Supplementary Table 3. Genetic instruments (UK Biobank Pharma Proteomics Project)

Protein	SNP	CHR (hg19)	POS (hg19)	A2	A1	Freq1	Beta	SE	ID	INFO	N	Test	CHISQ	LOG10P	R^2	F-statistic	R^2 total
CASP-8	rs112520379	2	202101998	G	C	0.0962	-0.0485	0.0127	2:202101998:G:C	0.98	33848	ADD	14.71	3.90	0.0004	15	0.0063
CASP-8	rs17383714	2	202153789	C	T	0.0856	-0.0466	0.0132	2:202153789:C:T	1.00	33848	ADD	12.43	3.37	0.0003	12	
CASP-8	rs17860394	2	202036771	C	T	0.9788	-0.1004	0.0257	2:202036771:T:C	0.99	33848	ADD	15.25	4.03	0.0004	15	
CASP-8	rs34966392	2	202135097	C	T	0.0200	-0.0896	0.0270	2:202135097:C:T	0.96	33848	ADD	11.05	3.05	0.0003	11	
CASP-8	rs35620793	2	202252478	G	A	0.9465	0.0820	0.0165	2:202252478:A:G	0.99	33848	ADD	24.68	6.17	0.0007	25	
CASP-8	rs6435072	2	202115796	G	T	0.1118	-0.0424	0.0118	2:202115796:G:T	0.99	33848	ADD	12.98	3.50	0.0004	13	
CASP-8	rs76165463	2	202197449	C	T	0.0303	-0.1052	0.0221	2:202197449:C:T	0.95	33848	ADD	22.59	5.70	0.0006	23	
CASP-8	rs77249938	2	202112138	C	T	0.0296	-0.0854	0.0223	2:202112138:C:T	0.96	33848	ADD	14.70	3.90	0.0004	15	
CASP-8	rs80036017	2	202080760	G	A	0.0153	0.3068	0.0300	2:202080760:G:A	1.00	33848	ADD	104.42	23.79	0.0028	104	
CCL25	rs1038082	19	8278481	C	T	0.1220	0.0372	0.0113	19:8278481:T:C	0.96	34049	ADD	10.90	3.02	0.0003	11	0.0657
CCL25	rs111330842	19	8203712	G	C	0.8926	-0.0509	0.0122	19:8203712:C:G	0.91	34049	ADD	17.35	4.51	0.0005	17	
CCL25	rs11672985	19	8091117	C	A	0.8323	-0.1491	0.0097	19:8091117:A:C	0.99	34049	ADD	234.72	52.25	0.0062	235	
CCL25	rs117637318	19	7960795	G	A	0.0154	0.5518	0.0296	19:7960795:G:A	0.98	34049	ADD	346.75	76.67	0.0092	347	
CCL25	rs117749793	19	8245917	C	T	0.0377	-0.0714	0.0192	19:8245917:C:T	0.97	34049	ADD	13.78	3.69	0.0004	14	
CCL25	rs117994655	19	8188056	G	A	0.0297	-0.1207	0.0218	19:8188056:G:A	0.95	34049	ADD	30.54	7.48	0.0008	31	
CCL25	rs12980528	19	8101716	G	A	0.7106	0.1905	0.0081	19:8101716:A:G	0.97	34049	ADD	554.13	121.80	0.0149	554	
CCL25	rs12983647	19	8242518	C	T	0.0437	-0.0767	0.0185	19:8242518:C:T	0.91	34049	ADD	17.19	4.47	0.0005	17	
CCL25	rs138175938	19	8305946	G	A	0.0152	-0.1076	0.0319	19:8305946:G:A	0.86	34049	ADD	11.38	3.13	0.0003	11	
CCL25	rs138676881	19	8013799	C	T	0.0168	0.4836	0.0290	19:8013799:C:T	0.94	34049	ADD	278.12	61.71	0.0077	278	
CCL25	rs146185765	19	8072793	G	A	0.0147	0.7761	0.0330	19:8072793:G:A	0.83	34049	ADD	551.60	121.25	0.0175	552	
CCL25	rs146900816	19	8297003	G	A	0.0117	-0.1695	0.0348	19:8297003:G:A	0.94	34049	ADD	23.79	5.97	0.0007	24	
CCL25	rs149624775	19	8165474	G	C	0.0185	0.1169	0.0283	19:8165474:G:C	0.90	34049	ADD	17.05	4.44	0.0005	17	
CCL25	rs17202419	19	8145451	G	A	0.1840	-0.0310	0.0093	19:8145451:G:A	1.00	34049	ADD	11.01	3.04	0.0003	11	
CCL25	rs181910415	19	8268608	G	C	0.9751	-0.0902	0.0241	19:8268608:C:G	0.92	34049	ADD	13.99	3.74	0.0004	14	
CCL25	rs36258	19	8326244	G	A	0.5430	-0.0261	0.0073	19:8326244:A:G	1.00	34049	ADD	12.87	3.48	0.0003	13	
CCL25	rs55715900	19	7999121	G	A	0.0275	0.1061	0.0220	19:7999121:G:A	1.01	34049	ADD	23.17	5.83	0.0006	23	
CCL25	rs56011348	19	7987708	G	T	0.0107	-0.2520	0.0383	19:7987708:G:T	0.84	34049	ADD	43.20	10.31	0.0013	43	
CCL25	rs572840	19	7948015	G	A	0.3256	-0.0257	0.0078	19:7948015:A:G	0.98	34049	ADD	10.95	3.03	0.0003	11	
CCL25	rs7246366	19	7958057	G	A	0.9700	0.0790	0.0215	19:7958057:A:G	0.97	34049	ADD	13.49	3.62	0.0004	13	
CCL25	rs7260399	19	8150662	G	A	0.4966	0.0412	0.0075	19:8150662:G:A	0.94	34049	ADD	30.50	7.48	0.0008	31	
CCL25	rs74515633	19	7970082	C	T	0.0496	-0.0793	0.0167	19:7970082:C:T	1.00	34049	ADD	22.67	5.72	0.0006	23	
CCL25	rs76892508	19	8093397	G	A	0.0280	-0.0852	0.0219	19:8093397:G:A	1.00	34049	ADD	15.11	3.99	0.0004	15	
CCL25	rs79821262	19	8173312	C	T	0.0188	-0.1182	0.0266	19:8173312:C:T	1.00	34049	ADD	19.75	5.06	0.0005	20	
CCL25	rs79904219	19	8235474	C	T	0.2005	-0.0308	0.0090	19:8235474:C:T	1.01	34049	ADD	11.75	3.22	0.0003	12	

Supplementary Table 3. Continued

Protein	SNP	CHR (hg19)	POS (hg19)	A2	A1	Freq1	Beta	SE	ID	INFO	N	Test	CHISQ	LOG10P	R^2	F-statistic	R^2 total
MCP-3	rs117803856	17	32558278	G	A	0.0181	-0.0973	0.0285	17:32558278:G:A	0.91	33657	ADD	11.70	3.20	0.0003	12	0.006
MCP-3	rs141155334	17	32596344	G	A	0.0167	0.1777	0.0286	17:32596344:G:A	0.98	33657	ADD	38.55	9.27	0.001	39	
MCP-3	rs141403170	17	32519546	G	A	0.9874	-0.1184	0.0331	17:32519546:A:G	0.96	33657	ADD	12.82	3.47	0.0003	13	
MCP-3	rs17809115	17	32629296	C	T	0.1574	0.0672	0.0100	17:32629296:C:T	0.99	33657	ADD	45.21	10.75	0.0012	45	
MCP-3	rs184983166	17	32619374	C	A	0.0185	0.0904	0.0271	17:32619374:C:A	0.98	33657	ADD	11.11	3.07	0.0003	11	
MCP-3	rs2097761	17	32487334	G	A	0.7442	0.0282	0.0083	17:32487334:A:G	1.00	33657	ADD	11.55	3.17	0.0003	12	
MCP-3	rs41416652	17	32585861	C	T	0.9563	0.1200	0.0177	17:32585861:T:C	1.00	33657	ADD	46.11	10.95	0.0012	46	
MCP-3	rs66536365	17	32619092	C	T	0.0545	0.0667	0.0163	17:32619092:C:T	0.96	33657	ADD	16.77	4.37	0.0005	17	
MCP-3	rs78115470	17	32629337	G	C	0.9687	-0.0716	0.0215	17:32629337:C:G	0.94	33657	ADD	11.13	3.07	0.0003	11	
MCP-3	rs80219280	17	32610534	G	T	0.0391	-0.0631	0.0187	17:32610534:G:T	1.00	33657	ADD	11.40	3.13	0.0003	11	
MCP-3	rs9911315	17	32666088	C	T	0.1774	0.0325	0.0095	17:32666088:C:T	1.00	33657	ADD	11.69	3.20	0.0003	12	
DNER	rs10210785	2	230391048	C	T	0.6977	0.0548	0.0083	2:230391048:T:C	0.94	33593	ADD	43.80	10.44	0.0013	44	0.0247
DNER	rs113245825	2	230595519	C	T	0.0162	0.1570	0.0293	2:230595519:C:T	1.00	33593	ADD	28.79	7.09	0.0008	29	
DNER	rs114242483	2	230431749	C	T	0.0127	-0.1139	0.0342	2:230431749:C:T	0.93	33593	ADD	11.07	3.06	0.0003	11	
DNER	rs114287513	2	230736623	C	T	0.9828	0.1578	0.0290	2:230736623:T:C	0.96	33593	ADD	29.61	7.28	0.0008	30	
DNER	rs114351940	2	230734056	C	T	0.0193	0.0989	0.0271	2:230734056:C:T	0.99	33593	ADD	13.37	3.59	0.0004	13	
DNER	rs114650763	2	230368824	G	A	0.0264	0.0936	0.0246	2:230368824:G:A	0.88	33593	ADD	14.51	3.86	0.0005	15	
DNER	rs115403106	2	230776556	G	T	0.9834	-0.2297	0.0291	2:230776556:T:G	0.99	33593	ADD	62.24	14.52	0.0017	62	
DNER	rs1226994	2	230104110	C	T	0.3114	0.0263	0.0080	2:230104110:C:T	1.00	33593	ADD	10.85	3.01	0.0003	11	
DNER	rs13432641	2	230269995	C	T	0.8768	0.0379	0.0115	2:230269995:T:C	0.96	33593	ADD	10.92	3.02	0.0003	11	
DNER	rs139064384	2	230366063	G	A	0.9777	-0.3830	0.0259	2:230366063:A:G	0.94	33593	ADD	218.81	48.79	0.0064	219	
DNER	rs139367596	2	230550038	G	A	0.9760	-0.0931	0.0249	2:230550038:A:G	0.94	33593	ADD	13.92	3.72	0.0004	14	
DNER	rs141695024	2	230272387	G	A	0.0145	-0.1208	0.0332	2:230272387:G:A	0.87	33593	ADD	13.23	3.56	0.0004	13	
DNER	rs17676442	2	230059363	C	A	0.8682	-0.0364	0.0110	2:230059363:A:C	0.99	33593	ADD	10.98	3.04	0.0003	11	
DNER	rs190657185	2	230557858	C	T	0.9821	-0.1674	0.0289	2:230557858:T:C	0.93	33593	ADD	33.58	8.17	0.001	34	
DNER	rs34526102	2	230306231	C	T	0.9871	0.1356	0.0348	2:230306231:T:C	0.88	33593	ADD	15.18	4.01	0.0005	15	
DNER	rs4972904	2	230481713	C	T	0.5996	-0.0622	0.0076	2:230481713:C:T	0.99	33593	ADD	67.22	15.62	0.0019	67	
DNER	rs62191992	2	230340324	C	T	0.0220	0.0844	0.0252	2:230340324:C:T	1.00	33593	ADD	11.25	3.10	0.0003	11	
DNER	rs6714349	2	230315177	C	A	0.0445	0.0668	0.0179	2:230315177:C:A	1.00	33593	ADD	13.90	3.72	0.0004	14	
DNER	rs6740255	2	230697885	G	A	0.0227	-0.2108	0.0248	2:230697885:G:A	1.00	33593	ADD	72.17	16.71	0.002	72	
DNER	rs72986925	2	230326331	G	A	0.9897	0.2570	0.0373	2:230326331:A:G	0.97	33593	ADD	47.58	11.28	0.0013	48	
DNER	rs72990032	2	230479792	G	C	0.9249	0.0559	0.0153	2:230479792:C:G	0.84	33593	ADD	13.36	3.59	0.0004	13	
DNER	rs74352267	2	230300301	G	A	0.0148	0.1378	0.0310	2:230300301:G:A	0.98	33593	ADD	19.79	5.06	0.0006	20	
DNER	rs75526808	2	230044163	G	C	0.0330	-0.0976	0.0217	2:230044163:G:C	0.91	33593	ADD	20.20	5.16	0.0006	20	

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Supplementary Table 3. Continued

Protein	SNP	CHR (hg19)	POS (hg19)	A2	A1	Freq1	Beta	SE	ID	INFO	N	Test	CHISQ	LOG10P	R^2	F-statistic	R^2 total
DNER	rs7606954	2	230376780	G	A	0.7801	-0.0318	0.0090	2:230376780:G:A	0.99	33593	ADD	12.50	3.39	0.0003	12	
DNER	rs76120928	2	230560814	C	T	0.0182	0.2036	0.0287	2:230560814:C:T	0.93	33593	ADD	50.38	11.90	0.0015	50	
4E-BP1*	rs142577765	8	37872558	C	A	0.9801	0.0890	0.0266	8:37872558:A:C	0.97	33693	ADD	11.20	3.09	0.0003	11	0.0003
HGF	rs140292899	7	81326792	G	C	0.0250	0.0779	0.0236	7:81326792:G:C	0.96	34049	ADD	10.87	3.01	0.0003	11	0.0018
HGF	rs141119049	7	81518969	G	A	0.9846	-0.0986	0.0299	7:81518969:A:G	0.97	34049	ADD	10.86	3.01	0.0003	11	
HGF	rs1733609	7	81536375	G	A	0.2319	0.0310	0.0088	7:81536375:A:G	0.96	34049	ADD	12.54	3.40	0.0003	13	
HGF	rs2194750	7	81462997	T	A	0.9619	-0.0642	0.0192	7:81462997:T:A	0.97	34049	ADD	11.16	3.08	0.0003	11	
HGF	rs78533369	7	81174262	C	T	0.9814	0.0898	0.0269	7:81174262:T:C	0.99	34049	ADD	11.11	3.07	0.0003	11	
HGF	rs977904	7	81340234	C	T	0.8204	0.0318	0.0095	7:81340234:C:T	0.99	34049	ADD	11.24	3.10	0.0003	11	
OSM*	rs1124852	22	30619430	C	T	0.0200	-0.0971	0.0269	22:30619430:C:T	0.97	33529	ADD	13.03	3.51	0.0004	13	0.0008
OSM*	rs6006393	22	30590026	C	T	0.1157	-0.0440	0.0116	22:30590026:T:C	1.00	33529	ADD	14.33	3.81	0.0004	14	
S100A12	rs111267873	1	153287015	C	A	0.0477	0.0597	0.0178	1:153287015:C:A	0.95	33225	ADD	11.25	3.10	0.0003	11	0.005
S100A12	rs114027001	1	153350282	C	T	0.0146	-0.1476	0.0306	1:153350282:C:T	1.01	33225	ADD	23.28	5.85	0.0006	23	
S100A12	rs115869038	1	153377540	C	T	0.0216	0.0991	0.0257	1:153377540:C:T	0.98	33225	ADD	14.87	3.94	0.0004	15	
S100A12	rs12081567	1	153200987	C	T	0.2918	0.0269	0.0082	1:153200987:C:T	0.99	33225	ADD	10.88	3.01	0.0003	11	
S100A12	rs147374192	1	153340562	C	T	0.0210	-0.1211	0.0267	1:153340562:C:T	0.93	33225	ADD	20.51	5.23	0.0006	21	
S100A12	rs151130058	1	153333350	C	T	0.0198	0.1539	0.0274	1:153333350:C:T	0.94	33225	ADD	31.47	7.69	0.0009	31	
S100A12	rs189825172	1	153481571	T	A	0.0226	-0.0996	0.0259	1:153481571:T:A	0.92	33225	ADD	14.78	3.92	0.0004	15	
S100A12	rs28594230	1	153520790	G	C	0.0507	-0.0554	0.0168	1:153520790:G:C	1.00	33225	ADD	10.84	3.00	0.0003	11	
S100A12	rs41310915	1	153303252	G	A	0.0278	-0.0832	0.0224	1:153303252:G:A	1.00	33225	ADD	13.75	3.68	0.0004	14	
S100A12	rs6686895	1	153237922	G	A	0.5789	0.0276	0.0075	1:153237922:G:A	1.00	33225	ADD	13.66	3.66	0.0004	14	
S100A12	rs9727362	1	153547203	C	T	0.0570	0.0577	0.0171	1:153547203:C:T	0.88	33225	ADD	11.46	3.15	0.0004	11	
SIRT2	rs11083490	19	39444417	G	A	0.1714	0.0333	0.0101	19:39444417:G:A	0.97	33533	ADD	10.85	3.00	0.0003	11	0.0033
SIRT2	rs112235278	19	39210223	G	A	0.0402	0.0654	0.0197	19:39210223:G:A	0.94	33533	ADD	11.01	3.04	0.0003	11	
SIRT2	rs117968873	19	39204981	T	A	0.0463	-0.0750	0.0179	19:39204981:T:A	0.99	33533	ADD	17.46	4.53	0.0005	17	
SIRT2	rs1978715	19	39379031	G	C	0.8779	-0.0453	0.0118	19:39379031:C:G	0.95	33533	ADD	14.85	3.93	0.0004	15	
SIRT2	rs78873098	19	39448276	G	A	0.0251	-0.0858	0.0244	19:39448276:G:A	0.97	33533	ADD	12.36	3.36	0.0004	12	
SIRT2	rs79491965	19	39253605	G	A	0.0593	0.0556	0.0161	19:39253605:G:A	0.98	33533	ADD	11.97	3.27	0.0003	12	
SIRT2	rs79632217	19	39528807	G	A	0.0622	-0.0778	0.0167	19:39528807:G:A	0.87	33533	ADD	21.80	5.52	0.0007	22	
SIRT2	rs862456	19	39338663	G	A	0.8514	-0.0375	0.0106	19:39338663:G:A	0.99	33533	ADD	12.48	3.39	0.0004	12	
STAMBP*	rs6546875	2	74063673	C	T	0.6720	0.0263	0.0080	2:74063673:T:C	1.00	33375	ADD	10.92	3.02	0.0003	11	0.0003
TRAIL	rs115305428	3	172396293	G	T	0.0109	-0.2434	0.0370	3:172396293:G:T	0.84	34049	ADD	43.20	10.31	0.0013	43	0.006
TRAIL	rs115995655	3	172320906	G	A	0.0170	-0.0912	0.0273	3:172320906:G:A	1.00	34049	ADD	11.19	3.08	0.0003	11	
TRAIL	rs116570563	3	172140433	G	A	0.0145	0.1394	0.0303	3:172140433:G:A	0.95	34049	ADD	21.15	5.37	0.0006	21	

Supplementary Table 3. Continued

Protein	SNP	CHR (hg19)	POS (hg19)	A2	A1	Freq1	Beta	SE	ID	INFO	N	Test	CHISQ	LOG10P	R^2	F-statistic	R^2 total
TRAIL	rs13093331	3	172296863	G	T	0.0815	0.0486	0.0134	3:172296863:G:T	0.93	34049	ADD	13.20	3.55	0.0004	13	
TRAIL	rs485395	3	172121068	C	T	0.0252	0.0779	0.0232	3:172121068:T:C	0.95	34049	ADD	11.29	3.11	0.0003	11	
TRAIL	rs519384	3	172168507	T	A	0.2854	-0.0259	0.0078	3:172168507:T:A	1.00	34049	ADD	10.91	3.02	0.0003	11	
TRAIL	rs62282635	3	172274155	C	T	0.2343	-0.0499	0.0084	3:172274155:C:T	0.99	34049	ADD	35.26	8.54	0.0009	35	
TRAIL	rs78682108	3	172349490	G	A	0.0398	-0.1001	0.0188	3:172349490:G:A	0.92	34049	ADD	28.21	6.96	0.0008	28	
TRAIL	rs9872004	3	172321976	C	T	0.9395	-0.0489	0.0148	3:172321976:T:C	1.00	34049	ADD	10.84	3.00	0.0003	11	
TRANCE	rs138801264	13	43046648	G	T	0.9835	0.1584	0.0303	13:43046648:T:G	0.90	33657	ADD	27.37	6.77	0.0008	27	
TRANCE	rs145866725	13	42994712	C	A	0.9686	-0.0759	0.0212	13:42994712:A:C	0.98	33657	ADD	12.82	3.46	0.0004	13	0.0028
TRANCE	rs17537183	13	43322347	C	T	0.9698	-0.0724	0.0213	13:43322347:T:C	1.01	33657	ADD	11.55	3.17	0.0003	12	
TRANCE	rs1924411	13	42949716	G	T	0.2267	-0.0296	0.0088	13:42949716:T:G	0.99	33657	ADD	11.38	3.13	0.0003	11	
TRANCE	rs61959476	13	43064575	C	T	0.9624	0.1003	0.0196	13:43064575:T:C	0.96	33657	ADD	26.17	6.51	0.0007	26	
TRANCE	rs78667121	13	43200103	G	A	0.0317	-0.0716	0.0209	13:43200103:G:A	1.00	33657	ADD	11.76	3.22	0.0003	12	
TRANCE	rs79984659	13	42978661	C	T	0.0272	0.0969	0.0224	13:42978661:C:T	1.01	33657	ADD	18.71	4.82	0.0005	19	
TRANCE	rs9567000	13	43181437	C	T	0.0139	-0.1034	0.0313	13:43181437:C:T	1.00	33657	ADD	10.92	3.02	0.0003	11	
TNFSF14	rs117567732	19	6652642	C	T	0.9712	0.0825	0.0231	19:6652642:T:C	0.96	33436	ADD	12.74	3.45	0.0004	13	0.0083
TNFSF14	rs1389623	19	6684197	G	A	0.1118	-0.0859	0.0120	19:6684197:G:A	1.00	33436	ADD	51.26	12.09	0.0015	51	
TNFSF14	rs140388682	19	6647670	G	A	0.0456	0.1023	0.0189	19:6647670:G:A	0.93	33436	ADD	29.25	7.20	0.0009	29	
TNFSF14	rs2047139	19	6732615	C	T	0.5184	0.0271	0.0077	19:6732615:T:C	0.98	33436	ADD	12.45	3.38	0.0004	12	
TNFSF14	rs28781354	19	6629422	C	T	0.0266	-0.1052	0.0253	19:6629422:C:T	0.87	33436	ADD	17.26	4.49	0.0006	17	
TNFSF14	rs28835675	19	6807762	G	C	0.7999	0.0404	0.0095	19:6807762:G:C	0.98	33436	ADD	17.93	4.64	0.0005	18	
TNFSF14	rs344580	19	6609390	G	A	0.7998	-0.0325	0.0095	19:6609390:A:G	0.99	33436	ADD	11.65	3.19	0.0003	12	
TNFSF14	rs348361	19	6466126	C	T	0.4388	-0.0257	0.0076	19:6466126:T:C	1.00	33436	ADD	11.34	3.12	0.0003	11	
TNFSF14	rs348396	19	6500892	G	T	0.8237	-0.0373	0.0104	19:6500892:G:T	0.91	33436	ADD	12.76	3.45	0.0004	13	
TNFSF14	rs392720	19	6649632	G	A	0.9198	-0.0546	0.0141	19:6649632:G:A	0.98	33436	ADD	14.99	3.97	0.0004	15	
TNFSF14	rs422981	19	6556778	G	A	0.2950	-0.0285	0.0086	19:6556778:A:G	0.94	33436	ADD	11.09	3.06	0.0003	11	
TNFSF14	rs62125137	19	6726674	C	A	0.9853	-0.1686	0.0331	19:6726674:A:C	0.91	33436	ADD	25.96	6.46	0.0008	26	
TNFSF14	rs7253697	19	6584377	G	A	0.1058	-0.0487	0.0124	19:6584377:A:G	0.99	33436	ADD	15.39	4.06	0.0004	15	
TNFSF14	rs79853737	19	6772452	G	A	0.0178	0.1141	0.0312	19:6772452:G:A	0.84	33436	ADD	13.35	3.59	0.0005	13	
TNFSF14	rs8112351	19	6706298	C	T	0.2472	0.0413	0.0088	19:6706298:T:C	1.00	33436	ADD	22.00	5.56	0.0006	22	

SNP, single nucleotide polymorphism; CHR, chromosome; POS, position; SE, standard error; INFO, Imputation Information Score; CHISQ, chi-square.
*Three proteins (4E-BP1, OSM, and STAMBP) were excluded from downstream analysis due to having <3 SNPs and an r^2<0.005.