, Rybin D, Liu CT, Beckmann JS, Willems SM, Chines PS, Jackson AU, Kang HM, Stringham HM, Song K, Tanaka T, Peden JF, Goel A, Hicks AA, An P, Müller-Nurasyid M, Franco-Cereceda A, Folkersen L, Marullo L, Jansen H, Oldehinkel AJ, Bruinenberg M, Pankow JS, North KE, Forouhi NG, Loos RJ, Edkins S, Varga TV, Hallmans G, Oksa H, Antonella M, Nagaraja R, Trompet S, Ford I, Bakker SJ, Kong A, Kumari M, Gigante B, Herder C, Munroe PB, Caulfield M, Antti J, Mangino M, Small K, Miljkovic I, Liu Y, Atalay M, Kiess W, James AL, Rivadeneira F, Uitterlinden AG, Palmer CN, Doney AS, Willemsen G, Smit JH, Campbell S, Polasek O, Bonnycastle LL, Hercberg S, Dimitriou M, Bolton JL, Fowkes GR, Kovacs P, Lindström J, Zemunik T, Bandinelli S, Wild SH, Basart HV, Rathmann W, Grallert H, Maerz W, Kleber ME, Boehm BO, Peters A, Pramstaller PP, Province MA, Borecki IB, Hastie ND, Rudan I, Campbell H, Watkins H, Farrall M, Stumvoll M, Ferrucci L, Waterworth DM, Bergman RN, Collins FS, Tuomilehto J, Watanabe RM, de Geus EJ, Penninx BW, Hofman A, Oostra BA, Psaty BM, Vollenweider P, Wilson JF, Wright AF, Hovingh GK, Metspalu A, Uusitupa M, Magnusson PK, Kyvik KO, Kaprio J, Price JF, Dedoussis GV, Deloukas P, Meneton P, Lind L, Boehnke M, Shuldiner AR, van Duijn CM, Morris AD, Toenjes A, Peyser PA, Beilby JP, Körner A, Kuusisto J, Laakso M, Bornstein SR, Schwarz PE, Lakka TA, Rauramaa R, Adair LS, Smith GD, Spector TD, Illig T, de Faire U, Hamsten A, Gudnason V, Kivimaki M, Hingorani A, Keinanen-Kiukaanniemi SM, Saaristo TE, Boomsma DI, Stefansson K, van der Harst P, Dupuis J, Pedersen NL, Sattar N, Harris TB, Cucca F, Ripatti S, Salomaa V, Mohlke KL, Balkau B, Froguel P, Pouta A, Jarvelin MR, Wareham NJ, Bouatia-Naji N, McCarthy MI, Franks PW, Meigs JB, Teslovich TM, Florez JC, Langenberg C, Ingelsson E, Prokopenko I, Barroso I. Large-scale association analyses identify new loci influencing glycemic traits and provide insight into the underlying biological pathways. Nat Genet 2012; 44:991-1005
5. Yengo L, Sidorenko J, Kemper KE, Zheng Z, Wood AR, Weedon MN, Frayling TM, Hirschhorn J, Yang J, Visscher PM. Meta-analysis of genome-wide association studies for height and body mass index in ~700000 individuals of European ancestry. Hum Mol Genet 2018; 27:3641-3649
6. Lu Y, Day FR, Gustafsson S, Buchkovich ML, Na J, Bataille V, Cousminer DL, Dastani Z, Drong AW, Esko T, Evans DM, Falchi M, Feitosa MF, Ferreira T, Hedman Å K, Haring R, Hysi PG, Iles MM, Justice AE, Kanoni S, Lagou V, Li R, Li X, Locke A, Lu C, Mägi R, Perry JR, Pers TH, Qi Q,

Sanna M, Schmidt EM, Scott WR, Shungin D, Teumer A, Vinkhuyzen AA, Walker RW, Westra HJ, Zhang M, Zhang W, Zhao JH, Zhu Z, Afzal U, Ahluwalia TS, Bakker SJ, Bellis C, Bonnefond A, Borodulin K, Buchman AS, Cederholm T, Choh AC, Choi HJ, Curran JE, de Groot LC, De Jager PL, Dhonukshe-Rutten RA, Enneman AW, Eury E, Evans DS, Forsen T, Friedrich N, Fumeron F, Garcia ME, Gärtner S, Han BG, Havulinna AS, Hayward C, Hernandez D, Hillege H, Ittermann T, Kent JW, Kolcic I, Laatikainen T, Lahti J, Mateo Leach I, Lee CG, Lee JY, Liu T, Liu Y, Lobbens S, Loh M, Lyytikäinen LP, Medina-Gomez C, Michaëlsson K, Nalls MA, Nielson CM, Oozageer L, Pascoe L, Paternoster L, Polašek O, Ripatti S, Sarzynski MA, Shin CS, Narančić NS, Spira D, Srikanth P, Steinhagen-Thiessen E, Sung YJ, Swart KM, Taittonen L, Tanaka T, Tikkanen E, van der Velde N, van Schoor NM, Verweij N, Wright AF, Yu L, Zmuda JM, Eklund N, Forrester T, Grarup N, Jackson AU, Kristiansson K, Kuulasmaa T, Kuusisto J, Lichtner P, Luan J, Mahajan A, Männistö S, Palmer CD, Ried JS, Scott RA, Stancáková A, Wagner PJ, Demirkan A, Döring A, Gudnason V, Kiel DP, Kühnel B, Mangino M, McKnight B, Menni C, O'Connell JR, Oostra BA, Shuldiner AR, Song K, Vandenput L, van Duijn CM, Vollenweider P, White CC, Boehnke M, Boettcher Y, Cooper RS, Forouhi NG, Gieger C, Grallert H, Hingorani A, Jørgensen T, Jousilahti P, Kivimaki M, Kumari M, Laakso M, Langenberg C, Linneberg A, Luke A, McKenzie CA, Palotie A, Pedersen O, Peters A, Strauch K, Tayo BO, Wareham NJ, Bennett DA, Bertram L, Blangero J, Blüher M, Bouchard C, Campbell H, Cho NH, Cummings SR, Czerwinski SA, Demuth I, Eckardt R, Eriksson JG, Ferrucci L, Franco OH, Froguel P, Gansevoort RT, Hansen T, Harris TB, Hastie N, Heliövaara M, Hofman A, Jordan JM, Jula A, Kähönen M, Kajantie E, Knekt PB, Koskinen S, Kovacs P, Lehtimäki T, Lind L, Liu Y, Orwoll ES, Osmond C, Perola M, Pérusse L, Raitakari OT, Rankinen T, Rao DC, Rice TK, Rivadeneira F, Rudan I, Salomaa V, Sørensen TI, Stumvoll M, Tönjes A, Towne B, Tranah GJ, Tremblay A, Uitterlinden AG, van der Harst P, Vartiainen E, Viikari JS, Vitart V, Vohl MC, Völzke H, Walker M, Wallaschofski H, Wild S, Wilson JF, Yengo L, Bishop DT, Borecki IB, Chambers JC, Cupples LA, Dehghan A, Deloukas P, Fatemifar G, Fox C, Furey TS, Franke L, Han J, Hunter DJ, Karjalainen J, Karpe F, Kaplan RC, Kooner JS, McCarthy MI, Murabito JM, Morris AP, Bishop JA, North KE, Ohlsson C, Ong KK, Prokopenko I, Richards JB, Schadt EE, Spector TD, Widén E, Willer CJ, Yang J, Ingelsson E, Mohlke KL, Hirschhorn JN, Pospisilik JA, Zillikens MC, Lindgren C, Kilpeläinen TO, Loos RJ. New loci for body fat percentage reveal link between adiposity and cardiometabolic disease risk. Nat Commun 2016; 7:10495