Supplementary Table 1: Target genes of antidiabetic drugs

Drug classification	Drug target genes in drugbank	Drug target genes in chEMBL	Gene region (GRCh37.p13)
Su	*KCNJ11*	*KCNJ11*	chr11: 17,386,719-17,410,878
	ABCC8	*ABCC8*	chr11: 17,414,045-17,498,441
TZD	*PPARG*	*PPARG*	chr3: 12,328,867-12,475,855
Insulin/insulin analogues	*INSR*	*INSR*	chr19: 7,112,266-7,294,425
GLP-1 analogues	*GLP1R*	*GLP1R*	chr6: 39,016,557-39,059,079
SGLT2 inhibitor	*SLC5A2*	*SLC5A2*	chr16: 31,494,323-31,502,181
DPP-IV inhibitor	*DPP4*	*DPP4*	chr2: 162,848,755-162,930,904
Metformin	*PRKAB1*	58 *encoding genes*	NA
	ETFDH	*GPD2*	NA

Abbreviations: Su, Sulfonylureas; TZD, Thiazolidinediones; GLP-1, Glucagon-like peptide 1; SGLT2, Sodium-glucose cotransporter 2; DPP-IV, Dipeptidyl peptidase 4.

Supplementary Table 2: The results of the target genes of hypoglycemic agents and glycemic traits

Gene	tissue	probeID	Probe-Chr	Probe_bp	topSNP	topSNP_bp	A1	A2	Freq	b_GWAS	se_GWAS	*p*_GWAS	b_eQTL	se_eQTL	*p*_eQTL	b_SMR	se_SMR	*p*_SMR	*p*_HEIDI	nsnp_HEIDI
SLC5A2																				
FBG	blood	ENSG00000140675	16	31498252	rs6565236	31517648	T	A	0.254601	-0.0003	0.0021	7.60E-01	0.0565541	0.0092536	9.86E-10	-0.005305	0.0371427	8.86E-01	NA	NA
HbA1c	blood	ENSG00000140675	16	31498252	rs6565236	31517648	T	A	0.254601	-0.0051	0.0015	1.28E-03	0.0565541	0.0092536	9.86E-10	-0.090179	0.0303514	2.97E-03**	NA	NA
T2D	blood	ENSG00000140675	16	31498252	rs6565236	31517648	T	A	0.254601	-0.0078	0.0072	2.80E-01	0.0565541	0.0092536	9.86E-10	-0.137921	0.129296	2.86E-01	NA	NA
DPP4																				
FBG	blood	ENSG00000197635	2	162889901	rs13015258	162930725	T	G	0.403885	0.0016	0.002	5.27E-01	0.128405	0.0081612	8.90E-56	0.0124606	0.0155959	4.24E-01	7.38E-01	20
HbA1c	blood	ENSG00000197635	2	162889901	rs13015258	162930725	T	G	0.403885	0.0022	0.0015	7.62E-02	0.128405	0.0081612	8.90E-56	0.0171334	0.0117325	1.44E-01	2.65E-01	20
T2D	blood	ENSG00000197635	2	162889901	rs13015258	162930725	T	G	0.403885	0.0137	0.0066	3.78E-02	0.128405	0.0081612	8.90E-56	0.106694	0.0518455	3.96E-02*	1.87E-01	20
INSR																				
FBG	blood	ENSG00000171105	19	7203155	rs4640294	7297710	G	A	0.259714	0.0011	0.0026	4.17E-01	0.0867737	0.009791	7.82E-19	0.0126767	0.0299971	6.73E-01	9.29E-01	12
HbA1c	blood	ENSG00000171105	19	7203155	rs4640294	7297710	G	A	0.259714	-0.003	0.0019	4.44E-02	0.0867737	0.009791	7.82E-19	-0.034573	0.0222408	1.20E-01	6.09E-01	12
T2D	blood	ENSG00000171105	19	7203155	rs4640294	7297710	G	A	0.259714	0.0163	0.0081	4.32E-02	0.0867737	0.009791	7.82E-19	0.187845	0.0957223	4.97E-02*	4.43E-01	12
GLP1R																				
FBG	blood	ENSG00000112164	6	39036046	rs9283907	39026703	A	G	0.170757	0.0072	0.0023	6.47E-03	0.101336	0.0115312	1.52E-18	0.0710507	0.0240937	3.19E-03**	2.26E-05***	6
HbA1c	blood	ENSG00000112164	6	39036046	rs9283907	39026703	A	G	0.170757	-0.0018	0.0018	2.42E-01	0.101336	0.0115312	1.52E-18	-0.017763	0.0178773	3.20E-01	5.13E-01	6
T2D	blood	ENSG00000112164	6	39036046	rs9283907	39026703	A	G	0.170757	-0.0035	0.009	6.98E-01	0.101336	0.0115312	1.52E-18	-0.034539	0.0889003	6.98E-01	1.23E-03**	6
PPARG																				
FBG	blood	ENSG00000132170	3	12402361	rs1699346	12504295	C	A	0.429448	-0.0016	0.0018	2.73E-01	0.252822	0.0079468	4.09E-222	-0.006329	0.0071224	3.74E-01	7.17E-01	20
HbA1c	blood	ENSG00000132170	3	12402361	rs1699346	12504295	C	A	0.429448	0.0036	0.0014	3.56E-03	0.252822	0.0079468	4.09E-222	0.0142393	0.0055556	1.04E-02*	1.46E-01	20
T2D	blood	ENSG00000132170	3	12402361	rs1699346	12504295	C	A	0.429448	0.0162	0.0065	1.26E-02	0.252822	0.0079468	4.09E-222	0.0640767	0.0257886	1.30E-02*	1.14E-01	20
KCNJ11																				

FBG	blood	ENSG00000187486	11	17409142	rs2074310	17421886	T	C	0.353783	0.0019	0.0017	0.4167	0.157188	0.012183	4.374E-38	0.0120874	0.0108556	0.265504	0.989267	20
HbA1c	blood	ENSG00000187486	11	17409142	rs2074310	17421886	T	C	0.353783	0.0034	0.0013	0.02584	0.157188	0.012183	4.374E-38	0.0216301	0.0084386	0.01037*	0.516576	20
T2D	blood	ENSG00000187486	11	17409142	rs2074310	17421886	T	C	0.353783	0.0684	0.0066	3.41E-25	0.157188	0.012183	4.374E-38	0.435148	0.053856	6.49E-16***	0.097348	20
ABCC8																				
FBG	Colon_Transverse	ENSG00000006071	11	17414432	rs985136	17497794	G	C	0.48773	-0.0007	0.0022	0.5906	0.357268	0.052859	1.391E-11	-0.001959	0.0061647	0.750614	0.992125	3
FBG	Colon_Sigmoid	ENSG00000006071	11	17414432	rs77889556	17498057	A	G	0.171779	-0.0005	0.0032	0.9366	0.562989	0.0687618	2.667E-16	-0.000888	0.005685	0.875858	0.897742	4
HbA1c	Colon_Transverse	ENSG00000006071	11	17414432	rs985136	17497794	G	C	0.48773	0.0035	0.0017	0.01646	0.357268	0.052859	1.391E-11	0.0097966	0.0049742	0.048898*	0.669114	3
HbA1c	Colon_Sigmoid	ENSG00000006071	11	17414432	rs77889556	17498057	A	G	0.171779	0.0037	0.0023	0.0499	0.562989	0.0687618	2.667E-16	0.0065721	0.0041635	0.114447	0.358361	4
T2D	Colon_Transverse	ENSG00000006071	11	17414432	rs985136	17497794	G	C	0.48773	0.002	0.0067	0.7653	0.357268	0.052859	1.391E-11	0.005598	0.0187717	0.765538	0.545427	3
T2D	Colon_Sigmoid	ENSG00000006071	11	17414432	rs77889556	17498057	A	G	0.171779	-0.0035	0.0091	0.7008	0.562989	0.0687618	2.667E-16	-0.006217	0.0161816	0.700836	0.522549	4

Notes: *$P < 0.05$, **$P < 0.01$, ***$P < 0.001$.

Abbreviations: SNP, single nucleotide polymorphism; GWAS, genome wide association study; eQTL, expression quantitative trait loci; SMR, Summary-data-based Mendelian Randomization; HEIDI, heterogeneity in dependent instruments; FBG, fasting blood glucose; HbA1c, Glycated hemoglobin A1c; T2D, Type 2 Diabetes.

Supplementary Table 3: Relationship between cis-eQTL of antidiabetic drug targets genes and IBD

Gene	tissue	probeID	ProbeChr	Probe_bp	topSNP	topSNP_bp	A1	A2	Freq	b_GWAS	se_GWAS	p_GWAS	b_eQTL	se_eQTL	F value	p_eQTL	b_SMR	se_SMR	p_SMR	p_HEIDI	nsnp_HEIDI
SLC5A2																					
UC	blood	ENSG00000140675	16	31498252	rs6565236	31517648	T	A	0.254601	0.0013	0.0179	0.9437	0.0565541	0.00925357	37.35163	9.864E-10	0.0229868	0.316533	0.9421081	NA	NA
CD	blood	ENSG00000140675	16	31498252	rs6565236	31517648	T	A	0.254601	0.0383	0.0183	0.03611	0.0565541	0.00925357	37.35163	9.864E-10	0.677228	0.342031	0.0477017*	NA	NA
IBD	blood	ENSG00000140675	16	31498252	rs6565236	31517648	T	A	0.254601	0.0207	0.0141	0.1432	0.0565541	0.00925357	37.35163	9.864E-10	0.366021	0.256411	0.1534421	NA	NA
DPP4																					
UC	blood	ENSG00000197635	2	162889901	rs13015258	162930725	T	G	0.403885	0.0008	0.0168	0.9633	0.128405	0.00816117	247.5478	8.9E-56	0.0062303	0.130837	0.96202	0.0396659*	20
CD	blood	ENSG00000197635	2	162889901	rs13015258	162930725	T	G	0.403885	-0.0178	0.0171	0.2985	0.128405	0.00816117	247.5478	8.9E-56	-0.138624	0.133464	0.2989606	0.0034266**	20
IBD	blood	ENSG00000197635	2	162889901	rs13015258	162930725	T	G	0.403885	-0.0037	0.0132	0.7766	0.128405	0.00816117	247.5478	8.9E-56	-0.028815	0.102816	0.7792791	0.0055844**	20
INSR																					
UC	blood	ENSG00000171105	19	7203155	rs4640294	7297710	G	A	0.259714	-0.0369	0.0211	0.08056	0.0867737	0.009791	78.54565	7.817E-19	-0.425244	0.24785	0.0862113	0.0046835**	11
IBD	blood	ENSG00000171105	19	7203155	rs4640294	7297710	G	A	0.259714	-0.0167	0.0166	0.3158	0.0867737	0.009791	78.54565	7.817E-19	-0.192455	0.192531	0.3175019	0.0274903*	11
CD	blood	ENSG00000171105	19	7203155	rs4640294	7297710	G	A	0.259714	-0.0097	0.0213	0.6494	0.0867737	0.009791	78.54565	7.817E-19	-0.111785	0.24579	0.6492538	0.3010623	11
PPARG																					
UC	blood	ENSG00000132170	3	12402361	rs1699346	12504295	C	A	0.429448	-0.0007	0.0161	0.9629	0.252822	0.00794678	1012.156	4.09E-222	-0.002769	0.063681	0.9653203	0.1814279	20
CD	blood	ENSG00000132170	3	12402361	rs1699346	12504295	C	A	0.429448	-0.0379	0.0164	0.02059	0.252822	0.00794678	1012.156	4.09E-222	-0.149908	0.065039	0.021172*	0.5516316	20
IBD	blood	ENSG00000132170	3	12402361	rs1699346	12504295	C	A	0.429448	-0.0156	0.0127	0.2177	0.252822	0.00794678	1012.156	4.09E-222	-0.061704	0.05027	0.2196603	0.6970488	20
KCNJ11																					
UC	blood	ENSG00000187486	11	17409142	rs2074310	17421886	T	C	0.353783	-0.0079	0.0167	0.6347	0.157188	0.012183	166.4678	4.374E-38	-0.050258	0.106314	0.6364014	0.0014916**	20
CD	blood	ENSG00000187486	11	17409142	rs2074310	17421886	T	C	0.353783	-0.05	0.0169	0.00307	0.157188	0.012183	166.4678	4.374E-38	-0.31809	0.110305	0.0039299**	0.0554526	20
IBD	blood	ENSG00000187486	11	17409142	rs2074310	17421886	T	C	0.353783	-0.0287	0.0131	0.02821	0.157188	0.012183	166.4678	4.374E-38	-0.182584	0.084533	0.0307787*	0.0015131**	20
ABCC8																					
UC	Colon_Transverse	ENSG00000006071	11	17414432	rs985136	17497794	G	C	0.48773	0.0257	0.0175	0.1424	0.357268	0.052859	45.68255	1.391E-11	0.0719348	0.050126	0.1512625	0.899315	3

CD	Colon_Transverse	ENSG00000006071	11	17414432	rs985136	17497794	G	C	0.48773	0.0336	0.0178	0.05975	0.357268	0.052859	45.68255	1.391E-11	0.094047	0.051729	0.0690537	0.3963732	3
IBD	Colon_Transverse	ENSG00000006071	11	17414432	rs985136	17497794	G	C	0.48773	0.0249	0.0138	0.07063	0.357268	0.052859	45.68255	1.391E-11	0.0696956	0.039979	0.0812818	0.7073304	3

Notes: *$P < 0.05$, **$P < 0.01$.

Abbreviations: SNP, single nucleotide polymorphism; GWAS, genome wide association study; eQTL, expression quantitative trait loci; SMR, Summary-data-based Mendelian Randomization; HEIDI, heterogeneity in dependent instruments; IBD, inflammatory bowel disease; UC, ulcerative colitis; CD, Crohn's disease.

Supplementary Table 4: IV of T2D-mediated *KCNJ11* and the data regarding IBD/UC/CD

Gene/phenotypes	SNP	effect_ allele	other_ allele	beta	eaf	se	F value	pval
KCNJ11	rs757110	A	C	-0.0691	0.6279	0.0066	109.6146	1.12E-25
CD	rs757110	A	C	0.0514	/	0.0166	/	0.0020
UC	rs757110	A	C	0.0064	/	0.0165	/	0.6987
IBD	rs757110	A	C	0.0284	/	0.0129	/	0.0279

Abbreviations: IV, instrumental variable; SNP, single nucleotide polymorphism; IBD, inflammatory bowel disease; UC, ulcerative colitis; CD, Crohn's disease.

Supplementary Table 5: IVs of T2D-mediated *PPARG* and the data regarding IBD/UC/CD

			PPARG					**CD**			**UC**			**IBD**		
SNP	effect_allele	other_allele	beta	eaf	se	F value	pval	beta	se	pval	beta	se	pval	beta	se	pval
rs11709077	A	G	-0.1040	0.1264	0.0097	114.954	1.26E-26	-0.0087	0.0249	0.7252	0.0143	0.0242	0.5546	0.0070	0.0191	0.7126
rs4518111	A	C	0.0468	0.4338	0.0067	48.791	2.87E-12	-0.0017	0.0164	0.9174	0.0101	0.0162	0.5331	0.0035	0.0127	0.7818

Abbreviations: IVs, instrumental variables; SNP, single nucleotide polymorphism; IBD, inflammatory bowel disease; UC, ulcerative colitis; CD, Crohn's disease.

Supplementary Table 6: IVs of HbA1c-mediated *PPARG* and the data regarding IBD/UC/CD

			PPARG					**CD**			**UC**			**IBD**		
SNP	effect_allele	other_allele	beta	eaf	se	F value	pval	beta	se	pval	beta	se	pval	beta	se	pval
rs1177809	A	G	0.0083	0.64	0.0013	40.763	2.6E-10	0.0029	0.017	0.8671	0.0194	0.0167	0.2468	0.0104	0.0132	0.4276
rs12491937	A	G	0.009	0.555	0.0013	47.929	1.4E-13	-0.0161	0.0163	0.3226	0.0165	0.0161	0.3043	-0.0001	0.0126	0.9934

Abbreviations: IVs, instrumental variables; HbA1c, Glycated hemoglobin A1c; SNP, single nucleotide polymorphism; IBD, inflammatory bowel disease; UC, ulcerative colitis; CD, Crohn's disease.

Supplementary Table 7: Association between HbAlc-mediated *PPARG* and IBD (Results based on TSMR)

Phenotypes	Method	OR (95%CI)	*P* value
UC	IVW	7.813 (0.569,107.359)	0.124
CD	IVW	0.427 (0.030, 6.102)	0.531
IBD	IVW	1.717 (0.219,13.470)	0.607

Abbreviations: IVs, instrumental variables; HbA1c, Glycated hemoglobin A1c; SNP, single nucleotide polymorphism; IBD, inflammatory bowel disease; UC, ulcerative colitis; CD, Crohn's disease; IVW, inverse-variance weighted; TSMR, Two Sample Mendelian Randomization; OR, odd ratio; CI, confidence interval.

Supplementary Table 8: Results of colocalization analysis of cis-eQTL in *KCNJ11* region and CD

PP.H0.abf	PP.H1.abf	P.H2.abf	PP.H3.abf	PP.H4.abf
4.95e-26	3.25e-26	2.87e-01	1.88e-01	5.25e-01
[1] "PP abf for shared variant: 52.5%"				

Abbreviations: eQTL, expression quantitative trait loci; CD, Crohn's disease.

Supplementary Table 9: Heterogeneity of T2D-mediated *PPARG*

Phenotypes	*P* value of heterogeneity
UC	0.397
CD	0.777
IBD	0.665

Abbreviations: IBD, inflammatory bowel disease; UC, ulcerative colitis; CD, Crohn's disease.

Supplementary Table 10: Heterogeneity of HBA1c-mediated *PPARG*

Phenotypes	*P* value of heterogeneity
UC	0.851
CD	0.434
IBD	0.551

Abbreviations: HbA1c, Glycated hemoglobin A1c; IBD, inflammatory bowel disease; UC, ulcerative colitis; CD, Crohn's disease.

Supplementary Table 11: Results of colocalization analysis of T2D and CD in KCNJ11 region

PP.H0.abf	PP.H1.abf	P.H2.abf	PP.H3.abf	PP.H4.abf
1.04e-21	4.71e-02	2.10e-20	9.51e-01	2.29e-03
[1] "pp abf for shared variant: 0.229%"				

Abbreviations: T2D, Type 2 Diabetes; CD, Crohn's disease.

Supplementary Table 12: IVs included in association between T2D and CD

			T2D					CD		
SNP	effect_ allele	other_ allele	beta	eaf	se	F value	pval	se	pval	beta
rs1007090	T	C	-0.044	0.3316	0.0068	41.868512	1.01E-10	0.0168	0.4956	0.0115
rs10097617	T	C	0.0487	0.485	0.0064	57.902588	2.44E-14	0.0161	0.849	0.0031
rs10406431	A	G	0.0603	0.5626	0.0065	86.061302	1.56E-20	0.0166	0.04497	0.0333
rs10419627	A	G	0.0431	0.591	0.0065	43.967101	3.15E-11	0.0167	0.5309	0.0105
rs10750397	A	G	0.0394	0.2829	0.0071	30.794684	3.13E-08	0.0178	0.1143	-0.028
rs10811660	A	G	-0.1598	0.1704	0.0086	345.26825	2.54E-77	0.0212	0.1996	-0.0272
rs10938397	A	G	-0.0414	0.5697	0.0065	40.567101	1.8E-10	0.0163	0.7382	0.0054
rs10974438	A	C	-0.0514	0.6416	0.0067	58.854088	1.71E-14	0.0171	0.09508	0.0285
rs11048456	T	C	-0.0454	0.7407	0.0072	39.760031	3.3E-10	0.0184	0.8099	-0.0044
rs11063029	T	C	0.0858	0.0581	0.0138	38.655955	5.36E-10	0.0365	0.9487	0.0023
rs11187138	A	G	0.1094	0.5876	0.0065	283.27479	1E-63	0.0163	0.002206	-0.0498
rs11257655	T	C	0.0859	0.2169	0.0077	124.45286	1.46E-28	0.0197	0.748	0.0063
rs1127215	T	C	-0.0491	0.4153	0.0065	57.060592	3.92E-14	0.0162	0.1937	0.0211
rs116425039	A	G	-0.272	0.012	0.0348	61.091293	5.08E-15	0.089	0.1325	0.1338
rs11680058	A	G	0.0581	0.8648	0.0104	31.209412	2.08E-08	0.0296	0.06304	-0.055
rs11708067	A	G	0.0882	0.775	0.0077	131.20661	5.05E-30	0.0192	0.9458	0.0013
rs11709077	A	G	-0.104	0.1264	0.0097	114.95377	1.26E-26	0.0249	0.7252	-0.0087
rs117233107	A	G	-0.3596	0.0154	0.0295	148.59197	4.02E-34	0.0693	0.2531	0.0792
rs11759026	A	G	-0.066	0.768	0.0075	77.44	2.04E-18	0.0194	0.02437	0.0436
rs11842871	T	G	-0.04	0.2669	0.0073	30.024395	4.83E-08	0.0193	0.7568	-0.006
rs11856307	A	C	0.047	0.5706	0.0065	52.284024	4.48E-13	0.0163	0.5971	-0.0086
rs12001437	T	C	-0.0402	0.6309	0.0066	37.099174	1.1E-09	0.0165	0.6427	0.0076
rs12113073	T	C	0.0502	0.8176	0.0083	36.580636	1.29E-09	0.0203	0.4293	-0.016
rs12140153	T	G	-0.0645	0.0953	0.0113	32.58086	1.17E-08	0.0308	0.02056	-0.0714
rs12325539	T	C	-0.041	0.5998	0.0065	39.786982	2.69E-10	0.0164	0.6029	0.0086
rs12719778	T	C	0.0381	0.5365	0.0065	34.357633	4.38E-09	0.0163	0.9048	0.0019
rs12811407	A	G	0.0476	0.3317	0.007	46.24	1.16E-11	0.0177	0.1318	-0.0267
rs12910361	A	G	-0.0814	0.2926	0.007	135.22367	3.95E-31	0.0174	0.01448	0.0426
rs12912777	T	C	0.0773	0.1195	0.0101	58.575532	1.47E-14	0.0258	0.9149	-0.0028
rs13022337	A	G	-0.0519	0.1715	0.0088	34.783187	3.61E-09	0.0209	0.5756	0.0117
rs13266634	T	C	-0.1075	0.3153	0.0069	242.72737	1.44E-54	0.0175	0.4494	-0.0132
rs13285209	T	C	-0.0382	0.6768	0.0068	31.557958	1.99E-08	0.0173	0.1095	-0.0278
rs13330951	A	G	0.0361	0.5043	0.0064	31.81665	1.58E-08	0.016	0.8797	0.0024
rs13385171	T	C	0.0357	0.4149	0.0065	30.165444	3.81E-08	0.0163	0.003942	0.047
rs13389219	T	C	-0.0605	0.4014	0.0065	86.633136	1.17E-20	0.0164	0.607	0.0084
rs1359790	A	G	-0.0817	0.2791	0.0071	132.41202	1.76E-30	0.0178	0.02986	0.0386
rs1381937	A	C	0.0442	0.462	0.0064	47.696289	4.5E-12	0.0162	0.3729	-0.0144
rs141521721	A	C	0.1212	0.0233	0.0214	32.075814	1.39E-08	0.0533	0.3911	-0.0457
rs1421085	T	C	-0.1218	0.5829	0.0065	351.12994	1.52E-78	0.0162	0.01622	-0.0388
rs1426371	A	G	-0.0517	0.2659	0.0073	50.15744	1.74E-12	0.0188	0.07544	-0.0334

rs1431841	T	G	0.0429	0.2113	0.0077	31.040816	3.08E-08	0.0196	0.5199	0.0126
rs145678014	T	G	-0.1048	0.0426	0.0163	41.3378	1.4E-10	0.0418	0.9501	-0.0026
rs1496653	A	G	0.0665	0.7887	0.0079	70.858036	2.49E-17	0.0197	0.08497	-0.034
rs150254892	T	C	0.1715	0.0226	0.0216	63.040659	1.85E-15	0.0553	0.9969	-0.0002
rs1573090	T	G	0.0458	0.5328	0.0065	49.648284	1.72E-12	0.0163	0.009858	-0.042
rs1705263	A	C	-0.0484	0.4367	0.0064	57.191406	3.51E-14	0.016	0.1757	-0.0217
rs17522122	T	G	0.0356	0.474	0.0064	30.941406	2.49E-08	0.0166	0.6117	-0.0084
rs17772814	A	G	-0.0746	0.0857	0.0125	35.617024	2.13E-09	0.0355	0.5952	-0.0189
rs17791513	A	G	0.1016	0.9323	0.0132	59.243343	1.35E-14	0.035	0.03247	0.075
rs1783541	T	C	0.0608	0.201	0.0081	56.342631	4.65E-14	0.02	0.1579	-0.0282
rs1800961	T	C	0.1602	0.0349	0.0175	83.800947	5.1E-20	0.0494	0.8845	0.0072
rs1801645	T	C	-0.0482	0.7269	0.0075	41.302044	1.62E-10	0.0208	0.09421	-0.0348
rs2041965	T	C	-0.0383	0.3556	0.0067	32.677434	1.09E-08	0.017	0.684	-0.0069
rs2080385	T	G	-0.0551	0.2489	0.0074	55.442111	1.24E-13	0.0185	0.9166	-0.0019
rs2107133	A	G	0.0643	0.8727	0.0097	43.941864	4.02E-11	0.0246	0.5101	0.0162
rs2215383	T	C	-0.0641	0.4625	0.0064	100.31274	1.06E-23	0.016	0.663	-0.007
rs2237895	A	C	-0.0892	0.573	0.0066	182.65932	1.15E-41	0.0169	0.7025	0.0065
rs2290202	T	G	0.0666	0.1393	0.0092	52.405009	4.89E-13	0.0234	0.04822	0.0463
rs2292662	T	C	-0.0645	0.16	0.0088	53.722237	2.24E-13	0.0221	0.6792	0.0091
rs2351707	T	C	-0.0644	0.7178	0.007	84.64	4.3E-20	0.0179	0.7491	0.0057
rs2383205	A	G	-0.0533	0.4015	0.0065	67.24	2.2E-16	0.0165	0.2976	0.0171
rs243019	T	C	-0.0588	0.5359	0.0064	84.410156	3.37E-20	0.0163	0.6027	-0.0085
rs2767036	A	C	-0.0389	0.7086	0.007	30.881837	2.94E-08	0.0175	0.02659	0.0388
rs2785998	A	C	-0.0554	0.3107	0.0069	64.464608	1.08E-15	0.0174	0.8604	0.0031
rs2796441	A	G	-0.0674	0.406	0.0065	107.52095	2.97E-25	0.0166	0.5115	0.0109
rs2812545	A	G	0.0413	0.5206	0.0065	40.371361	1.99E-10	0.0172	0.2473	-0.0198
rs28544889	A	C	0.0549	0.3221	0.0069	63.306238	1.95E-15	0.0178	0.8012	0.0045
rs28663084	A	G	-0.0376	0.673	0.0068	30.574394	3.3E-08	0.0171	0.3516	-0.0159
rs2971669	T	C	0.0602	0.205	0.008	56.625625	3.87E-14	0.0195	0.1487	0.0281
rs3019208	A	G	0.0397	0.6847	0.0068	34.084991	5.43E-09	0.017	0.6635	-0.0074
rs3094682	A	C	-0.0619	0.1926	0.0082	56.984087	3.47E-14	0.0228	0.05175	-0.0444
rs320369	A	G	0.0372	0.3232	0.0068	29.927336	4.6E-08	0.0173	0.5963	0.0092
rs329122	A	G	0.0366	0.4292	0.0065	31.705562	1.72E-08	0.0162	0.02774	0.0356
rs340874	T	C	-0.0678	0.449	0.0065	108.80095	1.56E-25	0.0161	0.5371	0.0099
rs348330	A	G	-0.0492	0.6399	0.0067	53.923814	2.1E-13	0.0172	0.04096	0.0353
rs34990153	A	G	0.0476	0.5601	0.0065	53.627456	2.26E-13	0.0161	0.0386	0.0332
rs35011184	A	G	0.2822	0.2306	0.0075	1415.766	1E-200	0.0195	0.8961	0.0025
rs35251247	A	G	0.0505	0.2869	0.0071	50.590161	1.31E-12	0.0178	0.7026	-0.0068
rs35777422	A	G	-0.0381	0.3559	0.0067	32.337046	1.3E-08	0.017	0.1534	-0.0243
rs35895680	A	C	-0.0554	0.323	0.0069	64.464608	1.08E-15	0.0177	0.546	-0.0107
rs3768321	T	G	0.084	0.1993	0.008	110.25	4.75E-26	0.0203	0.01095	0.0515
rs3786900	A	G	0.0434	0.7307	0.0072	36.334105	1.89E-09	0.0184	0.9705	-0.0007
rs3798519	A	C	-0.0616	0.811	0.0082	56.433076	4.6E-14	0.0207	0.4833	-0.0145
rs429358	T	C	0.0746	0.8473	0.0091	67.203961	2.62E-16	0.0238	0.8472	-0.0046

rs4368494	A	G	-0.054	0.2976	0.007	59.510204	1.39E-14	0.0174	0.7607	-0.0053
rs465002	T	C	0.0718	0.7406	0.0073	96.739351	1.17E-22	0.0185	0.7886	0.005
rs4679370	T	C	-0.0365	0.4605	0.0064	32.525635	1.1E-08	0.0162	0.7899	-0.0043
rs4686471	T	C	-0.0608	0.3887	0.0066	84.863177	3.05E-20	0.0165	0.3706	-0.0148
rs4688760	T	C	0.042	0.6828	0.007	36	2.14E-09	0.0176	0.9014	-0.0022
rs4709746	T	C	-0.0567	0.1313	0.0096	34.883789	3.95E-09	0.0239	0.362	-0.0218
rs474513	A	G	0.0399	0.5162	0.0064	38.867432	4.18E-10	0.016	0.9835	0.0003
rs4804833	A	G	0.048	0.3912	0.0066	52.892562	3.42E-13	0.0167	0.3468	-0.0157
rs4924559	A	G	-0.0424	0.7038	0.007	36.68898	1.5E-09	0.0178	0.8574	-0.0032
rs4925109	A	G	0.0476	0.3177	0.0069	47.590002	5.65E-12	0.0171	0.3918	-0.0147
rs4977213	T	C	-0.0507	0.6281	0.0069	53.990548	2.19E-13	0.0164	0.005263	-0.0457
rs505922	T	C	-0.0473	0.6634	0.0068	48.384299	3.65E-12	0.0169	0.0005492	-0.0583
rs508419	A	G	-0.0811	0.2356	0.0075	116.92818	5.43E-27	0.0184	0.3181	-0.0183
rs55653563	A	C	0.0435	0.7333	0.0072	36.501736	1.73E-09	0.0181	0.7352	-0.0061
rs56187241	T	C	0.1014	0.0451	0.0157	41.713498	1.07E-10	0.0429	0.6385	0.0202
rs56823429	A	C	-0.0519	0.7071	0.007	54.971633	1.38E-13	0.0177	0.4389	0.0137
rs5758223	A	G	0.0401	0.7134	0.0071	31.898631	1.78E-08	0.0179	0.07507	0.0318
rs576674	A	G	-0.0538	0.8313	0.0086	39.135208	3.7E-10	0.0213	0.8897	0.003
rs58432198	T	C	-0.0636	0.1172	0.0103	38.127627	5.71E-10	0.0253	0.1127	0.0402
rs58642235	T	C	-0.0566	0.8612	0.0094	36.255772	1.9E-09	0.0242	0.928	0.0022
rs62107261	T	C	0.1019	0.9541	0.0161	40.058678	2.62E-10	0.0406	0.1821	0.0541
rs62563593	A	G	-0.0394	0.6063	0.0065	36.742249	1.28E-09	0.0163	0.1611	0.0229
rs6444809	T	C	0.0544	0.8723	0.0096	32.111111	1.63E-08	0.0243	0.2615	0.0272
rs6459737	A	G	-0.0583	0.338	0.0067	75.715972	3.31E-18	0.0167	0.1177	-0.0262
rs6545714	A	G	-0.0363	0.6081	0.0065	31.187929	2.25E-08	0.0162	0.3286	-0.0158
rs6600191	T	C	0.0587	0.8246	0.0085	47.691211	4.47E-12	0.0205	0.5997	0.0108
rs6687271	A	C	-0.0402	0.7521	0.0073	30.325389	4.14E-08	0.0186	0.6838	-0.0076
rs670323	A	G	0.0541	0.2003	0.008	45.731406	1.06E-11	0.02	0.9223	-0.002
rs672271	T	C	-0.06	0.9062	0.011	29.752066	4.83E-08	0.0283	0.3191	0.0282
rs67232546	T	C	0.0531	0.2047	0.008	44.056406	2.51E-11	0.0198	0.06951	-0.036
rs67516930	T	C	-0.0366	0.5413	0.0064	32.704102	1E-08	0.0161	0.02185	-0.037
rs6821438	A	G	0.0397	0.5342	0.0064	38.47876	5.1E-10	0.016	0.01317	-0.0395
rs6937438	A	G	-0.0514	0.7112	0.007	53.917551	2.35E-13	0.0176	0.3186	-0.0176
rs702634	A	G	0.0503	0.689	0.0069	53.141987	3.37E-13	0.0172	0.3644	-0.0156
rs7178762	T	C	-0.0387	0.5364	0.0064	36.564697	1.37E-09	0.016	0.005028	0.045
rs7223643	A	G	-0.0516	0.8056	0.0081	40.581619	1.55E-10	0.0201	0.6241	0.0099
rs7240767	T	C	-0.0372	0.626	0.0066	31.768595	1.71E-08	0.0166	0.3236	0.0164
rs7313918	T	C	-0.0559	0.8635	0.0094	35.364531	2.99E-09	0.0245	0.5434	0.0149
rs7325671	T	C	0.0545	0.1264	0.0096	32.229275	1.53E-08	0.0243	0.5384	0.0149
rs73883378	T	C	0.0821	0.9132	0.0115	50.967183	1.02E-12	0.0285	0.6163	-0.0143
rs739846	A	G	0.0877	0.0761	0.0119	54.313184	2.02E-13	0.0306	0.4868	0.0213
rs757110	A	C	-0.0691	0.6279	0.0066	109.61455	1.12E-25	0.0166	0.002017	0.0514
rs7633675	T	G	-0.1085	0.6837	0.0068	254.59018	3.21E-57	0.0171	0.03271	-0.0365
rs7667864	A	C	-0.0402	0.2838	0.0071	32.057925	1.64E-08	0.0179	0.5419	-0.0109

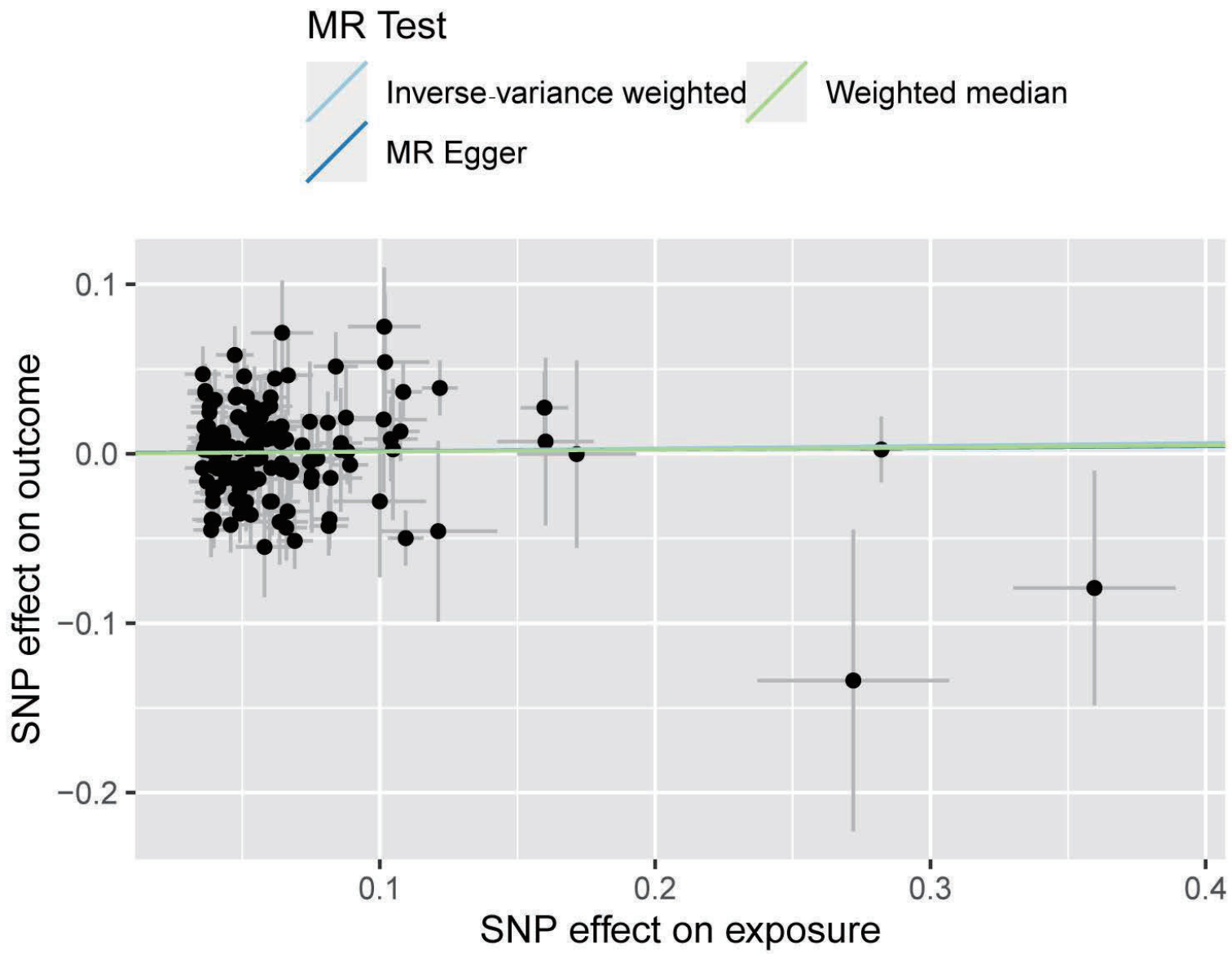
rs7732130	A	G	-0.0606	0.6992	0.007	74.946122	5.69E-18	0.0176	0.5985	-0.0093
rs77864822	A	G	0.0753	0.9295	0.0129	34.073012	5.01E-09	0.0337	0.6984	-0.013
rs7966976	A	G	-0.0751	0.1964	0.0081	85.962658	1.22E-20	0.0204	0.4146	0.0166
rs79677630	T	G	-0.1	0.9613	0.0168	35.430839	2.38E-09	0.0448	0.5295	0.0281
rs8008910	A	G	0.0554	0.2192	0.0076	53.136427	4.22E-13	0.0194	0.3756	0.0171
rs8071043	T	C	-0.0523	0.6738	0.0068	59.154196	1.53E-14	0.0171	0.2408	-0.0201
rs8097210	T	G	-0.0537	0.7325	0.0072	55.626736	1.06E-13	0.0181	0.238	-0.0214
rs8192675	T	C	0.0659	0.7121	0.007	88.628776	5.77E-21	0.0175	0.6272	0.0085
rs9665898	T	C	-0.0525	0.1361	0.0094	31.193413	2.53E-08	0.0232	0.5309	-0.0145

Abbreviations: IVs, instrumental variables; T2D, Type 2 Diabetes; SNP, single nucleotide polymorphism; CD, Crohn's disease.

Supplementary Table 13: Causal relationship between T2D and CD

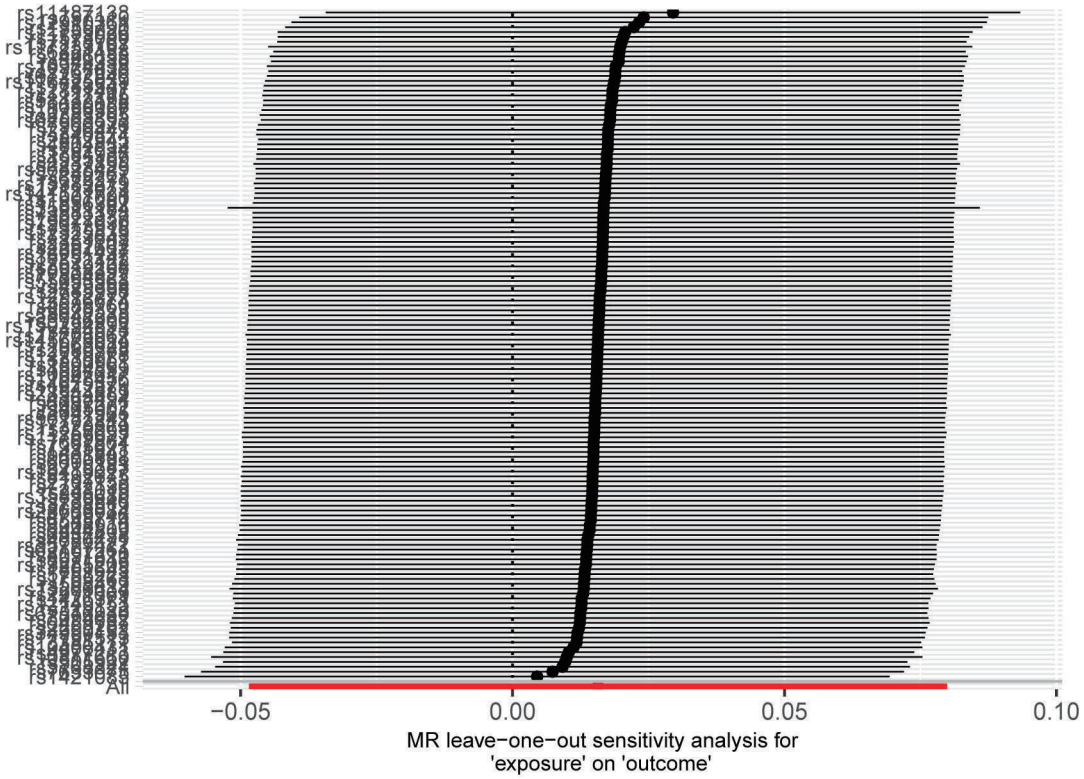
Phenotype	nSNP	Method	OR (95%CI)	*P* value	*P* value of Cochran's Q test	MR-Egger intercept (*P* value)
CD	137	MR Egger	1.010 (0.875, 1.167)	0.890	0.000000723	0.0003 (0.934)
		WM	1.012 (0.915, 1.120)	0.811		
		IVW	1.016 (0.953, 1.083)	0.631		

Abbreviations: T2D, Type 2 Diabetes; CD, Crohn's disease; SNP, single nucleotide polymorphism; WM, weighted median; IVW, inverse-variance weighted; OR, odd ratio; CI, confidence interval.



Supplementary Figure 1: Visualization of the relationship between T2D and CD

Abbreviations: T2D, Type 2 Diabetes; CD, Crohn's disease; SNP, single nucleotide polymorphism.



Supplementary Figure 2: Results of the leave-one-out method for the relationship between T2D and CD

Abbreviations: T2D, Type 2 Diabetes; CD, Crohn's disease.