

Table SI. Baseline profiles of the cohort used in the present study.

Traits	Total sample size	Number of cases	Number of controls	Total number of SNPs	Population
Uterine fibroids	258,718	21,024	237,694	24,129,853	European
Knee OA	403,124	24,955	378,169	29,999,696	European
Hip OA	393,873	15,704	378,169	29,771,219	European

SNP, single nucleotide polymorphism; OA, osteoarthritis.

Table SII. Characteristics of SNPs used as genetic instruments in UF and hOA.

Exp	SNP	Chr	Position	Closest gene	EA	NEA	EAF	β	SE	P-value	F	Confounder
UF	rs10069690	5	1,279,790	TERT	T	C	0.26	0.12	0.01	1.79×10^{-34}	1442	
UF	rs1045405	11	252,733	PSMD13	C	T	0.15	0.08	0.01	2.07×10^{-09}	423	
UF	rs10794695	4	70,566,583	AC112518.3	A	T	0.52	0.08	0.01	1.23×10^{-21}	829	
UF	rs10815717	9	801,571	DMRT1	A	G	0.50	0.08	0.01	6.76×10^{-18}	831	
UF	rs10947616	6	36,620,499	TBC1D22B	G	C	0.27	-0.07	0.01	5.86×10^{-13}	501	
UF	rs11008551	10	31,913,890	GLUDP5	T	G	0.20	-0.06	0.01	3.03×10^{-08}	298	
UF	rs117245733	13	40,723,944	LINC00598	A	G	0.02	0.38	0.04	6.12×10^{-24}	1473	
UF	rs11786929	8	130,479,731	CCDC26	C	T	0.37	0.05	0.01	1.53×10^{-09}	302	
UF	rs11887109	2	100,045,184	REV1	G	A	0.53	0.06	0.01	1.56×10^{-11}	465	
UF	rs12479436	2	11,666,339	GREB1	G	T	0.59	0.08	0.01	8.06×10^{-22}	804	
UF	rs12674731	8	30,175,381	CTD-3107M8.1	C	A	0.27	0.06	0.01	1.49×10^{-09}	368	
UF	rs12902948	15	7,784,9254	RP11-307C19.2	C	T	0.28	-0.06	0.01	3.50×10^{-10}	376	
UF	rs149934734	11	108,315,606	C11orf65	T	C	0.02	0.35	0.04	4.77×10^{-17}	1248	
UF	rs1506869	8	25,269,102	DOCK5	A	C	0.33	-0.05	0.01	1.02×10^{-08}	286	
UF	rs16991615	20	5,948,227	MCM8	A	G	0.05	0.15	0.03	4.30×10^{-08}	554	
UF	rs17033114	12	103,123,339	LINC00485	C	T	0.13	-0.13	0.01	7.35×10^{-20}	993	
UF	rs17116149	10	105688050	STN1	A	G	0.04	0.27	0.02	1.83×10^{-42}	1457	
UF	rs17631680	2	67,090,367	AC009474.2	C	T	0.10	-0.1	0.02	5.14×10^{-09}	467	
UF	rs2131371	12	46,796,522	RP11-96H19.1	C	A	0.73	0.08	0.01	1.20×10^{-13}	654	
UF	rs2207548	11	32,368,744	THEM7P	A	C	0.32	0.1	0.01	1.38×10^{-23}	1131	

UF	rs2270206	7	116,913,567	WNT2	A	C	0.20	0.06	0.01	2.83×10^{-08}	298	
UF	rs2277339	12	57,146,069	PRIM1	G	T	0.13	-0.08	0.01	3.12×10^{-11}	375	
UF	rs2293607	3	169,482,335	ACTRT3	C	T	0.34	-0.08	0.01	1.61×10^{-19}	745	
UF	rs2306022	15	68,628,163	ITGA11	T	C	0.09	0.11	0.02	3.89×10^{-13}	514	
UF	rs2413620	22	4,066,8988	TNRC6B	G	C	0.26	0.1	0.01	4.35×10^{-27}	999	
UF	rs2553773	11	35,083,633	PDHX	G	C	0.61	0.07	0.01	6.13×10^{-14}	605	Total bone mineral density in the body ^a (-)
UF	rs28508285	9	92,254,897	UNQ6494	G	A	0.18	0.07	0.01	4.22×10^{-11}	375	
UF	rs34242502	17	12,561,985	MYOCD	A	G	0.43	0.07	0.01	6.57×10^{-11}	623	
UF	rs34933909	5	176,465,270	ZNF346	T	G	0.46	0.09	0.02	1.44×10^{-09}	1045	
UF	rs377807	X	131,422,434	-	C	T	0.24	0.14	0.01	3.00×10^{-34}	1863	(-) ^b
UF	rs3804984	3	4,716,214	ITPR1	C	T	0.47	-0.06	0.01	1.89×10^{-11}	465	
UF	rs3820282	1	22,468,215	WNT4	T	C	0.25	0.15	0.01	4.06×10^{-52}	2201	
UF	rs41308088	20	62,293,118	RTEL1	T	C	0.08	0.12	0.02	1.15×10^{-09}	550	
UF	rs4858590	3	2,426,0363	THRB	T	C	0.43	0.06	0.01	1.44×10^{-10}	457	
UF	rs547904	3	8,947,601	RAD18	G	A	0.66	0.05	0.01	4.86×10^{-08}	291	
UF	rs56263516	6	31,413,707	LINC01149	G	T	0.14	0.07	0.01	4.20×10^{-08}	306	Ankylosing spondylitis ^a
(-)												
UF	rs58415480	6	1,525,62271	SYNE1	G	C	0.18	0.2	0.01	7.48×10^{-46}	3091	
UF	rs62323681	4	54,548,347	RP11-231C18.3	G	A	0.06	0.16	0.02	3.43×10^{-12}	749	
UF	rs6500282	16	50,138,100	HEATR3	C	A	0.70	0.07	0.01	1.96×10^{-12}	534	
UF	rs6903575	6	74,503,730	CD109	A	G	0.50	-0.06	0.01	4.50×10^{-13}	467	
UF	rs7043754	9	630,424	KANK1	A	G	0.44	-0.05	0.01	4.75×10^{-10}	319	
UF	rs7318389	13	40,829,568	LINC00598	C	T	0.20	0.06	0.01	1.57×10^{-08}	298	
UF	rs73392700	11	224,845	SIRT3	C	G	0.06	-0.27	0.02	4.59×10^{-53}	2145	
UF	rs77687125	2	242,652,848	ING5	T	C	0.40	0.07	0.01	7.57×10^{-09}	610	
UF	rs78378222	17	7,571,752	TP53	G	T	0.01	0.82	0.05	3.95×10^{-63}	3491	

UF	rs7841047	8	7,126,5978	NCOA2	A	G	0.25	0.07	0.01	1.96x10 ⁻¹⁰	476	
UF	rs8105767	19	22,215,441	AC003973.4	G	A	0.31	0.05	0.01	4.97x10 ⁻⁰⁸	277	
UF	rs9532432	13	40,352,602	COG6	A	T	0.42	-0.05	0.01	3.43x10 ⁻⁰⁸	316	
UF	rs9549260	13	41,254,104	FOXO1	A	C	0.28	0.06	0.01	1.53x10 ⁻⁰⁹	376	
hOA	rs10492367	12	28,014,970	RN7SKP15	T	G	0.19	0.15	0.01	1.25x10 ⁻²⁴	2747	
hOA	rs10896015	11	65,323,725	LTBP3	A	G	0.27	-0.08	0.01	2.74x10 ⁻⁰⁹	996	
hOA	rs11059094	12	122,606,837	MLXIP	T	C	0.48	0.08	0.01	7.38x10 ⁻¹¹	1262	
hOA	rs115740542	6	26,123,502	HIST1H2BC	C	T	0.07	0.13	0.02	1.60x10 ⁻⁰⁸	869	
hOA	rs11583641	1	183,906,245	COLGALT2	T	C	0.28	-0.08	0.01	5.57x10 ⁻¹⁰	1019	
hOA	rs12040949	1	150,447,462	RPRD2	T	C	0.38	-0.07	0.01	2.83x10 ⁻⁰⁸	912	
hOA	rs12209223	6	76,164,589	FILIP1	A	C	0.1	0.16	0.02	3.88x10 ⁻¹⁶	1823	
hOA	rs12901372	15	67,370,506	SMAD3	G	C	0.47	-0.08	0.01	3.46x10 ⁻¹¹	1260	
hOA	rs13300602	9	129,412,938	LMX1B	G	A	0.45	0.07	0.01	1.65x10 ⁻⁰⁹	958	
hOA	rs1835323	2	43,512,130	THADA	T	C	0.34	-0.07	0.01	4.56x10 ⁻⁰⁸	868	
hOA	rs1913707	4	13,039,440	TAPT1-AS1	G	A	0.39	-0.08	0.01	2.96x10 ⁻¹¹	1203	
hOA	rs2396502	6	45,357,699	RUNX2	C	A	0.6	0.08	0.01	2.12x10 ⁻¹²	1214	
hOA	rs2785988	1	219,744,138	RP11-95P13.2	A	C	0.3	0.08	0.01	7.30x10 ⁻¹¹	1062	
hOA	rs2836618	21	4,004,8295	PCP4	A	G	0.26	0.09	0.01	3.20x10 ⁻¹¹	1231	
hOA	rs2929451	8	9,085,295	RP11-10A14.8	T	A	0.51	-0.07	0.01	3.11x10 ⁻⁰⁹	967	
hOA	rs34687269	9	119,484,132	ASTN2	T	A	0.47	-0.08	0.01	1.67x10 ⁻¹²	1260	
hOA	rs3774355	3	52,817,778	ITIH1	A	G	0.36	0.09	0.01	8.20x10 ⁻¹⁴	1476	Body mass index ^a
(-)												
hOA	rs4252548	19	55,879,672	IL11	T	C	0.02	0.28	0.04	1.96x10 ⁻¹²	1214	
hOA	rs4338381	1	103,572,927	COL11A1	G	A	0.37	-0.1	0.01	4.37x10 ⁻¹⁵	1845	
hOA	rs60890741	8	130,768,503	GSDMC	CA	C	0.14	-0.11	0.02	4.50x10 ⁻⁰⁹	1151	
hOA	rs62063281	17	44,038,785	MAPT	G	A	0.22	0.1	0.01	5.30x10 ⁻¹²	1356	
hOA	rs7222178	17	59,652,282	NACA2	A	T	0.2	0.1	0.01	3.77x10 ⁻¹¹	1264	

hOA	rs74767794	1	184006128	COLGALT2	G	A	0.32	-0.08	0.01	2.56x10 ⁻⁰⁹	1100	Whole body fat mass ^a
(-)												
hOA	rs7571789	2	7,071,4793	TGFA	C	T	0.52	-0.09	0.01	3.26x10 ⁻¹⁴	1599	
hOA	rs79056043	12	59,289,598	LRIG3	G	A	0.05	0.16	0.03	1.33x10 ⁻⁰⁹	960	
hOA	rs798748	4	1,716,770	SLBP	C	T	0.62	0.07	0.01	2.50x10 ⁻⁰⁹	912	
hOA	rs80287694	6	55,636,940	BMP5	G	A	0.11	0.11	0.02	2.66x10 ⁻⁰⁹	935	
kOA	rs1078301	9	116,909,146	COL27A1	T	A	0.27	0.07	0.01	1.27x10 ⁻¹⁰	780	
kOA	rs12470967	2	19,2671,981	AC098872.3	G	A	0.57	-0.06	0.01	1.50x10 ⁻⁰⁸	713	
kOA	rs143384	20	34,025,756	GDF5	G	A	0.4	-0.09	0.01	4.77x10 ⁻²³	1573	Weight of female patients ^a
(-)												
kOA	rs17567417	2	3,343,0603	LTBP1	C	G	0.47	-0.07	0.01	1.96x10 ⁻¹²	987	
kOA	rs35087650	17	2,058,349	SMG6	AT	A	0.26	0.07	0.01	1.18x10 ⁻⁰⁹	762	
kOA	rs4775006	15	58,215,727	ALDH1A2	A	C	0.41	0.06	0.01	8.40x10 ⁻¹⁰	703	
kOA	rs56116847	12	123,835,233	SBNO1	A	G	0.36	0.06	0.01	3.19x10 ⁻¹⁰	670	
kOA	rs6499244	16	69,735,271	NFAT5	A	T	0.56	0.06	0.01	3.88x10 ⁻¹¹	716	Body mass index ^a (-)
kOA	rs8067763	17	70,012,939	LINC02095	A	G	0.59	-0.06	0.01	2.39x10 ⁻⁰⁹	703	
kOA	rs9277552	6	33,055,501	HLA-DPB1	T	C	0.21	-0.06	0.01	1.97x10 ⁻⁰⁸	482	

^aSNPs associated with confounding factors were removed after searching the Phenoscanner database (<http://www.phenoscaner.medschl.cam.ac.uk/>). ^brs377807, a SNP located on the X chromosome, lacked an available proxy on the SNIIPA SNP annotator online platform (<https://snipa.helmholtz-muenchen.de/snipa3/>) and was removed from the MR analysis. (-) indicates that no proxy could be matched in the analysis. Exp, exposure; SNP, single nucleotide polymorphism; EA, effect allele; NEA, non-effect allele; EAF, effect allele frequency; SE, standard error; Chr, chromosome; UF, uterine fibroids; hOA, hip osteoarthritis; kOA, knee OA; T, Thymine; C, Cytosine; A, Adenine.