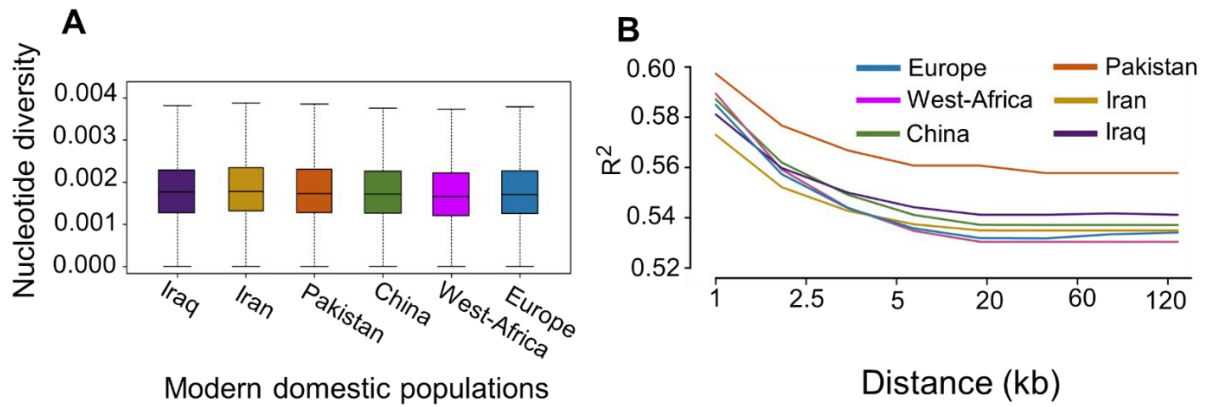
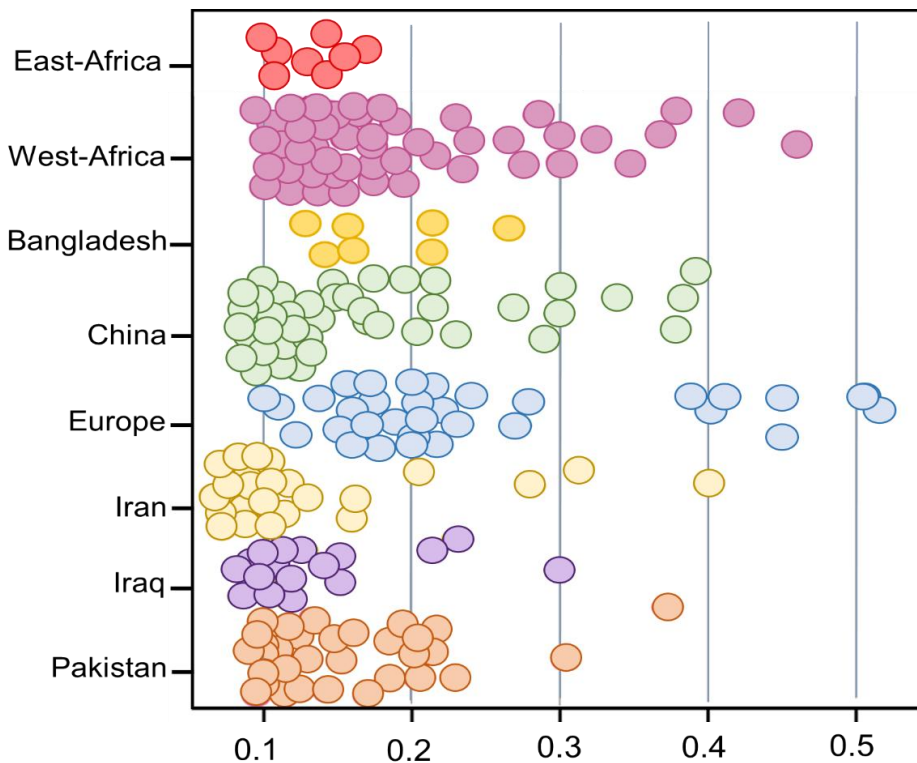


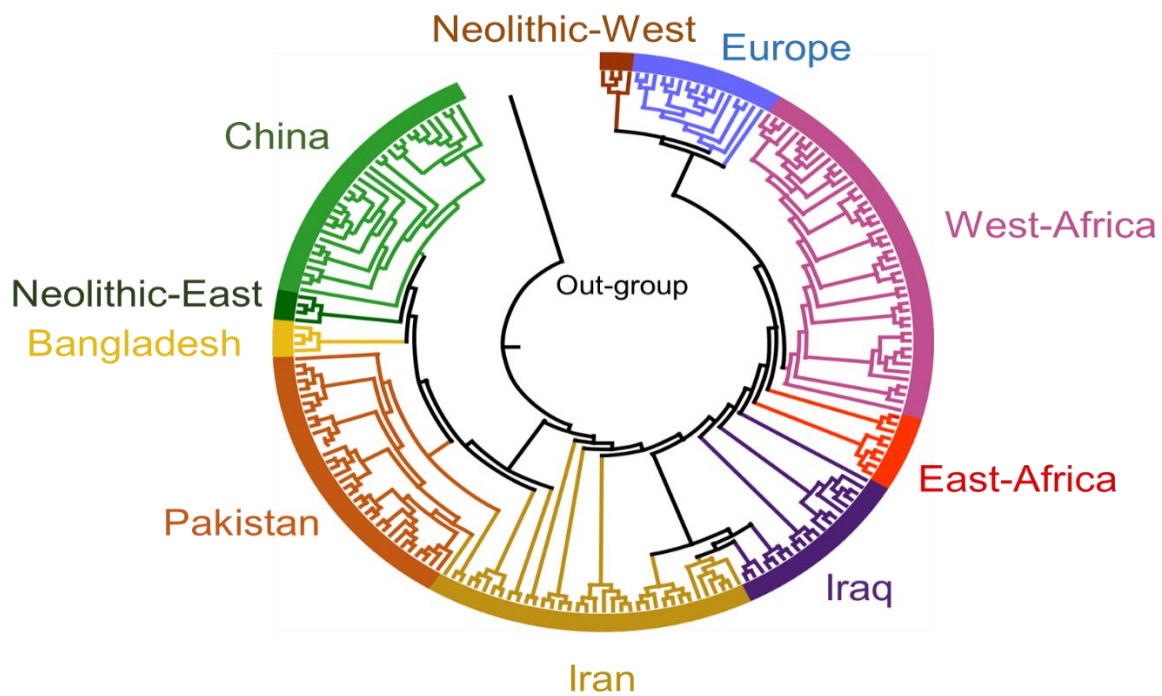
Supplementary Materials



Supplementary Figure S1 (A) Nucleotide diversity of domestic populations. (B) Decay of linkage disequilibrium (LD) over different genomic distances measured as squared correlation coefficient for each domestic population.

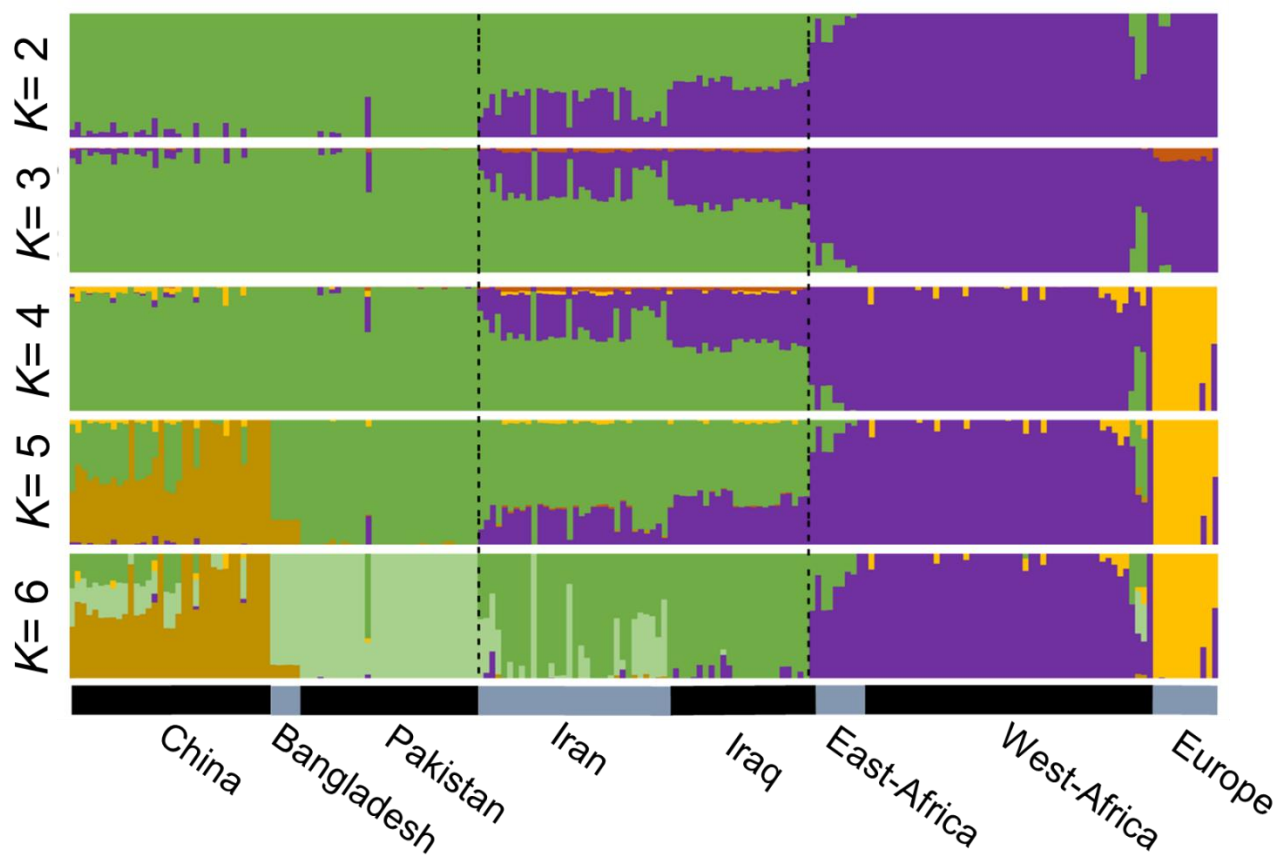


Supplementary Figure S2 Inbreeding coefficient (F) for different domesticated goat populations in this study

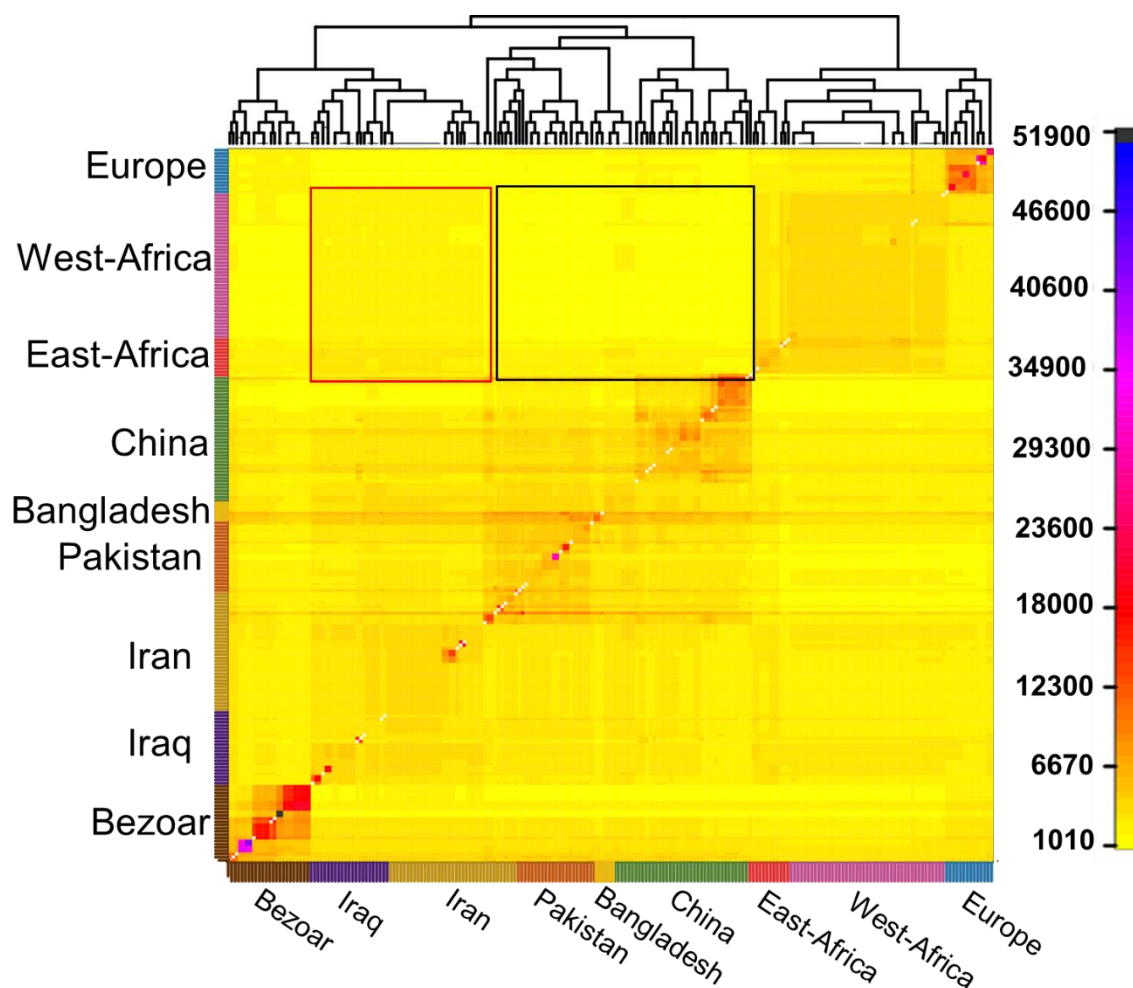


Supplementary Figure S3 Maximum-likelihood phylogenetic tree built using whole genomes of global modern samples and Neolithic samples around the Fertile Crescent

Only high-coverage ($>3\times$) samples were included. Branches follow the same color-code used in the map.

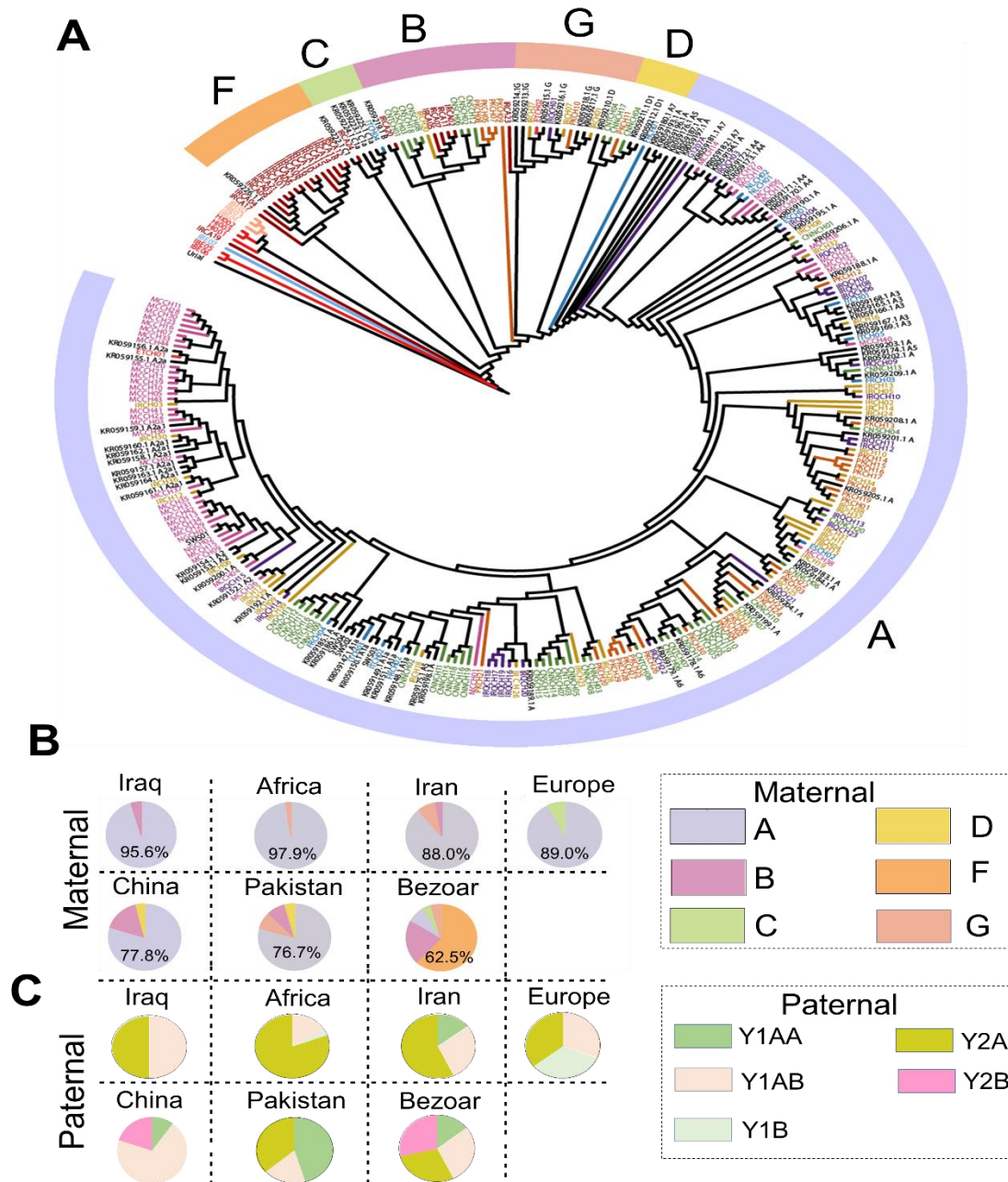


Supplementary Figure S4 ADMIXTURE model-based clustering analysis of each individual assuming different number of ancestral populations ($k=2$ to 6).



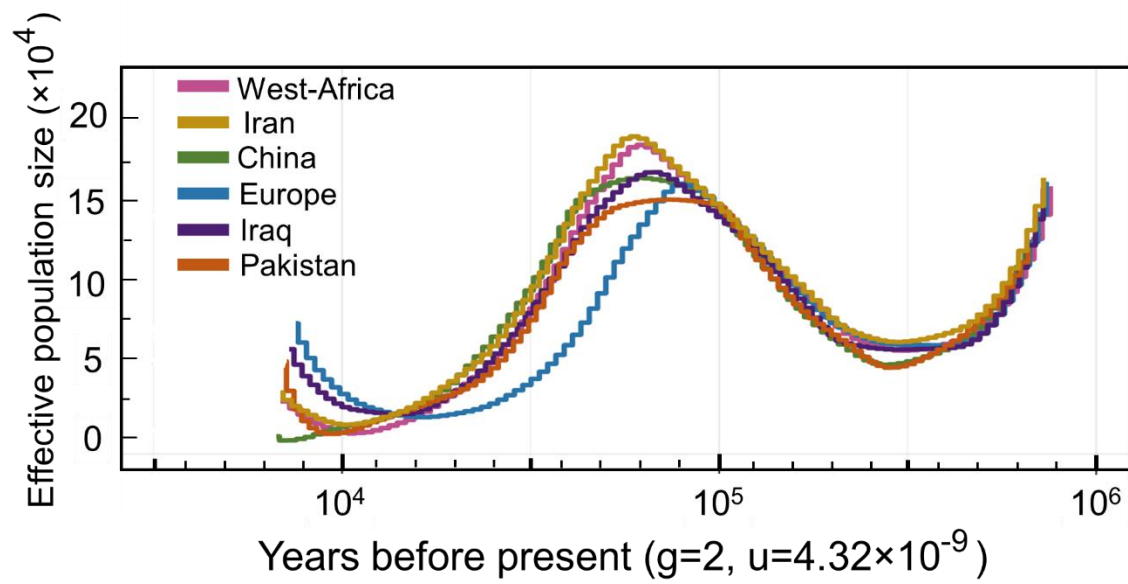
Supplementary Figure S5 Heat map of co-ancestry matrix from ChromoPainter

Each row corresponds to recipient genome and columns represent donor individuals. Iran-Iraq goats (red box) exhibited higher haplotype sharing with African samples compared with other Asian goat groups (black box).



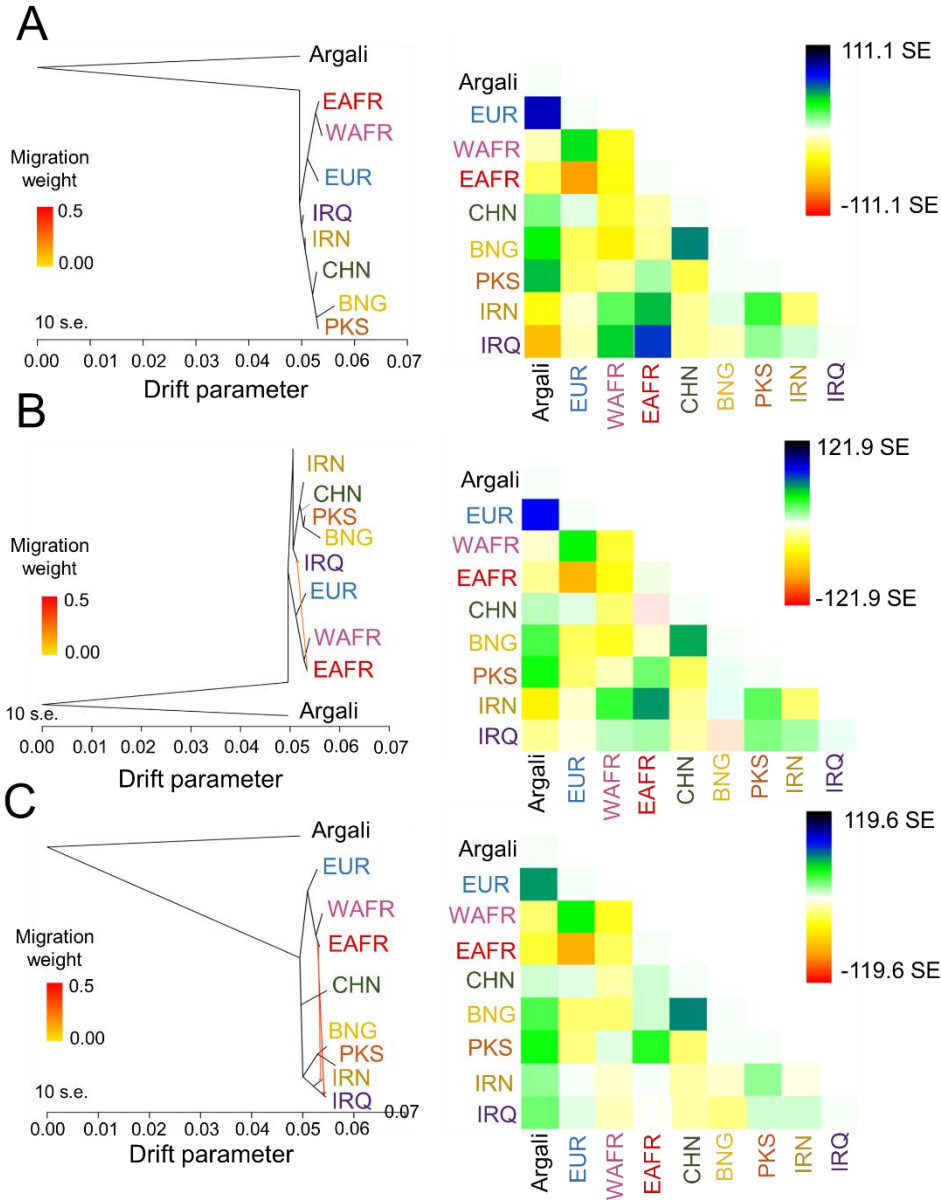
Supplementary Figure S6 Mitochondrial genome and Y-chromosome haplotype analysis

(A) Maximum-likelihood phylogeny of mitochondrial genomes from global domestic goat populations. (B) Pie chart of proportions of mitochondrial haplogroups in different goat populations. Haplogroup A was dominant variant in all modern populations, but not in bezoar. (C) Pie chart of proportion of Y chromosome haplogroups in worldwide goat populations.



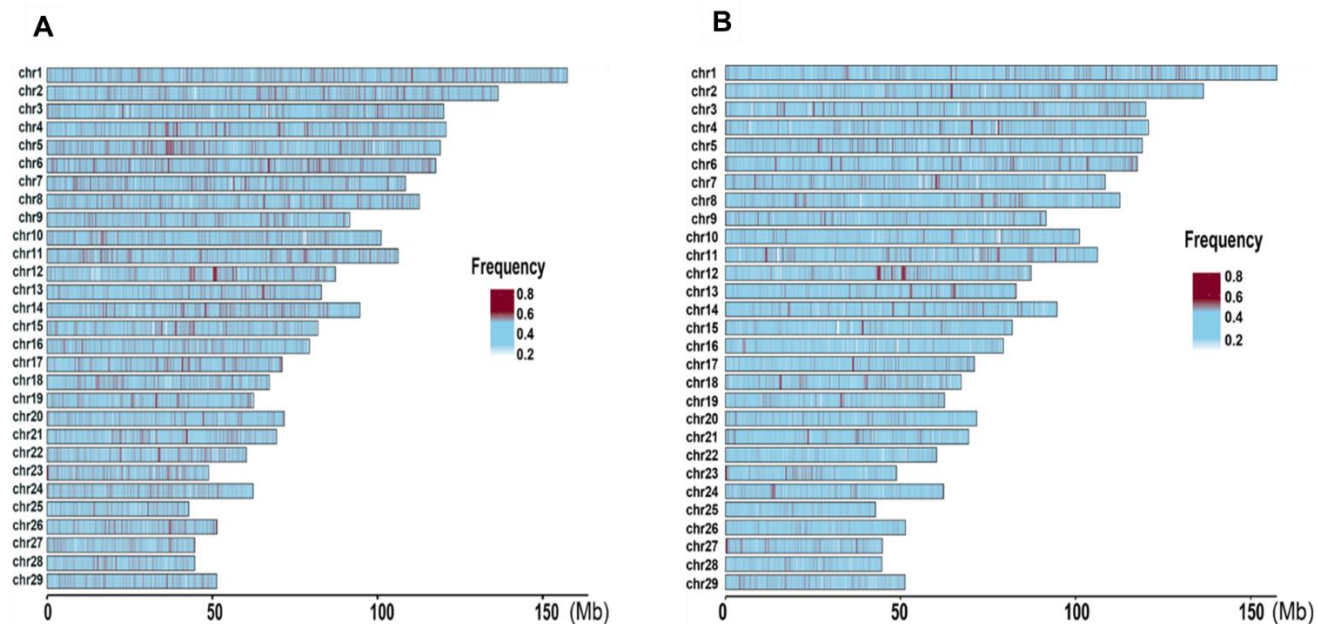
Supplementary Figure S7 Inference of population size from whole-genome sequences

Effective population size histories were inferred from autosomes using SMC++ software with a generation time of $g=2$ and a mutation rate per generation of $\mu g=4.32 \times 10^{-9}$.



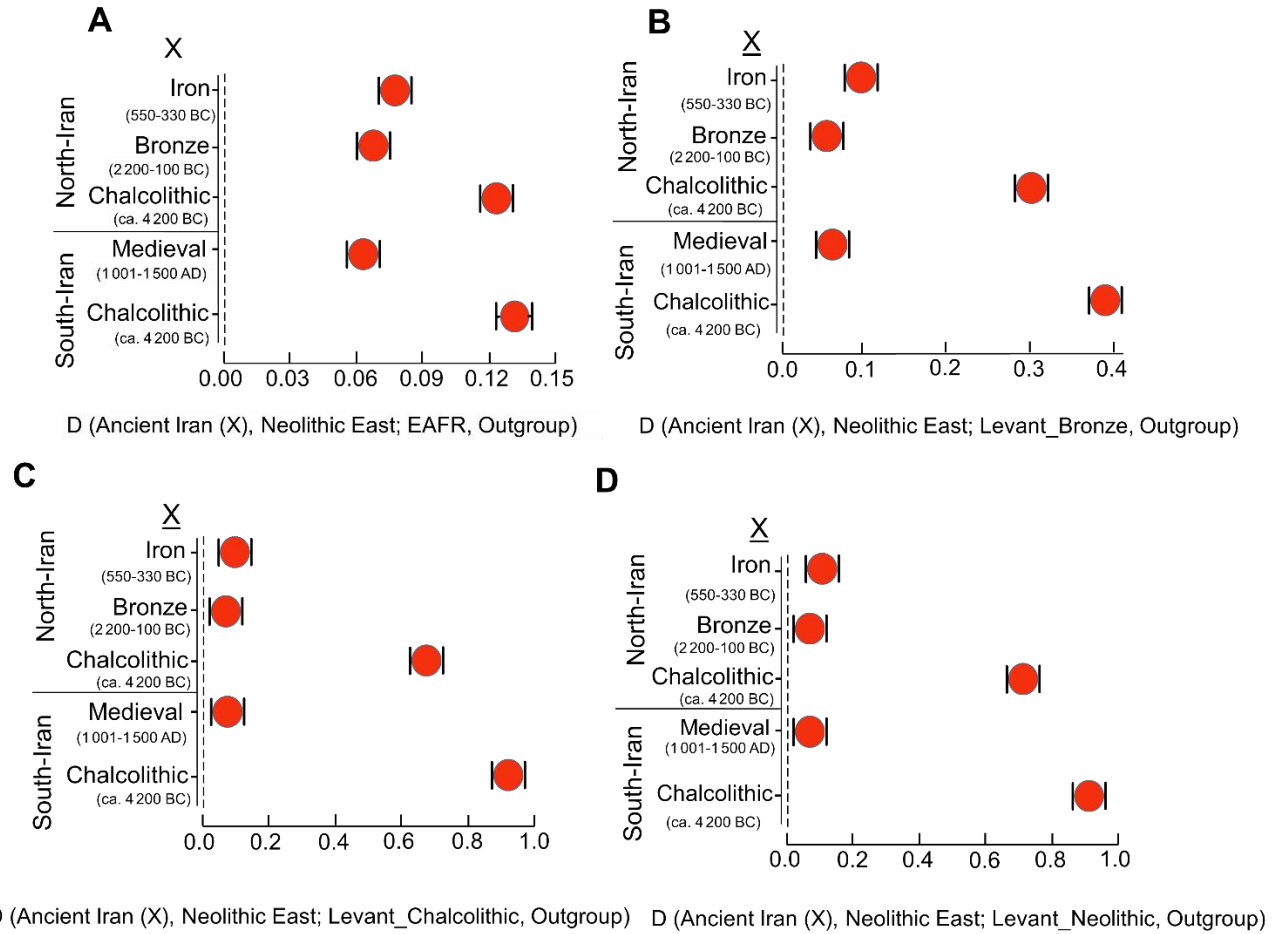
Supplementary Figure S8 Admixture graph constructed with TreeMix depicting relationship between EAFR goats and samples from IRQ and IRN

Scale bar shows 10 times average standard error (SE) of entries in the sample covariance matrix. (A) ML tree with no migrations explains 99.72% of variance. (B) ML tree with one migration event from EAFR to IRQ explains 99.7% of variance. (C) ML tree with a migration event from EAFR to samples from IRN explains 99.9% of variance.



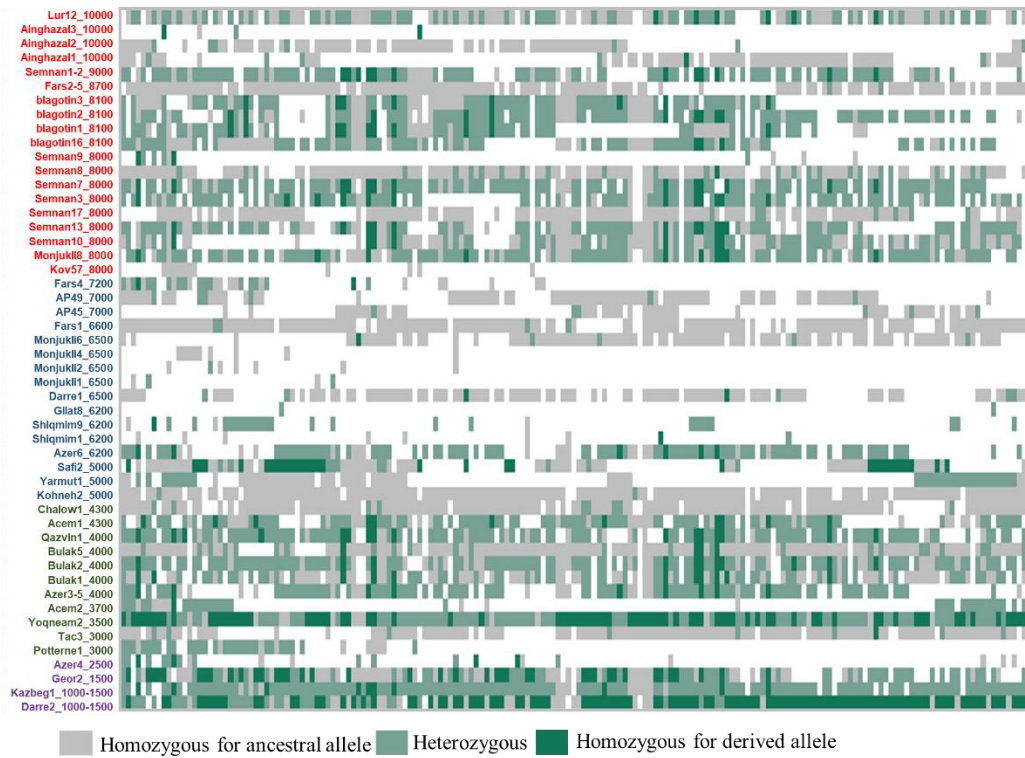
Supplementary Figure S9 Genome-wide introgressions from East African goats into Iraqi (A) and Iranian (B) goat populations

East African goats serve as proxy of ancient Levant population presumed as the source of introgression.



Supplementary Figure S10 D statistics using different ancient Iranian goats as test population (X)

Positive D value indicates test population has a closer relationship with EAFR/ancient Levant goat group.



Supplementary Figure S11 Genotyping information at *KITLG* loci for ancient goats

Presence of heterozygosity and homozygosity is represented in intermediate green and green, respectively. Absence of derived allele is depicted in gray. Non-genotyped positions or individuals are indicated in white.

Supplementary Table S1 Summary of breed information and geographic groups of modern domestic goat samples in this study.

Sample ID	Accession ID	Geographic group	Coverage (×)	Sampling country	Gender
MCCH01	ERR219543	WAFR	13.15481276	Morocco	Male
MCCH02	ERR219546	WAFR	14.01552724	Morocco	Male
MCCH03	ERR229471	WAFR	13.88489586	Morocco	Male
MCCH04	ERR229474	WAFR	13.39751448	Morocco	Male
MCCH05	ERR229476	WAFR	14.21228138	Morocco	Male
MCCH06	ERR229478	WAFR	13.78445172	Morocco	Female
MCCH07	ERR229479	WAFR	12.56559414	Morocco	Female
MCCH08	ERR229481	WAFR	14.1441669	Morocco	Male
MCCH09	ERR229484	WAFR	15.54718034	Morocco	Female
MCCH10	ERR229485	WAFR	13.47130759	Morocco	Male
MCCH11	ERR229487	WAFR	13.79136207	Morocco	Male
MCCH12	ERR232492	WAFR	13.0209931	Morocco	Male
MCCH13	ERR234304	WAFR	12.47621207	Morocco	Female
MCCH14	ERR234305	WAFR	13.99673586	Morocco	Female
MCCH15	ERR234315	WAFR	14.36363655	Morocco	Male
MCCH16	ERR246143	WAFR	12.54001483	Morocco	Female
MCCH17	ERR246152	WAFR	14.49184862	Morocco	Male
MCCH18	ERR246153	WAFR	15.19873448	Morocco	Female
MCCH19	ERR248926	WAFR	13.93772138	Morocco	Female
MCCH20	ERR248928	WAFR	14.89378345	Morocco	Female
MCCH21	ERR248929	WAFR	14.20629	Morocco	Female
MCCH22	ERR248933	WAFR	13.98627483	Morocco	Female
MCCH23	ERR299283	WAFR	14.42993793	Morocco	Male
MCCH24	ERR313257	WAFR	12.90941276	Morocco	Male
MCCH25	ERR313258	WAFR	13.90776483	Morocco	Male
MCCH26	ERR313259	WAFR	15.83458793	Morocco	Male
MCCH27	ERR313264	WAFR	15.61164345	Morocco	Female
MCCH28	ERR313266	WAFR	12.91168828	Morocco	Male
MCCH29	ERR313272	WAFR	14.04959276	Morocco	Male
MCCH30	ERR315498	WAFR	13.67813	Morocco	Female
MCCH31	ERR315500	WAFR	14.0771169	Morocco	Male
MCCH32	ERR315503	WAFR	16.40021448	Morocco	Female
MCCH33	ERR315505	WAFR	14.13935828	Morocco	Male
MCCH34	ERR315508	WAFR	14.62301172	Morocco	Female
MCCH35	ERR315510	WAFR	12.99598345	Morocco	Female

MCCH36	ERR315512	WAFR	12.82466172	Morocco	Female
MCCH37	ERR315515	WAFR	12.43887034	Morocco	Male
MCCH38	ERR315516	WAFR	15.34465379	Morocco	Male
MCCH39	ERR315795	WAFR	12.6805469	Morocco	Male
MCCH40	ERR318768	WAFR	13.59100621	Morocco	Male
MCCH41	ERR332581	WAFR	12.55595414	Morocco	Male
MCCH42	ERR332592	WAFR	12.56595103	Morocco	Male
MCCH43	ERR340428	WAFR	13.4385531	Morocco	Male
MCCH44	ERR345973	WAFR	12.12438207	Morocco	Male
NGCH01	ERR470101	WAFR	8.230202414	Nigeria	Female
NGCH02	ERR470102	WAFR	11.31459724	Nigeria	Female
ETCH01	SRR5803188	EAFR	11.36869034	Ethiopia	Female
ETCH02	SRR5803191	EAFR	9.976792414	Ethiopia	Female
SDCH01	SRR8618149	EAFR	9.609379655	Sudan	Female
SDCH02	SRR8618147	EAFR	10.38958793	Sudan	Female
SDCH03	SRR8618146	EAFR	9.141366552	Sudan	Male
SDCH04	SRR8618148	EAFR	9.82493069	Sudan	Female
SDCH05	SRR8618145	EAFR	9.800809655	Sudan	Male
SDCH06	SRR8618144	EAFR	9.562156552	Sudan	Female
SWS01	SRR3144618	Africa	9.19919	non	Female
SWS03	SRX1560749	Africa	14.36460448	non	Female
ESCH01	SRR5803232	Europe	14.22831069	Spain	Female
EUR3144601	SRR3144601	Europe	5.315871724	non	Female
EUR3144619	SRR3144619	Europe	6.442791034	non	Male
EUR3144621	SRR3144621	Europe	5.514105517	non	Female
EUR3144622	SRR3144622	Europe	6.339204828	non	Female
EUR3144623	SRR3144623	Europe	7.352258966	non	Female
FRCH01	ERR470101	Europe	13.86037897	France	Female
FRCH02	ERR470102	Europe	13.59162793	France	Female
FRCH03	ERR470103	Europe	14.71981862	France	Female
FRCH04	ERR470105	Europe	14.32491793	France	Female
FRCH05	SRR5803235	Europe	14.57489966	France	Male
FRCH06	SRR5803174	Europe	15.03976724	France	Male
ITCH01	ERR405774	Europe	14.41998414	Italy	Female
ITCH02	ERR405775	Europe	14.72561621	Italy	Female
ITCH03	ERR405776	Europe	13.98279138	Italy	Female
ITCH04	ERR405777	Europe	14.11487034	Italy	Female
ITCH05	ERR405778	Europe	13.76080172	Italy	Female
NLCH01	SRR5803234	Europe	14.11905414	Netherlands	Male

NLCH02	SRR5803227	Europe	14.48331931	Netherlands	Female
NLCH03	SRR5803226	Europe	11.52670897	Netherlands	Male
IRCH01	ERR297229	IRN	12.8	Iran	female
IRCH02	ERR299449	IRN	12.81	Iran	female
IRCH03	ERR299456	IRN	12.63	Iran	female
IRCH05	ERR313198	IRN	11.76	Iran	female
IRCH07	ERR313200	IRN	13.49	Iran	female
IRCH08	ERR313202	IRN	12.85	Iran	female
IRCH09	ERR313204	IRN	12.71	Iran	female
IRCH11	ERR313207	IRN	13.24	Iran	female
IRCH12	ERR313209	IRN	11.78	Iran	female
IRCH13	ERR313210	IRN	12.98	Iran	female
IRCH15	ERR313212	IRN	12.8	Iran	female
IRCH17	ERR313215	IRN	12.41	Iran	female
IRCH18	ERR340332	IRN	11.21	Iran	female
IRCH21	SRR5602566	IRN	13.25	Iran	female
IRCH37	SRR5803156	IRN	9.12	Iran	female
IRCH34	SRR5803166	IRN	7.26	Iran	female
IRCH36	SRR5803167	IRN	10.49	Iran	female
IRCH32	SRR5803175	IRN	13.51	Iran	female
IRCH39	SRR5803198	IRN	9.74	Iran	female
IRCH38	SRR5803199	IRN	6.23	Iran	female
IRCH30	SRR5803216	IRN	9.74	Iran	female
IRCH31	SRR5803217	IRN	10.87	Iran	female
IRCH26	SRR5803218	IRN	11.83	Iran	female
IRCH29	SRR5803219	IRN	16	Iran	female
IRCH27	SRR5803221	IRN	15.18	Iran	female
IRCH28	SRR5803222	IRN	12.44	Iran	female
IRCH23	SRR5803223	IRN	11.82	Iran	female
IRCH24	SRR5803224	IRN	10.26	Iran	female
IRCH25	SRR5803225	IRN	8.68	Iran	female
IRCH04	ERR313197	IRN	11.85	Iran	male
IRCH06	ERR313199	IRN	13.44	Iran	male
IRCH10	ERR313206	IRN	11.77	Iran	male
IRCH14	ERR313211	IRN	12.72	Iran	male
IRCH16	ERR313213	IRN	12.88	Iran	male
IRCH19	ERR340337	IRN	10.86	Iran	male
IRCH20	ERR340339	IRN	11.35	Iran	male
BDCH01	SRR5803155	BNG	9.524726207	Bangladesh	Female

BDCH02	SRR5803154	BNG	9.425269655	Bangladesh	Female
BDCH03	SRR5803153	BNG	10.33915966	Bangladesh	Male
PKCH01	SRR5803152	PKS	13.82561345	Pakistan	Female
PKCH02	SRR5803151	PKS	12.00768828	Pakistan	Female
PKCH03	SRR5803150	PKS	13.56396966	Pakistan	Female
PKCH04	SRR5803149	PKS	12.83546241	Pakistan	Female
PKCH05	SRR5803148	PKS	12.83757552	Pakistan	Male
PKCH06	SRR5803147	PKS	6.509925172	Pakistan	Female
PKCH07	this-study	PKS	10.21	Pakistan	Male
PKCH08	this-study	PKS	11.52	Pakistan	Male
PKCH09	this-study	PKS	10.90239138	Pakistan	Male
PKCH10	this-study	PKS	11.28149621	Pakistan	Female
PKCH11	this-study	PKS	11.21097241	Pakistan	Male
PKCH12	this-study	PKS	11.45426966	Pakistan	Male
PKCH13	this-study	PKS	11.34832103	Pakistan	Male
PKCH14	this-study	PKS	10.99022793	Pakistan	Female
PKCH15	this-study	PKS	11.26537069	Pakistan	Female
PKCH16	this-study	PKS	11.5210269	Pakistan	Female
PKCH17	this-study	PKS	11.55759379	Pakistan	Male
PKCH18	this-study	PKS	11.74163621	Pakistan	Male
PKCH19	this-study	PKS	11.33113655	Pakistan	Female
PKCH20	this-study	PKS	11.42697931	Pakistan	Female
PKCH21	this-study	PKS	11.18007138	Pakistan	Female
PKCH22	this-study	PKS	8.562694828	Pakistan	Male
PKCH23	this-study	PKS	11.14986	Pakistan	Male
PKCH24	this-study	PKS	11.75746034	Pakistan	Male
PKCH25	this-study	PKS	10.91881966	Pakistan	Female
PKCH26	this-study	PKS	9.784105862	Pakistan	Female
PKCH27	this-study	PKS	10.81043793	Pakistan	Female
PKCH28	this-study	PKS	11.58363655	Pakistan	Female
PKCH29	this-study	PKS	11.10863517	Pakistan	Female
PKCH30	this-study	PKS	11.47398621	Pakistan	Female
PKCH31	this-study	PKS	11.24576828	Pakistan	Female
GIRQ1	this-study	IRQ	9.096775172	Iraq	Female
GIRQ2	this-study	IRQ	10.09586414	Iraq	Female
GIRQ3	this-study	IRQ	10.52142517	Iraq	Male
GIRQ4	this-study	IRQ	10.31609	Iraq	Female
GIRQ5	this-study	IRQ	9.834676207	Iraq	Female
GIRQ6	this-study	IRQ	9.288607586	Iraq	Male

GIRQ7	this-study	IRQ	9.643788276	Iraq	Female
GIRQ8	this-study	IRQ	10.27394172	Iraq	Male
GIRQ9	this-study	IRQ	10.24801138	Iraq	Female
GIRQ10	this-study	IRQ	10.33126034	Iraq	Female
GIRQ11	this-study	IRQ	10.52667931	Iraq	Male
GIRQ12	this-study	IRQ	10.30208828	Iraq	Male
GIRQ13	this-study	IRQ	10.49046	Iraq	Male
GIRQ14	this-study	IRQ	10.05397517	Iraq	Female
GIRQ15	this-study	IRQ	10.43647172	Iraq	Male
GIRQ16	this-study	IRQ	10.30455517	Iraq	Male
GIRQ17	this-study	IRQ	10.48369345	Iraq	Male
GIRQ18	this-study	IRQ	10.31110586	Iraq	Female
GIRQ19	this-study	IRQ	10.21505862	Iraq	Female
GIRQ20	this-study	IRQ	11.67027759	Iraq	Female
GIRQ21	this-study	IRQ	10.74911759	Iraq	Female
GIRQ22	this-study	IRQ	15.16520793	Iraq	Male
GIRQ23	this-study	IRQ	11.73754379	Iraq	Female
CNC01	SRR5803194	CHN	9.52	China	Male
CNC02	SRR5803181	CHN	10.63	China	Female
CNC03	SRR5803197	CHN	10.87	China	Female
CNC04	SRR5803183	CHN	9.21	China	Female
CNC05	SRR5803189	CHN	12.8	China	Female
CNC06	SRR5803180	CHN	10.99	China	Female
CNC07	SRR5803187	CHN	10.62	China	Female
CNC08	SRR5803186	CHN	12.99	China	Female
CNC09	SRR5803182	CHN	10.94	China	Female
CNC10	SRR5803179	CHN	12.33	China	Male
CNC11	SRR5803176	CHN	10.09	China	Female
CNC12	SRR5803206	CHN	11.76	China	Male
CNC13	SRR5803215	CHN	13.04	China	Female
CNC14	SRR5803213	CHN	11.23	China	Male
CNC15	SRR5803177	CHN	11.77	China	Female
CNC16	SRR5803230	CHN	8.15	China	Male
CNC17	SRR5803159	CHN	11.84	China	Female
CNC18	SRR5803157	CHN	11.23	China	Female
CNC19	SRR5803196	CHN	9.02	China	Male
CNC20	SRR5803195	CHN	9.33	China	Male
CNC21	SRR5803203	CHN	9.5	China	Male
CNC22	SRR5803202	CHN	10.19	China	Male

CNC23	SRR5803201	CHN	10.05	China	Male
CNC24	SRR5803160	CHN	12.52	China	Female
CSC01	SRR5803231	CHN	12.85	China	Female
CSC02	SRR5803165	CHN	17.75	China	Female
CSC03	SRR5803162	CHN	10.86	China	Female
CSC04	SRR5803161	CHN	13.46	China	Female
CSC05	SRR5803164	CHN	12.15	China	Female
CSC06	SRR5803163	CHN	25.56	China	Female
CSC07	SRR5803158	CHN	18.68	China	Female
CSC08	SRR5803185	CHN	14.85	China	Female
CSC09	SRR5803184	CHN	11.96	China	Female
CSC10	SRS309478	CHN	43.24	China	Female
CSC11	SRR5803169	CHN	12.69	China	Female
CSC12	SRR5803170	CHN	10.66	China	Female
CSC13	SRR5803233	CHN	12.8	China	Female
CSC14	SRR5803172	CHN	8.71	China	Female
CSC15	SRR5803171	CHN	12.86	China	Female
CSC16	SRR5803228	CHN	12.9	China	Female
CSC17	SRR5803168	CHN	12.32	China	Female
CSC18	SRR5803178	CHN	15.77	China	Female

Supplementary Table S2 List of published ancient samples from different archeological periods used in this study.

Sample ID	Region	Coverage (q30)	Age Period	Group	Bioproject
Acem1	Anatolia	4.76	Bronze Age	BronzeAge Anatolia	PRJEB26011
Acem2	Anatolia	8.67	Bronze Age	BronzeAge Anatolia	PRJEB26011
Potterne1	Britain	3.67	Bronze Age	BronzeAge Britain	PRJEB26011
Azer3-5	Caucasus	4.66	Bronze Age	BronzeAge Caucasus	PRJEB26011
Kohne2	Caucasus	0.04	Bronze Age	BronzeAge Caucasus	PRJEB26011
Tac3	Caucasus	0.13	Bronze Age	BronzeAge Caucasus	PRJEB26011
Chalow1	SWA	0.05	Bronze Age	BronzeAge Iran	PRJEB26011
Qazvin1	SWA	3.16	Bronze Age	BronzeAge Iran	PRJEB26011
Safi2	Levant	0.04	Bronze Age	BronzeAge Levant	PRJEB26011
Yarmut1	Levant	0.0013	Bronze Age	BronzeAge Levant	PRJEB26011
Yarmut7	Levant	0.008	Bronze Age	BronzeAge Levant	PRJEB26011
Yoqneam2	Levant	2.2	Bronze Age	BronzeAge Levant	PRJEB26011
Bulak1	Uzbekistan	0.87	Bronze Age	BronzeAge Uzbekistan	PRJEB26011
Bulak2	Uzbekistan	2.67	Bronze Age	BronzeAge Uzbekistan	PRJEB26011
Bulak5	Uzbekistan	0.27	Bronze Age	BronzeAge Uzbekistan	PRJEB26011
Azer6	Caucasus	0.28	Chalcolithic	Chalcolithic Caucasus	PRJEB26011
Darre1	SWA	0.04	Chalcolithic	Chalcolithic Iran	PRJEB26011
Fars1	SWA	0.02	Chalcolithic	Chalcolithic Iran	PRJEB26011
Fars4	SWA	1.05	Chalcolithic	Chalcolithic Iran	PRJEB26011
Gilat8	Levant	0.02	Chalcolithic	Chalcolithic Levant	PRJEB26011
Shiqmim1	Levant	0.0003	Chalcolithic	Chalcolithic Levant	PRJEB26011
Shiqmim9	Levant	0.0006	Chalcolithic	Chalcolithic Levant	PRJEB26011
Monjukli1	Turkmenistan	0.24	Chalcolithic	Chalcolithic Turkmenistan	PRJEB26011
Monjukli2	Turkmenistan	0.21	Chalcolithic	Chalcolithic Turkmenistan	PRJEB26011
Monjukli4	Turkmenistan	0.6	Chalcolithic	Chalcolithic Turkmenistan	PRJEB26011
Monjukli6	Turkmenistan	0.03	Chalcolithic	Chalcolithic Turkmenistan	PRJEB26011
Azer4	Caucasus	2.57	IronAge-Medieval	IronAge-Medieval Caucasus	PRJEB26011
Geor2	Caucasus	1.5	IronAge-Medieval	IronAge-Medieval Caucasus	PRJEB26011

Kazbeg1	Caucasus	3.84	IronAge-Medieval	IronAge-Medieval Caucasus	PRJEB26011
blagotin1	EUR	6.99	Neolithic	Neolithic West	PRJEB26011
blagotin2	EUR	4.02	Neolithic	Neolithic West	PRJEB26011
blagotin3	EUR	11.47	Neolithic	Neolithic West	PRJEB26011
blagotin16	EUR	3.51	Neolithic	Neolithic West	PRJEB26011
AP45	EUR	0.02	Neolithic	Neolithic West	PRJEB26011
AP49	EUR	0.02	Neolithic	Neolithic West	PRJEB26011
Kov57	EUR	0.07	Neolithic	Neolithic West	PRJEB26011
Semnan1-2	SWA	6.85	Neolithic	Neolithic East	PRJEB26011
Semnan3	SWA	14.89	Neolithic	Neolithic East	PRJEB26011
Semnan7	SWA	3.28	Neolithic	Neolithic East	PRJEB26011
Semnan9	SWA	3.05	Neolithic	Neolithic East	PRJEB26011
Semnan10	SWA	1.43	Neolithic	Neolithic East	PRJEB26011
Semnan13	SWA	2.54	Neolithic	Neolithic East	PRJEB26011
Semnan17	SWA	0.12	Neolithic	Neolithic East	PRJEB26011
Semnan8	SWA	0.21	Neolithic	Neolithic East	PRJEB26011
Fars2-5	SWA	0.03	Neolithic	Neolithic East	PRJEB26011
Lur12	SWA	1.05	Neolithic	Neolithic East	PRJEB26011
Monjukli8	SWA	2.57	Neolithic	Neolithic East	PRJEB26011
Ainghazal1	Levant	0.03	Neolithic	Neolithic Levant	PRJEB26011
Ainghazal2	Levant	0.06	Neolithic	Neolithic Levant	PRJEB26011
Ainghazal3	Levant	0.003	Neolithic	Neolithic Levant	PRJEB26011

Supplementary Table S3 Published wild *Capra* species samples used in this study.

Sample ID	Accession ID	Gender	Group	Region
IRCA01	ERR340328	female	bezoar	Iran (Alborz)
IRCA02	ERR340329	male	bezoar	Iran (Zagros)
IRCA03	ERR340330	male	bezoar	Iran (Alborz)
IRCA04	ERR340331	male	bezoar	Iran (Alborz)
IRCA05	ERR340333	male	bezoar	Iran (Zagros)
IRCA06	ERR340334	male	bezoar	(Azerbaijan)
IRCA07	ERR340335	male	bezoar	(Zagros)
IRCA08	ERR340336	male	bezoar	Iran (Azerbaijan)
IRCA09	ERR340338	male	bezoar	Iran (Alborz)
IRCA10	ERR340340	male	bezoar	Iran (Azerbaijan)
IRCA11	ERR340341	male	bezoar	Iran (Zagros)
IRCA12	ERR340342	male	bezoar	Iran (Azerbaijan)
IRCA13	ERR340343	male	bezoar	Iran (Azerbaijan)
IRCA14	ERR340344	male	bezoar	Iran (Azerbaijan)
IRCA15	ERR340345	male	bezoar	Iran (Azerbaijan)
IRCA16	ERR340347	male	bezoar	Iran (Azerbaijan)
IRCA17	ERR340348	male	bezoar	Iran (Zagros)
IRCA18	ERR340426	male	bezoar	Iran (Azerbaijan)
IRCA19	ERR470100	male	bezoar	Iran (Alborz)
IRCA20	ERR470104	male	bezoar	Iran (Alborz)
IRCA21	ERR470106	male	bezoar	Iran (Alborz)
IRCA22	ERS154870	female	bezoar	Iran (Azerbaijan)
IRCA23	SRR1576679	male	bezoar	Iran (Zagros)
IRCA24	SRR5803211	male	bezoar	Iran (zagros)
C.falconeri01	SRR8437778	male	<i>Capra falconeri</i>	Asia (Central)
C.falconeri02	SRR6246090	male	<i>Capra falconeri</i>	Asia (Central)
C.falconeri03	SRR6246089	male	<i>Capra falconeri</i>	Asia (Central)
C.sibirica01	SRR5258690	Male	<i>Capra sibirica</i>	Asia (Central)
C.sibirica02	SRR5803192	Female	<i>Capra sibirica</i>	Asia (Central)l
C.sibirica03	SRR5803193	Female	<i>Capra sibirica</i>	Asia (Central)
C.sibirica04	SRR8437786	Male	<i>Capra sibirica</i>	Asia (Central)
Alp01	SRR8437801	Female	<i>Alpine ibex</i>	European
Alp02	SRR8437783	Male	<i>Alpine ibex</i>	European
Capra_ibex-1	SRR8437801	female	<i>Capra_ibex</i>	European
Capra_ibex-2	SRR8437783	male	<i>Capra_ibex</i>	European
Capra_ibex-3	SRR8437798	male	<i>Capra_ibex</i>	European
Capra_ibex-4	SRR8437791	male	<i>Capra_ibex</i>	European
Capra_ibex-5	SRR8437774	female	<i>Capra_ibex</i>	European

Capra_ibex-6	SRR8437793	male	<i>Capra_ibex</i>	European
Capra_ibex-7	SRR8437797	male	<i>Capra_ibex</i>	European
Capra_ibex-8	SRR8437812	female	<i>Capra_ibex</i>	European
Capra_ibex-9	SRR8437780	male	<i>Capra_ibex</i>	European
Capra_ibex-10	SRR8437781	female	<i>Capra_ibex</i>	European
Capra_ibex-11	SRR8437794	male	<i>Capra_ibex</i>	European
Capra_ibex-12	SRR8437808	female	<i>Capra_ibex</i>	European
Capra_ibex-13	SRR8437802	female	<i>Capra_ibex</i>	European
Capra_ibex-14	SRR8437810	male	<i>Capra_ibex</i>	European
Capra_ibex-15	SRR8437807	female	<i>Capra_ibex</i>	European
Capra_ibex-16	SRR8437775	female	<i>Capra_ibex</i>	European
Capra_ibex-17	SRR8437776	female	<i>Capra_ibex</i>	European
Capra_ibex-18	SRR8437806	female	<i>Capra_ibex</i>	European
Capra_ibex-19	SRR8437795	male	<i>Capra_ibex</i>	European
Capra_ibex-20	SRR8437811	male	<i>Capra_ibex</i>	European
Capra_ibex-21	SRR8437800	female	<i>Capra_ibex</i>	European
Capra_ibex-22	SRR8437809	male	<i>Capra_ibex</i>	European
Capra_ibex-23	SRR8437796	female	<i>Capra_ibex</i>	European
Capra_ibex-24	SRR8437777	female	<i>Capra_ibex</i>	European
Capra_ibex-25	SRR8437782	male	<i>Capra_ibex</i>	European
Capra_ibex-26	SRR8437805	female	<i>Capra_ibex</i>	European
Capra_ibex-27	SRR8437799	male	<i>Capra_ibex</i>	European
Capra_ibex-28	SRR8437803	female	<i>Capra_ibex</i>	European
Capra_ibex-29	SRR8437804	male	<i>Capra_ibex</i>	European
Capra_ibex-30	SRR8437789	missing	<i>Capra_nubiana</i>	European
Capra_ibex-31	SRR8437792	missing	<i>Capra_nubiana</i>	European
NUHY03	SRR8618127	male	hybrid	European
NUHY04	SRR8618128	male	hybrid	European
NUHY01	SRR8618129	female	hybrid	European
NUHY02	SRR8618130	male	hybrid	European
Capra_ibex-32	SRR8437787	missing	<i>Capra_pyrenaica</i>	European
Capra_ibex-33	SRR8437785	missing	<i>Capra_pyrenaica</i>	European
Capra_ibex-34	SRR8437790	missing	<i>Capra_pyrenaica</i>	European
Capra_ibex-35	SRR8437788	missing	<i>Capra_pyrenaica</i>	European

Supplementary Table S4 Introgressed segments from East African goats into Iraqi goat population.

position	Genes	Chromosome	Start	End
downstream	LOC106503198	1	46384770	46424661
downstream	LOC108636717	1	152211974	152221125
downstream	PKP4	2	98554506	98568814
downstream	LOC102189027	3	17846451	17858722
downstream	LOC108635821	4	6711039	6712917
downstream	LOC106503901	4	6752907	6755657
downstream	TRNAS-GGA	4	35668706	35679060
downstream	DERA	5	92470320	92481807
downstream	LOC102181009	5	97428548	97435523
downstream	LOC102183941	5	98059903	98067803
downstream	TTC37	7	15796322	15809042
downstream	JMJD4	7	105312910	105321181
downstream	TRNAS-GGA	8	86170620	86182386
downstream	CD109	9	514238	522476
downstream	ERH	10	21947742	21964901
downstream	ANKDD1A	10	89374199	89382849
downstream	LOC102181226	15	34295074	34300750
downstream	LOC102178190	15	34520050	34528063
downstream	LOC106503076	18	8360111	8376883
downstream	LOC102173770	18	34892391	34907347
downstream	LOC102188437	18	65417671	65422953
downstream	LOC102179590, LOC102179878	19	13923188	13930678
downstream	LOC102189356	23	23350518	23352061
downstream	LOC102178721	29	5076741	5084266
downstream	LOC102178883	29	27230125	27240102
downstream	KCNJ1	29	31513271	31535484
exonic	CRYZL1	1	340806	364511
exonic	IFNGR2	1	541966	564932
exonic	IFNAR2	1	777334	800432
exonic	URB1	1	1621835	1633510
exonic	HUNK	1	2101943	2121992
exonic	TIAM1	1	2764985	2772070
exonic	LOC100861181	1	3189804	3196674
exonic	GRIK1	1	4906172	4920986
exonic	NCAM2	1	14021036	14034540

exonic	USP25	1	19932869	19941590
exonic	EPHA3	1	36217625	36228232
exonic	KCNE1	1	41335189	41345946
exonic	CRYBG3	1	41921880	41932581
exonic	LOC102188532	1	42228785	42256184
exonic	LOC102190992	1	42416097	42421254
exonic	FILIP1L	1	43898993	43930295
exonic	ADGRG7	1	44850460	44862760
exonic	TFG	1	44900747	44936654
exonic	NXPE3	1	45892377	45914448
exonic	NFKBIZ	1	45946367	45982326
exonic	ALCAM	1	50027603	50050018
exonic	ALCAM	1	50058200	50078803
exonic	CCDC54	1	51827899	51843764
exonic	CD47	1	52643342	52657253
exonic	MYH15	1	53068608	53091439
exonic	SPICE1	1	57926473	57939072
exonic	ZBTB20	1	58751963	58772327
exonic	HGD	1	65055784	65071314
exonic	HEG1	1	69239843	69253686
exonic	LRCH3	1	70024806	70037927
exonic	FYTTD1	1	70121996	70137485
exonic	RNF168, SMCO1	1	70779753	70793352
exonic	HES1	1	73070695	73127917
exonic	TPRG1	1	77730816	77755909
exonic	BCL6	1	79293504	79317820
exonic	ST6GAL1	1	79882759	79888963
exonic	VPS8	1	81801134	81857168
exonic	NAALADL2	1	91355811	91364719
exonic	NCEH1	1	94404023	94427682
exonic	PLD1	1	95402262	95419017
exonic	PLD1	1	95494384	95504450
exonic	CLDN11	1	96527423	96543357
exonic	SEC62	1	96927834	96945416
exonic	ZBBX	1	99669700	99680295
exonic	BCHE	1	101088181	101128177
exonic	LOC102180430	1	106777309	106830238
exonic	LOC102180430	1	106918781	106935698
exonic	RSRC1	1	108602037	108619226

exonic	LEKR1	1	110129197	110144653
exonic	LEKR1	1	110177491	110216630
exonic	LEKR1	1	110237398	110282970
exonic	SLC33A1	1	111396788	111403544
exonic	PLCH1	1	111673605	111690421
exonic	PLCH1	1	111750056	111770081
exonic	ARHGEF26	1	113128730	113141913
exonic	GYG1	1	118728393	118749741
exonic	AGTR1	1	119027837	119069335
exonic	GRK7	1	126692312	126708904
exonic	RBP2	1	129147581	129165068
exonic	A4GNT	1	130544919	130556007
exonic	PCCB	1	132545302	132564491
exonic	KY	1	134296132	134310907
exonic	CEP63	1	134342508	134375456
exonic	LOC102172205	1	135132659	135156740
exonic	NPHP3	1	136466429	136476102
exonic	CPNE4	1	137911369	137916781
exonic	BACE2	1	141011793	141019715
exonic	MX1	1	141257216	141276781
exonic	AGPAT3	1	143593904	143602477
exonic	TRPM2	1	144282913	144298882
exonic	LOC108636552	1	144391173	144400367
exonic	RUNX1	1	146901877	146917641
exonic	LOC108633281, SETD4	1	148186989	148236470
exonic	LOC102178311	1	148242795	148287502
exonic	SIM2	1	148864994	148881427
exonic	LOC102177934	1	151429412	151436978
exonic	LOC102177934	1	151446672	151459354
exonic	ANKRD28	1	152568790	152584204
exonic	ANKRD28	1	152618803	152639557
exonic	PLCL2	1	153706072	153727957
exonic	LOC102184668	1	157371470	157392508
exonic	LOC102170006	2	3297534	3314254
exonic	ECE1	2	4554771	4568220
exonic	RAP1GAP	2	4825725	4844413
exonic	EPHB2	2	6057208	6071825
exonic	SEPN1	2	8683004	8693244
exonic	SLC9A1	2	9869303	9884622

exonic	SESN2	2	10830180	10848030
exonic	ZCCHC17	2	13645166	13661983
exonic	ZNF362	2	15265333	15319571
exonic	SP140	2	17468724	17476551
exonic	DOCK10	2	22788227	22799700
exonic	KCNE4	2	24566850	24593251
exonic	DES,SPEG	2	28438907	28468540
exonic	ABCB6, ZFAND2B	2	28643181	28662346
exonic	IHH,NHEJ1	2	28779159	28807761
exonic	PECR	2	31709311	31718116
exonic	BARD1	2	33031485	33043270
exonic	PTH2R	2	39235663	39255181
exonic	ADAM23	2	41047004	41054490
exonic	PARD3B	2	42084874	42099528
exonic	PARD3B	2	42346426	42379582
exonic	LOC102176567	2	44378959	44392534
exonic	ALS2CR11	2	45812195	45826025
exonic	CCDC150	2	50712029	50723055
exonic	C2H2orf76	2	64973040	64983689
exonic	NCKAP5	2	71608693	71618773
exonic	TMEM163	2	73445923	73453264
exonic	TMEM163	2	73707394	73724043
exonic	ACMSD	2	73808382	73815838
exonic	RAB3GAP1	2	74051263	74067287
exonic	LRP1B	2	80097929	80112661
exonic	LRP1B	2	80426405	80444985
exonic	GTDC1	2	83834894	83882555
exonic	KIF5C	2	88970730	88985561
exonic	NEB	2	91593693	91612216
exonic	FMNL2	2	92499746	92517868
exonic	KCNJ3	2	94976594	94995827
exonic	NR4A2	2	96247154	96314914
exonic	ACVR1	2	97613884	97642512
exonic	PSMD14	2	101153487	101170073
exonic	SLC4A10	2	101497185	101517868
exonic	SLC4A10	2	101638908	101658816
exonic	SLC4A10	2	101684420	101702485
exonic	SLC38A11	2	104922500	104930168
exonic	SCN3A	2	105153382	105189374

exonic	SCN2A	2	105348378	105360750
exonic	LOC102179054	2	105971406	105981304
exonic	SCN9A	2	106211889	106219551
exonic	STK39	2	108109845	108121661
exonic	STK39	2	108407867	108419508
exonic	ABCB11	2	109132993	109141281
exonic	ABCB11	2	109146126	109158019
exonic	PPIG	2	109600303	109621460
exonic	METTL5,SSB	2	109748222	109761067
exonic	MYO3B	2	110069492	110080599
exonic	SLC25A12	2	111609942	111638838
exonic	CIR1,SP9	2	113845221	113871890
exonic	OSBPL6	2	117775279	117785424
exonic	OSBPL6	2	117813643	117822837
exonic	ZNF385B	2	118863838	118899857
exonic	CERKL	2	121343439	121370281
exonic	PPP1R1C	2	121753733	121760803
exonic	DNAJC10	2	122546240	122551672
exonic	NCKAP1	2	122732132	122758880
exonic	NUP35	2	122895321	122907139
exonic	FSIP2	2	125878461	125886784
exonic	ORMDL1, PMS1	2	129937004	129980194
exonic	UGGT1	2	132145653	132153222
exonic	ING5	3	350342	368517
exonic	HDAC4	3	2412436	2418659
exonic	LRRFIP1	3	3567320	3579396
exonic	DNAJB3	3	7370848	7380988
exonic	USP40	3	7548990	7591200
exonic	C3H1orf216	3	10760037	10782053
exonic	AGO3	3	10993525	11018428
exonic	CSF3R	3	11400416	11424908
exonic	DNALI1,SNIP1	3	12458803	12476579
exonic	SCMH1	3	15750307	15776963
exonic	GUCA2B	3	16742150	16752832
exonic	PPCS	3	17084224	17097315
exonic	YBX1	3	17247207	17274223
exonic	ST3GAL3	3	18510258	18528831
exonic	CCDC17, GPBP1L1	3	20316073	20384151

exonic	LOC102190926	3	22755064	22761500
exonic	SPATA6	3	22901264	22929917
exonic	SPATA6	3	22974718	23004392
exonic	SPATA6	3	23014982	23044438
exonic	LOC106501971	3	24550945	24576424
exonic	LOC102183751	3	27156618	27168857
exonic	SCP2	3	27474021	27489129
exonic	NDC1	3	28338290	28363070
exonic	PRKAA2	3	31223592	31269630
exonic	C8B	3	31576622	31595238
exonic	OMA1	3	33255436	33281237
exonic	DIRAS3	3	43635697	43651782
exonic	ERICH3	3	50789469	50801576
exonic	CRYZ	3	50870741	50891944
exonic	LHX8	3	51236868	51268838
exonic	GNG5,SPATA1	3	61608140	61621309
exonic	MCOLN3	3	62141123	62158444
exonic	CLCA1	3	63652083	63661142
exonic	LRRC8B	3	66899877	66916187
exonic	CDC7	3	68712530	68775936
exonic	EPHX4	3	69229114	69244351
exonic	RPAP2	3	69521089	69559451
exonic	DNTTIP2, LOC108635648	3	70904091	70942200
exonic	ABCD3	3	71465600	71491218
exonic	DPYD	3	74136271	74151134
exonic	SNX7	3	75918431	75935317
exonic	AGL	3	77115004	77125108
exonic	SLC35A3	3	77226132	77259049
exonic	MFSD14A, SASS6	3	77272995	77365864
exonic	COL11A1	3	80030781	80040711
exonic	PROK1	3	87590077	87596603
exonic	KCNA3	3	87818929	87836430
exonic	LRIG2	3	90355448	90393583
exonic	HIPK1,OLFML3	3	91191012	91210662
exonic	HAO2	3	96811998	96829536
exonic	LOC102177854	3	97091552	97117314
exonic	SEC22B	3	97459313	97470699
exonic	PDE4DIP	3	97534872	97544632

exonic	PDE4DIP	3	97606606	97626149
exonic	TDRKH	3	101156184	101172294
exonic	S100A11	3	101812637	101832116
exonic	LOC106501763	3	102131407	102143824
exonic	KCNN3	3	104300336	104314685
exonic	PBXIP1	3	104487122	104500922
exonic	LOC102183650	3	106922061	106990912
exonic	FCRL3	3	107389262	107398009
exonic	LOC102186680	3	107455509	107463593
exonic	LOC102186680	3	107483380	107488069
exonic	LOC102169923	3	107599784	107615297
exonic	LOC102179999	3	107958077	107962983
exonic	LOC102178587	3	108205386	108210979
exonic	CD1E	3	108263115	108270520
exonic	FCER1A	3	109489353	109496996
exonic	IGSF8	3	110343116	110351520
exonic	CD84	3	110790158	110808402
exonic	CD84	3	110819923	110847541
exonic	ARHGAP30, TSTD1,USF1	3	111677307	111700328
exonic	C3H1orf226	3	112930191	112941794
exonic	DDR2	3	113407285	113413800
exonic	NUF2	3	114166010	114177512
exonic	PTPRN2	4	743118	755640
exonic	PTPRN2	4	920475	930279
exonic	AGAP3	4	6156772	6168102
exonic	TMEM176B	4	6508372	6515023
exonic	GIMAP1, GIMAP2	4	6628196	6637764
exonic	LOC106503900	4	6790758	6792504
exonic	LOC102179185	4	7470140	7473232
exonic	LOC102186385	4	7646005	7660546
exonic	ARHGEF5	4	13024835	13038091
exonic	LOC102187191	4	13259301	13263891
exonic	KEL	4	14352959	14370160
exonic	LOC102179184	4	14919477	14930531
exonic	MGAM, MGAM2	4	15102004	15151092
exonic	MKRN1, RAB19	4	16589606	16612719
exonic	SLC37A3	4	16649661	16659507

exonic	TBXAS1	4	17002337	17015809
exonic	HIPK2	4	17223784	17244750
exonic	LOC102172789	4	17483382	17515602
exonic	KIAA1549	4	17878511	17888706
exonic	TMEM213	4	17935706	17943596
exonic	DGKI	4	18811060	18860448
exonic	PTN	4	19489744	19503708
exonic	PLXNA4	4	23976793	23989605
exonic	AHCYL2, SMO	4	26978650	27004805
exonic	TMEM229A	4	31738291	31751611
exonic	SLC13A1	4	32675974	32681517
exonic	CADPS2	4	33021248	33037307
exonic	CADPS2	4	33115041	33125141
exonic	LOC102191204	4	37616216	37623870
exonic	VPS41	4	38107435	38119259
exonic	POU6F2	4	38387710	38422957
exonic	CCM2	4	43571360	43607441
exonic	TNS3	4	45322407	45340748
exonic	STEAP1	4	45850597	45871376
exonic	PLEKHA8	4	53906143	53926101
exonic	ZNRF2	4	54225002	54251902
exonic	ZNRF2	4	54259158	54269736
exonic	ZNF277	4	64205976	64217254
exonic	ST7	4	68895484	68939377
exonic	ST7	4	69020543	69047414
exonic	CBLL1, SLC26A3, SLC26A4	4	71487883	71554121
exonic	SYPL1	4	73116231	73146854
exonic	GSAP	4	76472140	76494230
exonic	GNAI1	4	79283093	79322780
exonic	KIAA1324L	4	86925388	86960274
exonic	TRA2A	4	88421478	88475695
exonic	IGF2BP3, MALSU1	4	88617563	88645908
exonic	GPNMB	4	88702433	88721420
exonic	HDAC9	4	93825113	93839622
exonic	TSPAN13	4	95250574	95257802
exonic	ISPD	4	95704668	95729066
exonic	AGMO	4	96543095	96554712

exonic	DGKB	4	97633099	97639728
exonic	DGKB	4	98095997	98108978
exonic	PON1	4	108066673	108070987
exonic	PPP1R9A	4	108159959	108184392
exonic	CASD1	4	108693022	108703738
exonic	CDK6	4	110520132	110541891
exonic	CDK14	4	112462990	112471213
exonic	DDC	4	115107905	115117534
exonic	GRB10	4	115190720	115198255
exonic	COBL	4	115809241	115816885
exonic	THAP2, ZFC3H1	5	1075062	1110702
exonic	RAB21	5	1191031	1207612
exonic	TBC1D15	5	1319473	1350892
exonic	OTOGL	5	9587053	9602302
exonic	LOC102172692	5	9817209	9824287
exonic	LOC102172692	5	9882653	9887901
exonic	TMTC2	5	12246737	12266365
exonic	KITLG	5	18043488	18060616
exonic	KITLG	5	18112176	18142987
exonic	PLXNC1	5	23697699	23719393
exonic	PLXNC1	5	23773376	23790209
exonic	NDUFA12	5	24481549	24494855
exonic	NR2C1	5	24519786	24532818
exonic	METAP2	5	24869541	24890691
exonic	LOC102184404	5	24980596	25002389
exonic	NCKAP1L,PDE1B	5	25270746	25289297
exonic	HOXC10, HOXC11, HOXC12, HOXC13, HOXC5, HOXC6, HOXC8, HOXC9, LOC102178515	5	25724417	25845573
exonic	ATF7	5	26199679	26232266
exonic	ATF7,MAP3K12, NPFF,PCBP2,TARBP2	5	26247316	26308030
exonic	AMHR2,SP1	5	26320338	26393550
	AAAS, C5H12orf10, CSAD,	5	26412270	26578272

exonic	ESPL1, ITGB7, MFSD5, PFDN5, RARG, SP7, ZNF740			
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exonic	KRT77	5	26935009	26944399
exonic	SLC4A8	5	27999484	28021972
exonic	BIN2	5	28183690	28201007
exonic	FAIM2	5	29642254	29659555
exonic	BCDIN3D	5	29683064	29714311
exonic	TMBIM6	5	29762489	29782746
exonic	FMNL3, PRPF40B	5	29834014	29863020
exonic	TUBA1C	5	30210532	30231947
exonic	LOC102178700, TUBA1A	5	30304155	30345145
exonic	LOC102174001	5	31211867	31225064
exonic	SLC38A4	5	33009011	33050710
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exonic	IRAK4	5	36192875	36207010
exonic	ADAMTS20	5	36500397	36512676
exonic	ADAMTS20	5	36605020	36612425
exonic	PPHLN1	5	37763459	37775301
exonic	YAF2	5	37980326	38005738
exonic	LRRK2	5	40178539	40189080
exonic	SLC2A13	5	40704569	40713129
exonic	MDM1	5	44817772	44828129
exonic	HMGA2	5	47272425	47351554
exonic	MSRB3	5	47683721	47705360
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exonic	LOC102189464	5	56349735	56365726
exonic	NTN4	5	58713002	58731256
exonic	LOC108636107	5	61130822	61142668
exonic	STAB2	5	66004314	66016364
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exonic	TCP11L2	5	68383015	68397607
exonic	BTBD11	5	69556411	69569406
exonic	PWP1	5	69606858	69627969
exonic	PRDM4	5	69636155	69684960

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exonic	BPIFC	5	69736975	69746121
exonic	SYN3	5	69809193	69850734
exonic	SYN3	5	70234511	70259568
exonic	LOC102190762, LOC102191021	5	70341565	70390761
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exonic	LOC102172428	5	73257123	73263263
exonic	LOC102171493	5	73275399	73278821
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exonic	PIK3C2G	5	89923983	89929264
exonic	FAM234B	5	95450509	95475811
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exonic	LOC108636137	5	97713930	97719762
exonic	LOC108636059	5	98187234	98190662
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exonic	LOC108636116	5	98405955	98431280
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exonic	LOC102188569	5	102270884	102278225
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exonic	PHF21B	5	114404368	114419531
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exonic	MLC1	5	118420247	118426460
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exonic	SYNPO2	6	6856190	6876477
exonic	SEC24D	6	6909428	6919764

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exonic	ENPEP	6	15224277	15244170
exonic	COL25A1	6	16691158	16701137
exonic	NPNT	6	19518679	19538200
exonic	ARHGEF38, INTS12	6	19799721	19815831
exonic	TACR3	6	21727433	21742134
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exonic	LOC102173738	6	25758085	25766320
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exonic	HERC3	6	36687846	36702461
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exonic	TMEM156	6	58790716	58810515
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exonic	LOC102185995	6	84644331	84658187
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exonic	CCDC158	6	91722089	91737643
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exonic	CCNI,SEPT11	6	92373301	92424744
exonic	FRAS1	6	93231537	93241339
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exonic	EVC2	6	103988397	104002765
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exonic	TMEM232	7	1026569	1034448
exonic	C7H5orf30	7	8356872	8379406
exonic	PAM	7	8586842	8607601
exonic	GLRX	7	15436321	15444759
exonic	ARSK	7	15673129	15685720
exonic	FAM172A	7	17274312	17290219
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exonic	GRIA1	7	45399148	45417640
exonic	FAT2	7	47635819	47671479
exonic	CCDC69	7	47965659	47980962
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exonic	CAMK2A	7	48825066	48835486
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exonic	CSF1R,HMGXB3	7	49028016	49079587
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exonic	PDE6A	7	49175967	49196396
exonic	CSNK1A1	7	49478322	49587113
exonic	SPINK13	7	50699247	50734014
exonic	SPINK13	7	50738147	50751301
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exonic	LOC102176231	7	50833110	50854335
exonic	LOC102175572	7	50961572	50972959
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exonic	SH3RF2	7	53305612	53318210
exonic	ARHGAP26	7	56392918	56453788
exonic	SIL1	7	60112059	60141507
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exonic	CDC25C, FAM53C, KDM3B, LOC102187480	7	60736379	60799691

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exonic	ATP5D, C7H19orf24, CBARP,CIRBP, EFNA2, MIDN,STK11	7	66755746	66846378
exonic	GPX4,SBNO2	7	66865749	66898512
exonic	FGF22, FSTL3,RNF126	7	67195911	67218286
exonic	LOC102172706	7	68769589	68774553
exonic	LOC102185650	7	69815223	69828603
exonic	HSD17B4	7	76178511	76213768
exonic	HSD17B4	7	76237765	76249398
exonic	CEP120	7	80257082	80272156
exonic	FBN2	7	85000426	85008464
exonic	TLE2,TLE6	7	89784971	89817321
exonic	PIP5K1C,TJP3	7	90270428	90333204
exonic	MATK,ZFR2	7	90355371	90394686
exonic	EEF2,PIAS4,ZBTB7A	7	90519014	90609347
exonic	MAP2K2	7	90638728	90663115
exonic	PIN1,UBL5	7	94324929	94336425
exonic	FDX1L, ICAM1, ICAM3, ICAM4, ICAM5, MRPL4, RAVER1, ZGLP1	7	94680840	94744577
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exonic	QTRT1	7	95055791	95071668
exonic	RFX1	7	97086346	97098868
exonic	LOC102184898	7	99997571	100001031
exonic	LOC102187311	7	101126039	101133929
exonic	LOC102180750, LOC102180929	7	101579489	101593262
exonic	LOC102180386	7	101617624	101627417
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exonic	EPS15L1	7	102156074	102162992
exonic	FCHO1	7	103384291	103424030

exonic	B3GNT3	7	103429622	103441061
exonic	MAST3, PIK3R2	7	103714205	103731891
exonic	C7H5orf45, SQSTM1	7	107374149	107384599
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exonic	EXTL3	8	9829094	9844722
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exonic	LOC102178353, LOC102180761	8	22828726	22841989
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exonic	TJP2	8	45223771	45238143
exonic	SMC5	8	46192718	46202469
exonic	ALDH1A1	8	48887732	48910569
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exonic	ADAM7	8	71470724	71481569
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exonic	B4GALT1	8	74646983	74668045
exonic	B4GALT1	8	74675097	74691623
exonic	BAG1, CHMP5, NFX1, SPINK4	8	74762429	74874051
exonic	NFX1	8	74892266	74926392
exonic	AQP3, NOL6, UBAP2, UBE2R2	8	74949393	75151680

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exonic	ZNF618	8	102997997	103011384
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exonic	AGP, AKNA, COL27A1	8	103231137	103285635
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exonic	ALLC	8	110647164	110653900
exonic	MYT1L	8	111654683	111663208
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exonic	DOPEY1	9	10325593	10334365
exonic	TRDN	9	15241841	15256042
exonic	PLN	9	19630922	19645985
exonic	RFX6	9	20919185	20957959
exonic	RSPH4A	9	21171123	21175885
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exonic	DSE	9	21577586	21601671
exonic	LACE1	9	29016575	29030392
exonic	ASCC3	9	36494421	36506756

exonic	MCHR2	9	37163404	37183519
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exonic	EPHA7	9	43982266	44012549
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exonic	MDN1	9	47704513	47717098
exonic	UBE2J1	9	48114133	48121877
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exonic	CEP162	9	52419321	52429029
exonic	LOC102184907	9	52634486	52673677
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exonic	ARG1	9	56768973	56821533
exonic	EYA4	9	58802152	58810635
exonic	SGK1	9	59395786	59419967
exonic	AHI1	9	60410492	60433359
exonic	HIVEP2	9	67239095	67292492
exonic	LTV1	9	68337757	68354590
exonic	SHPRH	9	70285085	70299474
exonic	RAB32	9	70889262	70917532
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exonic	ADGB	9	71137998	71153556
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exonic	PLEKHG1	9	75243497	75253480
exonic	SYNE1	9	76475802	76492041
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exonic	SPATA7	10	3047980	3062647
exonic	PGF	10	16884195	16925866
exonic	DLST, PROX2, RPS6KL1	10	16943888	17033230
exonic	FCF1,YLPM1	10	17084096	17122932
exonic	AREL1,FCF1	10	17130898	17217836
exonic	ISCA2,NPC2	10	17335272	17351444
exonic	ABCD4	10	17489327	17497681

exonic	ALDH6A1, BBOF1,LIN52	10	17678950	17746786
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exonic	FOXB1	10	52897365	52937272
exonic	VPS13C	10	54894156	54922248
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exonic	TTBK2	10	64908904	64975769
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exonic	NDUFAF1, NUSAP1	10	66233931	66260493
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exonic	ABHD4	10	79262705	79278298
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exonic	NGDN	10	79975550	79994127
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exonic	NEO1	10	81309067	81318646
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exonic	LRRC49	10	83360637	83374961
exonic	ITGA11	10	86076498	86096827
exonic	SMAD6	10	87729498	87749662
exonic	CILP	10	89109184	89118589
exonic	MTFMT	10	89325372	89334868
exonic	PSMC6, STYX	10	89786381	89830284
exonic	LOC106502525	10	89938827	89943087
exonic	JMY	10	90960389	90975082
exonic	ARSB	10	91232976	91249860
exonic	AP3B1	10	91991864	92002384
exonic	ANKRD31	10	94655802	94663456
exonic	CCDC112, PGGT1B	10	97106450	97132783
exonic	PGGT1B	10	97136204	97159121
exonic	PGGT1B	10	97162071	97180918
exonic	NREP	10	99060154	99085922
exonic	ZC3H8	11	97562	122124
exonic	MERTK	11	339987	355788
exonic	TXNDC9	11	4353385	4374072
exonic	MOB1A	11	10344159	10363480
exonic	DGUOK	11	10553286	10572569
exonic	EXOC6B	11	11590469	11617177
exonic	NAGK	11	13277692	13288100

exonic	SLC30A6	11	14611792	14623007
exonic	HEATR5B	11	19356164	19363107
exonic	EIF2AK2, SULT6B1	11	19439695	19474780
exonic	CEBPZ, CEBPZOS, NDUFAF7	11	19486282	19514613
exonic	HNRNPLL	11	20783413	20792569
exonic	DHX57	11	21027285	21038034
exonic	SOS1	11	21181564	21201139
exonic	SOS1	11	21207755	21224372
exonic	CDKL4	11	21349603	21373507
exonic	SLC8A1	11	22350410	22358542
exonic	EML4	11	24466868	24547518
exonic	EML4	11	24553908	24601062
exonic	LOC102187496	11	24641122	24666302
exonic	THADA	11	25482227	25499528
exonic	THADA	11	25572775	25599660
exonic	THADA	11	25627092	25636800
exonic	CRIP1,PIGF	11	28642537	28669761
exonic	FSHR	11	30822027	30830968
exonic	NRXN1	11	32489166	32505945
exonic	EML6	11	37013693	37054767
exonic	CCDC88A	11	37629396	37680602
exonic	CCDC88A	11	37689195	37703613
exonic	CFAP36, EFEMP1, PNPT1, PPP4R3B	11	37806496	38263231
exonic	CCDC138, LOC102172632	11	44240336	44266149
exonic	LIMS1, LOC102172632	11	44302176	44326777
exonic	SLC5A7	11	44612216	44626562
exonic	IL37	11	46248549	46256527
exonic	LOC102180231	11	46268958	46296684
exonic	DNAH6	11	49788863	49797757
exonic	B3GNT2	11	60432112	60447120
exonic	RAB1A	11	63226475	63246364
exonic	ACTR2	11	63317316	63338191
exonic	C1D	11	66216104	66224998
exonic	GMCL1,	11	67944600	67980671

	SNRNP27			
exonic	C11H2orf42	11	68192419	68232150
exonic	CAPN14	11	68448554	68466770
exonic	LBH	11	69359891	69383009
exonic	ALK,CLIP4	11	70403248	70420451
exonic	BRE	11	71247114	71378536
exonic	ATRAID,SLC5A6	11	72139087	72158356
exonic	ABHD1, CGREF1, KHK	11	72233715	72261902
exonic	AGBL5, TMEM214	11	72294769	72318425
exonic	DPYSL5	11	72448939	72460353
exonic	ASXL2	11	73339644	73361111
exonic	DTNB	11	73611207	73625239
exonic	KCNF1	11	86371062	86392738
exonic	ATP6V1C2, PDIA6	11	86454296	86522008
exonic	ATP6V1C2	11	86530763	86559201
exonic	NOL10	11	86570090	86660809
exonic	HPCAL1,ODC1	11	86768481	86828661
exonic	RSAD2	11	89656720	89669960
exonic	DAB2IP	11	92138008	92147773
exonic	ZER1	11	98778231	98790634
exonic	DOLK,NUP188	11	98913521	98959074
exonic	NCS1	11	99986228	99996887
exonic	NCS1	11	100002435	100012926
exonic	HMCN2	11	100110527	100123321
exonic	FAM78A, LOC108637171	11	100922997	100945063
exonic	PLPP7	11	100954005	100994976
exonic	RAPGEF1	11	101289036	101306042
exonic	SETX	11	101793049	101878761
exonic	CFAP77,TTF1	11	101916632	101938280
exonic	CFAP77	11	102051532	102062758
exonic	GTF3C5	11	102480305	102493747
exonic	RALGDS	11	102556729	102571790
exonic	GBGT1	11	102595754	102608454
exonic	LCN9	11	102751236	102761136
exonic	KCNT1	11	102808572	102831794
exonic	CCDC187	11	103189608	103212186

exonic	NOTCH1	11	103375124	103387652
exonic	FAM155A	12	3477815	3488596
exonic	CLYBL	12	9697399	9730271
exonic	TM9SF2	12	9926940	9943546
exonic	LOC102177727, UBAC2	12	10087009	10165353
exonic	LOC102173859	12	14669619	14674781
exonic	SLAIN1	12	33170357	33187077
exonic	KLF5	12	38587015	38604681
exonic	ATP12A,RNF17	12	50052382	50132695
exonic	RNF17	12	50149682	50226294
exonic	CRYL1, EEF1AKMT1, IFT88,IL17D	12	50772539	50948571
exonic	LATS2,XPO4	12	51002990	51080880
exonic	FGF9, MICU2, MRPL57, SAP18, SKA3, ZDHHC20	12	51117908	51376315
exonic	SPATA13	12	52531108	52545923
exonic	USP12	12	54017061	54023789
exonic	SLC46A3	12	55273523	55287107
exonic	UBL3	12	55887917	55912388
exonic	MEDAG	12	56685529	56701925
exonic	RXFP2	12	57414837	57478896
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exonic	FREM2	12	63365531	63373032
exonic	COG6	12	63910424	63919775
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exonic	LOC102184634	12	64914941	64924510
exonic	DHRS12	12	65396480	65410587
exonic	RNASEH2B	12	66204988	66222084
exonic	DLEU7	12	66314702	66335171
exonic	CAB39L	12	67651365	67657863
exonic	RCBTB2	12	68306024	68318326
exonic	LPAR6	12	68354616	68374087
exonic	LECT1	12	75448831	75456527
exonic	DIAPH3	12	84347358	84364542

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exonic	TASP1	13	6797008	6816812
exonic	SEL1L2	13	7308177	7324462
exonic	KIF16B	13	9978000	9984866
exonic	NINL	13	10578587	10583175
exonic	FBXO18	13	10690380	10707209
exonic	IL15RA	13	10744012	10751646
exonic	PFKFB3	13	10916176	10927749
exonic	SFMBT2	13	11760509	11773963
exonic	SFMBT2	13	11847114	11863186
exonic	LOC102175218, LOC102175492	13	16940441	16954230
exonic	PARD3	13	18190022	18201041
exonic	ARMC3	13	23378631	23395247
exonic	CUBN	13	30766557	30782775
exonic	KIF5B	13	32660889	32704891
exonic	MAP3K8	13	34671072	34688874
exonic	WAC	13	35428997	35449615
exonic	MKX	13	36218873	36238453
exonic	PAX1	13	40211831	40306912
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exonic	LOC102176340, LOC102176622	13	42634737	42657754
exonic	LOC102190498	13	42720900	42740985
exonic	LOC102188841	13	42781830	42787646
exonic	LOC102188299	13	42868908	42876539
exonic	LARP4B	13	45767178	45907406
exonic	C13H20orf196	13	47520896	47534373
exonic	LOC102190036	13	52860805	52863394
exonic	PCMTD2	13	52983922	52995703
exonic	LKAAEAR1, NPBWR2, OPRL1, RGS19, TCEA2	13	53075898	53139985
exonic	EDN3	13	56391361	56416947
exonic	ZNF831	13	56516619	56539562
exonic	CTSZ,NELFCD	13	56690025	56716520
exonic	NPEPL1	13	56966393	56986725
exonic	MC3R	13	58923652	58939289
exonic	CSNK2A1	13	59862303	59878524

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exonic	DLGAP4	13	65134470	65155092
exonic	DLGAP4	13	65174217	65207198
exonic	LOC102177994, TGIF2	13	65252625	65275418
exonic	SAMHD1, SOGA1, TLDC2	13	65463596	65496908
exonic	RBL1	13	65564739	65588545
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exonic	BPI	13	66715771	66748871
exonic	BPI	13	66755516	66762191
exonic	TOP1	13	69289294	69311445
exonic	PLCG1, ZHX3	13	69384501	69424690
exonic	CHD6	13	69701240	69714069
exonic	SULF2	13	75724862	75736790
exonic	BCAS1	13	81010112	81019124
exonic	LOC102178921	13	81150319	81156603
exonic	DEPTOR	14	848063	865195
exonic	MMP16	14	7651017	7659796
exonic	RUNX1T1	14	9901829	9918942
exonic	RUNX1T1	14	9938865	9962728
exonic	C14H8orf37	14	13122175	13151086
exonic	STK3	14	16488802	16557773
exonic	ANGPT1	14	24914595	24933337
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exonic	RAD21	14	34616982	34638698
exonic	MAL2	14	37073207	37086084
exonic	ZBTB10	14	38365938	38404998
exonic	MRPS28	14	38817009	38835517
exonic	PEX2	14	41887676	41910785
exonic	ADHFE1	14	51393401	51405915
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exonic	CLVS1	14	55203665	55214648
exonic	MRPL15	14	60029169	60045829
exonic	ST18	14	60865100	60915267
exonic	PCMTD1	14	60943260	61052461
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exonic	ATAD2	14	65568346	65585848
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exonic	SLA,TG	14	73633693	73672767
exonic	SLA,TG	14	73680114	73743903
exonic	NDRG1	14	73878503	73886374
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exonic	SMAP1	14	91448380	91471954
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exonic	LOC102168475	15	930715	943441
exonic	LOC102173289	15	946553	963090
exonic	LOC102168904	15	989170	993665
exonic	FAM111B	15	1189045	1204323
exonic	LOC102176061	15	1322028	1329850
exonic	LOC102191446	15	3304337	3310954
exonic	LOC108637605	15	4863339	4865689
exonic	CKAP5,F2	15	6303132	6316629
exonic	ACCS,ACCSL	15	8811216	8835918
exonic	SLC1A2	15	17124921	17133085
exonic	CD44	15	17211473	17220529
exonic	FBXO3	15	18500326	18519840
exonic	CCDC73	15	19584114	19594557
exonic	WT1	15	19789192	19804291
exonic	ANO3	15	25632869	25642123
exonic	B3GNT6	15	26489829	26507984
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exonic	LOC102170996	15	28650584	28673400
exonic	SPCS2	15	28772219	28793621
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exonic	FAM168A	15	30101043	30120553
exonic	ARHGEF17	15	30153927	30179559
exonic	ARHGEF17	15	30186702	30224997
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exonic	LOC102177820	15	33614037	33621027
exonic	LOC102185941	15	33717401	33722882
exonic	LOC102175600, LOC102182894	15	34084643	34094798
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exonic	LOC102169889, LOC108637671	15	34711960	34797140
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exonic	GALNT18	15	40959526	40968905
exonic	PARVA	15	42133929	42143365
exonic	IFT46, KMT2A, TMEM25, TTC36	15	53120535	53159892
exonic	KMT2A	15	53197731	53227699
exonic	MPZL2,MPZL3	15	53378364	53403124
exonic	DSCAML1	15	53901050	53913422
exonic	DSCAML1	15	54152445	54160895
exonic	DSCAML1	15	54225863	54246533
exonic	CEP164	15	54310152	54325092
exonic	BACE1,CEP164	15	54333414	54353052
exonic	TTC12	15	58477848	58490513
exonic	RDX	15	62035461	62047472
exonic	C15H11orf65	15	64230035	64261518
exonic	PIWIL4	15	66485256	66491919
exonic	PIWIL4	15	66504245	66521578
exonic	SESN3	15	67081628	67098625
exonic	MTMR2	15	67915213	67934987
exonic	DYNC2H1	15	77160948	77171734
exonic	LOC102191717	15	79176740	79209837
exonic	LOC102183889	15	81508553	81528864
exonic	LOC102183344	15	81571607	81594584
exonic	LOC102187877, LOC102188152, LOC102188423	15	81656722	81710056
exonic	TMEM183A	16	86553	115758
exonic	LOC108637763	16	1948825	1955973
exonic	NFASC	16	2154754	2163548
exonic	NFASC	16	2186168	2194644
exonic	ELK4	16	2777671	2794033
exonic	SLC45A3	16	2810811	2836110
exonic	IKBKE	16	3632441	3639754

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exonic	LOC102184713	16	5068181	5077718
exonic	LOC108637766	16	5206206	5209072
exonic	KCNT2	16	5573796	5585577
exonic	KCNT2	16	5736050	5743617
exonic	LOC108637735	16	11758207	11771510
exonic	ESRRG	16	18657583	18685797
exonic	GPATCH2	16	19622777	19641379
exonic	IARS2	16	22117932	22125570
exonic	HHIPL2	16	24504010	24527004
exonic	EPHX1	16	27432355	27436024
exonic	TMEM63A	16	27458403	27466713
exonic	SMYD3	16	30005917	30015325
exonic	SDCCAG8	16	32270682	32287712
exonic	MAP1LC3C	16	33462464	33474299
exonic	EXO1	16	33486593	33503565
exonic	OPN3	16	33688175	33707880
exonic	KMO	16	33729411	33733317
exonic	FH	16	33804118	33841346
exonic	RGS7	16	34320883	34333711
exonic	SELL	16	35864692	35886403
exonic	LOC102173111	16	37183225	37202321
exonic	FASLG	16	38653299	38665510
exonic	VPS13D	16	39827616	39875415
exonic	VPS13D	16	39886418	39916668
exonic	TNFRSF1B, TNFRSF8	16	40006460	40063126
exonic	CASZ1	16	41376734	41399792
exonic	GPR157	16	42791577	42848096
exonic	TNFRSF9	16	44000199	44010349
exonic	LOC102183348, TPRG1L	16	47986157	48015094
exonic	LOC108633228	16	48087833	48102387
exonic	PRDM16	16	48132296	48150455
exonic	PRDM16	16	48194797	48250019
exonic	PRDM16	16	48316656	48387396
exonic	PRDM2	16	52263918	52282826
exonic	PRDM2	16	52359961	52387159
exonic	LOC102180693	16	53183567	53195287
exonic	SLC9C2	16	53468813	53490997

exonic	RNASEL	16	62245097	62254491
exonic	SMG7	16	63197365	63214624
exonic	RGL1	16	63440147	63455979
exonic	TRMT1L	16	64760347	64773295
exonic	HMCN1	16	65560445	65575443
exonic	PTGS2	16	66343792	66351300
exonic	PLA2G4A	16	66667461	66677565
exonic	KCNH1	16	70870110	70877584
exonic	PTPRC	16	76178766	76182097
exonic	DDX59	16	77860519	77875097
exonic	PRR14L	17	937109	947474
exonic	HORMAD2	17	2108747	2124638
exonic	LOC102187154	17	2364500	2379469
exonic	NF2	17	2455862	2468478
exonic	NEFH	17	2559680	2575293
exonic	MYO18B	17	5519708	5542369
exonic	GRK3	17	5585323	5599026
exonic	POP5,RNF10	17	8269821	8306194
exonic	BICDL1	17	8653669	8679211
exonic	RPH3A	17	9614480	9704471
exonic	RBM19	17	10417724	10435639
exonic	RBM19	17	10506524	10514427
exonic	MED13L	17	12339624	12427785
exonic	MED13L	17	12436070	12454023
exonic	KNTC1	17	18309743	18337892
exonic	CDK2AP1, SBNO1	17	18897356	18927162
exonic	RIMBP2	17	24524416	24532547
exonic	EP400	17	26145878	26168584
exonic	GALNT9	17	26275125	26287879
exonic	PDGFC	17	28708888	28726283
exonic	LARP1B	17	41130468	41164345
exonic	MAML3	17	52980020	53006645
exonic	TBC1D9	17	53842634	53853573
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exonic	SMARCA5	17	56617509	56631828
exonic	ZNF827	17	58474831	58495133
exonic	PRMT9	17	60400058	60422675
exonic	ARHGAP10	17	60845945	60862567

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exonic	NRSN1	18	397528	405564
exonic	VAC14	18	2650899	2681565
exonic	VAC14	18	2692441	2710557
exonic	VAC14	18	2721796	2739589
exonic	COG4,SF3B3	18	2839093	2881530
exonic	DDX19A	18	2976533	2988163
exonic	FA2H	18	3393224	3418951
exonic	ZFP1	18	3715216	3726022
exonic	CNTNAP4	18	4664439	4688655
exonic	GCSH	18	9093143	9102337
exonic	PKD1L2	18	9114780	9147922
exonic	HSD17B2	18	9928342	9936337
exonic	MPHOSPH6	18	10048201	10070478
exonic	CA5A	18	14753992	14763026
exonic	APRT, CDT1, GALNS, PABPN1L, PIEZO1, TRAPPC2L	18	15395353	15450291
exonic	CBFA2T3	18	15471795	15487754
exonic	ACSF3	18	15617192	15634140
exonic	ANKRD11	18	15706245	15745853
exonic	ADCY7	18	18600766	18611962
exonic	HEATR3	18	18792774	18802857
exonic	SIAH1	18	20503164	20526124
exonic	PHKB	18	21378124	21389271
exonic	CHD9	18	22959831	23166031
exonic	CCDC113, PRSS54	18	27435516	27463119
exonic	CDH11	18	33964184	33977237
exonic	CDH5	18	35427071	35455725
exonic	LOC102173772, TK2	18	35542294	35561220
exonic	PDP2	18	35852575	35868394
exonic	EDC4, NRN1L, PSKH1	18	36637204	36669362
exonic	WWP2	18	38137818	38151841
exonic	KIAA0355	18	45784814	45804461
exonic	LOC106503120	18	45974442	45987011

exonic	LOC102191453	18	46114257	46127219
exonic	LOC108638062	18	46218412	46222300
exonic	DMKN, GAPDHS, SBSN,TMEM147	18	46982643	47032584
exonic	LOC102169213	18	51081034	51120648
exonic	LOC108633327	18	51155382	51195180
exonic	LOC108633257, LOC108633327	18	51197804	51221674
exonic	AXL, CCDC97, HNRNPUL1	18	51324610	51409254
exonic	DEDD2, GSK3A, POU2F2,ZNF526	18	51932077	52039952
exonic	LOC108638072, TEX101	18	52572364	52604151
exonic	RSPH6A,SYMPK	18	54393737	54414143
exonic	FOXA3,SYMPK	18	54424387	54453169
exonic	HIF3A,PPP5C	18	54624158	54655925
exonic	MEIS3	18	55409193	55423729
exonic	EHD2,GLTSCR1	18	55640653	55663700
exonic	SYNGR4,TMEM143	18	56079829	56102004
exonic	SULT2B1	18	56224705	56241236
exonic	FAM83E, RPL18, SPACA4, SPHK2	18	56277827	56299825
exonic	BAX, FTL, GYS1, KCNA7, LHB, LOC108638005, NTF4, RUVBL2	18	56547971	56606202
exonic	SIGLEC11	18	57290599	57299675
exonic	VRK3	18	57314073	57330858
exonic	CTU1	18	58151767	58159073
exonic	ETFB, IGLON5, VSIG10L	18	58431316	58455326
exonic	CLDND2, ETFB,LIM2,NKG7	18	58461491	58478520
exonic	SIGLEC10	18	58490267	58503591
exonic	LOC102189578	18	61478170	61482980
exonic	LOC102168252	18	61674361	61680453
exonic	LOC102175108	18	62066719	62076188
exonic	ZNF331	18	62360457	62370603

exonic	LOC102173463	18	63143550	63157948
exonic	LOC102174328	18	63184356	63199397
exonic	LOC106503943	18	64545443	64549691
exonic	LOC102179663	18	64654796	64659860
exonic	LOC102169898	18	65103636	65107452
exonic	ZIM2	18	65470158	65475733
exonic	LOC106501787	18	66499550	66509809
exonic	LOC102180074	18	66557423	66566864
exonic	LOC102169215	18	66734631	66758050
exonic	LOC102169509, LOC102180878, LOC102181424	18	66763812	66776496
exonic	LOC102172294	18	67130282	67141489
exonic	CA10	19	867233	901938
exonic	LOC106503179	19	4483786	4498383
exonic	DGKE	19	7270590	7280796
exonic	DYNLL2	19	8479996	8498190
exonic	MKS1	19	8789594	8801364
exonic	RNF43, SUPT4H1	19	8935342	8951465
exonic	TUBD1	19	10434982	10451686
exonic	ACACA	19	13159025	13168688
exonic	ACACA	19	13200233	13209601
exonic	ACACA	19	13280732	13294150
exonic	ACACA, TADA2A	19	13350341	13364821
exonic	TADA2A	19	13367636	13376598
exonic	SUZ12	19	17807484	17829936
exonic	NF1,RAB11FIP4	19	18257898	18286650
exonic	EVI2A, EVI2B, NF1,OMG	19	18302273	18359109
exonic	LOC102189340	19	18845030	18863825
exonic	LOC102184087, NOS2	19	19200164	19216502
exonic	NLK	19	19550989	19571350
exonic	SARM1, SEBOX, SLC46A1, VTN	19	19676887	19724744
exonic	SMG6	19	22877787	22920262
exonic	SMG6	19	22953312	22992271
exonic	NLRP1	19	25838744	25854151

exonic	DERL2, DHX33	19	25887781	25922390
exonic	DNAH9	19	30155630	30168960
exonic	TRPV2	19	32890538	32920142
exonic	CENPV, PIGL	19	32940984	32970809
exonic	LOC102188626	19	33202709	33255242
exonic	PDK2	19	36195173	36215561
exonic	TTL6	19	37390644	37416926
exonic	HOXB9	19	37486134	37508489
exonic	CWC25	19	39056812	39070907
exonic	CASC3, MSL1	19	40068214	40100509
exonic	BRCA1	19	42749244	42779078
exonic	DUSP3, SOST	19	43278005	43300801
exonic	LOC102168861	19	44797427	44812608
exonic	CDC27	19	45821394	45840269
exonic	TLK2	19	46605015	46630554
exonic	NPLOC4, TSPAN10	19	50537043	50569070
exonic	ACTG1	19	50612477	50661065
exonic	TIMP2	19	52716843	52730908
exonic	CYTH1	19	52814554	52849152
exonic	BIRC5	19	53148585	53157611
exonic	TNRC6C	19	53280437	53320771
exonic	SEPT9	19	53708870	53720670
exonic	RGS9	19	56313746	56335178
exonic	ARSG	19	60997986	61010108
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exonic	CEP112	19	61589043	61598620
exonic	PRKCA	19	61794797	61814987
exonic	DOCK2	20	2065196	2075591
exonic	FBXW11	20	3774082	3786311
exonic	ENC1	20	6967176	6984434
exonic	FCHO2	20	8616487	8634256
exonic	FCHO2	20	8667640	8695531
exonic	TNPO1	20	8732346	8754173
exonic	RNF180	20	15294511	15315211
exonic	IPO11	20	16886911	16911161
exonic	IPO11	20	16917919	16937419

exonic	KIF2A	20	17040795	17053682
exonic	DEPDC1B	20	18568646	18587332
exonic	DEPDC1B	20	18620436	18641312
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exonic	CDC20B	20	24022951	24033215
exonic	ARL15	20	25278100	25292204
exonic	HMGCS1	20	31429955	31440573
exonic	C6	20	33336066	33345721
exonic	C7	20	33556591	33565660
exonic	C9	20	35101593	35113666
exonic	RICTOR	20	35414234	35436815
exonic	OSMR	20	35498808	35508316
exonic	LIFR	20	35885918	35896846
exonic	EGFLAM	20	36025590	36039512
exonic	NIPBL	20	37197712	37217363
exonic	ADAMTS12	20	40174625	40181171
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exonic	TRIO	20	58774958	58782110
exonic	TRIO	20	58789571	58799741
exonic	ADAMTS16	20	67965563	67979462
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exonic	GABRB3	21	3048148	3056377
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exonic	ASB7	21	5251357	5276452
exonic	LOC102188633	21	19153434	19161867
exonic	LOC102188356	21	19174835	19186001
exonic	LOC102187807	21	19187282	19203461
exonic	LOC102180261	21	19281803	19287852
exonic	LOC102180801	21	19335886	19361747
exonic	FANCI	21	20030129	20083443
exonic	SEC11A	21	21615273	21641062
exonic	ALPK3, ZNF592	21	21726789	21772378
exonic	ALPK3, SLC28A1	21	21774024	21816733
exonic	WHAMM	21	22370506	22382456
exonic	TMC3	21	26776419	26787057
exonic	TRPM1	21	27084355	27101179
exonic	TJP1	21	28069268	28081256

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exonic	UBE2Q2	21	30746146	30759317
exonic	NRG4	21	30816244	30830076
exonic	CLK3,EDC3	21	33471327	33512173
exonic	ARHGAP5	21	41992270	42006490
exonic	RALGAPA1	21	45286244	45317825
exonic	BRMS1L	21	45429844	45451942
exonic	CTAGE5	21	48632063	48639393
exonic	ADAL, TUBGCP4, ZSCAN29	21	54612334	54631943
exonic	MAP1A	21	54766937	54785532
exonic	PDIA3	21	54881478	54895408
exonic	WDR76	21	54976309	54999525
exonic	SLC24A4	21	56648317	56658814
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exonic	UNC79	21	57504994	57545611
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exonic	PRIMA1	21	57835383	57850025
exonic	LOC102185401	21	58457459	58466768
exonic	SLC25A29	21	64475123	64491970
exonic	TECPR2	21	66456947	66470716
exonic	LOC102171239, LOC102185461	21	69151814	69187799
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exonic	RBMS3	22	3755290	3772722
exonic	GPD1L	22	6490196	6497140
exonic	ARPP21	22	9568358	9575585
exonic	GOLGA4	22	10749576	10771250
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exonic	ZNF619	22	13160349	13171655
exonic	ANO10	22	15305782	15322448
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exonic	IL5RA	22	23084907	23092776
exonic	RYBP	22	29144354	29164157
exonic	LOC108638609	22	29966045	29987285
exonic	MITF	22	31559037	31598821
exonic	FRMD4B	22	32188622	32199825
exonic	LRIG1	22	34940720	34956932
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exonic	ACOX2	22	42769746	42786520
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exonic	DNAH12	22	43695966	43714359
exonic	APPL1, ASB14, DNAH12, HESX1, IL17RD	22	43719390	43911079
exonic	ARHGEF3	22	43964224	43979423
exonic	CACNA2D3	22	45922823	45933065
exonic	RFT1	22	47700800	47727613
exonic	ITIH3,ITIH4, MUSTN1	22	47962796	47994855
exonic	ITIH1	22	48009870	48024882
exonic	SEMA3G	22	48540980	48560386
exonic	BAP1, DNAH1, PHF7	22	48567244	48616533
exonic	PPM1M, TWF2,WDR82	22	48710971	48759892
exonic	ALAS1,POC1A	22	48770099	48857124
exonic	DOCK3	22	49508441	49553771
exonic	C22H3orf18	22	49876187	49895067
exonic	CDHR4, FAM212A,UBA7	22	50502405	50524458
exonic	CDC25A	22	51716036	51771528
exonic	SMARCC1	22	51987967	52010599
exonic	SMARCC1	22	52019126	52037253
exonic	SMARCC1	22	52046407	52065518
exonic	SMARCC1	22	52085409	52109572
exonic	LRRC2	22	52919744	52947720
exonic	LARS2	22	53776418	53789146
exonic	IFT122,MBD4	22	56271788	56287197
exonic	PPARG	22	56702123	56715454
exonic	MRPS25,RBSN	22	57161887	57178141
exonic	GRIP2	22	57694609	57704165
exonic	FOXQ1	23	633473	676678
exonic	LY86	23	1829809	1844690
exonic	LOC108633439, RREB1	23	2227703	2300689
exonic	SLC35B3	23	3189111	3211088

exonic	KIF13A	23	10671078	10677871
exonic	MBOAT1	23	12519183	12530783
exonic	LYRM4	23	16121077	16124446
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exonic	HSP90AB1, SLC29A1	23	31098303	31120993
exonic	MRPL14	23	31190510	31210265
exonic	TREM1	23	33639889	33666949
exonic	MOCS1	23	34955588	34965123
exonic	DNAH8	23	36156192	36182586
exonic	GLO1	23	36272340	36285460
exonic	ZFAND3	23	36784404	36799657
exonic	FKBP5	23	39070927	39086722
exonic	TEAD3,TULP1	23	39228427	39263115
exonic	ANKS1A	23	39673919	39691873
exonic	LOC102188986	23	41355976	41367979
exonic	LRRC1	23	41927208	41943749
exonic	MLIP	23	42329452	42339259
exonic	HMGCLL1	23	43672931	43684081
exonic	KHDRBS2	23	48276277	48285109
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exonic	ADNP2	24	332901	354750
exonic	TXNL4A	24	396259	410863
exonic	ATP9B	24	762689	778309
exonic	ZNF516	24	2646159	2653980
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exonic	PIK3C3	24	14103428	14107119
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exonic	DSG3	24	25969495	25985680
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exonic	LOC102184211	24	26360474	26368284

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exonic	TWSG1	24	41899256	41921613
exonic	RALBP1	24	41995428	42014235
exonic	PPP4R1	24	42021253	42032403
exonic	RAB31	24	42114642	42149369
exonic	PTPN2	24	43500445	43524039
exonic	SLC14A2	24	45593823	45605452
exonic	EPG5	24	45867442	45873684
exonic	SMAD4	24	50751659	50762473
exonic	ATP8B1	24	57067783	57081711
exonic	TNFRSF11A	24	60918964	60935617
exonic	HBM, LOC102168680, LOC102168959, LOC102186172, LOC108633873, LOC108633874,LUC7L	25	144724	214277
exonic	ZNF500	25	3742582	3751120
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exonic	GSPT1	25	10439980	10454084
exonic	SNX29	25	10640871	10647896
exonic	SNX29	25	10651068	10656566
exonic	SNX29	25	10771220	10788564
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exonic	LOC102180560	25	19262503	19274296
exonic	LOC102180820	25	19471777	19490393
exonic	USP31	25	20763665	20776451
exonic	TNRC6A	25	22393197	22419724
exonic	ATXN2L,TUFM	25	25866351	25888662
exonic	WBSCR28	25	33246075	33271510
exonic	CLDN3	25	33311886	33323771
exonic	FKBP6	25	33560382	33592575
exonic	LOC102190953	25	34488059	34506153
exonic	MDH2,STYXL1	25	35163219	35176565
exonic	LOC102184306	25	35467283	35476761

exonic	LOC102190927	25	37014966	37031188
exonic	ZSCAN21	25	37254224	37274005
exonic	ZNF655	25	37718937	37740377
exonic	BUD31,PDAP1, PTCD1	25	37864030	37883480
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exonic	RNF216	25	39569526	39586799
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exonic	STK32C	26	1053441	1063156
exonic	PTPRE	26	4552689	4561734
exonic	ADAM12	26	6246358	6253990
exonic	WDR11	26	11076878	11103855
exonic	LOC108634029, TIAL1	26	12261771	12287315
exonic	RGS10	26	12327147	12336126
exonic	GRK5	26	12420809	12431957
exonic	PDZD8	26	14285053	14315071
exonic	ENO4	26	14734546	14759547
exonic	LOC102189732, PNLIP	26	14994040	15066824
exonic	GFRA1	26	15516140	15524145
exonic	TRUB1	26	16567281	16580390
exonic	AFAP1L2	26	17203351	17217091
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exonic	ADD3	26	21292574	21360473
exonic	XPNPEP1	26	21543578	21551853
exonic	SORCS1	26	24452210	24456863
exonic	SUFU	26	28495906	28514642
exonic	ACTR1A,SUFU	26	28555890	28588118
exonic	CWF19L1	26	30500482	30514646
exonic	CUTC,LOC102179346	26	30939759	30963970
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exonic	ALDH18A1	26	34490733	34506098
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exonic	LOC100861186	26	35111753	35120973
exonic	LOC102185056	26	35359362	35381413
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exonic	MYOF	26	36637366	36645105
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exonic	LOC102188374	26	41117856	41137217
exonic	ATAD1	26	42031848	42052424
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exonic	MINPP1	26	42287586	42297943
exonic	PCDH15	26	46100574	46139194
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exonic	UBE2D1	26	51115234	51144855
exonic	PSD3	27	7026192	7034934
exonic	INTS10	27	7769309	7805061
exonic	SFRP1	27	9389628	9401370
exonic	LOC102186109	27	10970222	10987726
exonic	MSR1	27	24574990	24600006
exonic	ZDHHC2	27	25515633	25529775
exonic	MTMR7	27	25628802	25708611
exonic	SLC7A2	27	25806137	25819116
exonic	LRP2BP	27	29908044	29915551
exonic	WWC2	27	31433944	31444237
exonic	CSMD1	27	42004062	42025766
exonic	CSMD1	27	42220233	42231497
exonic	COG2, LOC108634128	28	27220	34844
exonic	CHAT	28	2004927	2018890
exonic	C28H10orf128	28	2310403	2331661
exonic	WDFY4	28	2675143	2692852
exonic	PTPN20	28	3201234	3211115
exonic	PTPN20	28	3216280	3225740
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exonic	SH2D4B	28	9853281	9882729
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exonic	MAT1A	28	10153158	10162478
exonic	ADK	28	15545133	15558521

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exonic	LOC102188471	28	15783334	15802957
exonic	MCU	28	16755774	16770345
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exonic	COL13A1	28	19469148	19479904
exonic	TSPAN15	28	19851816	19870141
exonic	MYPN	28	20969526	20992623
exonic	REEP3	28	25843540	25885801
exonic	RTKN2	28	27208736	27216310
exonic	ANK3	28	29767574	29817199
exonic	CSGALNACT2	28	31937696	31958776
exonic	LOC102171842	28	32419528	32453191
exonic	LGALS8	28	36210133	36224220
exonic	NID1	28	36582562	36590978
exonic	EGLN1	28	41181554	41230089
exonic	EXOC8,SPRTN	28	41242023	41265918
exonic	GNPAT	28	41293775	41312101
exonic	FAT3	29	1586141	1594619
exonic	FOLH1B	29	5405062	5416515
exonic	NOX4	29	5632434	5647349
exonic	TYR	29	5787113	5798788
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exonic	CTSC	29	6823608	6836834
exonic	RAB38	29	6987808	6999790
exonic	TMEM135	29	7764618	7779546
exonic	ME3	29	8521659	8530638
exonic	CCDC81	29	8573101	8580064
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exonic	NARS2	29	16996563	17033660
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exonic	GAB2	29	17071223	17105227
exonic	INTS4	29	17562668	17573551
exonic	AQP11	29	17820678	17851563
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exonic	LOC102183041	29	18215230	18229374
exonic	ANO5	29	21970149	21991251
exonic	NAV2	29	24364538	24378488
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exonic	LOC102180107	29	27214825	27224607
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exonic	ADAMTS8	29	35712305	35748696
exonic	APOOL, LOC102171498	29	39559948	39676968
exonic	LOC102189740	29	41804785	41826275
exonic	BAD,PLCB3	29	42976045	43005067
exonic	KDM2A	29	45513927	45559976
exonic	ANO9, PKP3,SIGIRR	29	45980797	46013548
exonic	AP2A2,MUC6	29	46230466	46284949
exonic	CHKA,TCIRG1	29	46615054	46645512
exonic	KMT5B	29	46699256	46731663
exonic	PPP6R3	29	47016071	47033113
exonic	GAL	29	47131757	47140109
exonic	TESMIN	29	47145600	47167292
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exonic	KCNQ1	29	50047732	50057108
intronic	TIAM1	1	2688414	2696965
intronic	NCAM2	1	14257958	14279428
intronic	TMPRSS15	1	17244541	17247143
intronic	LOC102181811	1	21490337	21494853
intronic	ROBO1	1	25008708	25020142
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intronic	CADM2	1	32611158	32635801
intronic	CADM2	1	32777485	32784496
intronic	EPHA6	1	40137887	40144237
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intronic	RCAN1	1	41218876	41229216
intronic	LOC102180889	1	44736754	44763641
intronic	ADGRG7	1	44838632	44846967
intronic	IGSF11	1	63494124	63505477
intronic	SEMA5B	1	66965063	66993763
intronic	ADCY5	1	67554547	67567615
intronic	PEX5L	1	86916887	86931423
intronic	TBL1XR1	1	89502628	89524093
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intronic	ATP8A2	12	52920904	52928678
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intronic	CAMK1D	13	16359357	16368394
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ncRNA_exonic	LOC102188306	7	88641789	88659221
ncRNA_exonic	LOC108636401	7	96107227	96119889
ncRNA_exonic	LOC102172529	7	107333769	107342900
ncRNA_exonic	LOC106502388	8	16991087	17002058
ncRNA_exonic	TRNAC-GCA	8	36939763	36947222
ncRNA_exonic	LOC108636557	8	41860084	41869367
ncRNA_exonic	LOC106502405	8	41891767	41903998
ncRNA_exonic	LOC108636644	8	73493757	73505281
ncRNA_exonic	LOC102188855	8	74716493	74744615
ncRNA_exonic	LOC106502458	9	6975552	7001913
ncRNA_exonic	TRNAC-GCA	9	67332435	67352087
ncRNA_exonic	LOC102178543	9	67365571	67383087
ncRNA_exonic	LOC108636916	10	398809	415042
ncRNA_exonic	TRNAC-GCA	10	24807094	24817854
ncRNA_exonic	LOC108637006	10	78879540	78893357
ncRNA_exonic	LOC108636838	10	87637214	87654213
ncRNA_exonic	LOC106502609	11	24441818	24456483
ncRNA_exonic	TRNAC-GCA	11	86397793	86432923
ncRNA_exonic	LOC102190138	11	89421088	89435472
ncRNA_exonic	TRNAC-GCA	12	7035825	7043172
ncRNA_exonic	LOC106502738	13	34721616	34725826
ncRNA_exonic	TRNAE-UUC	13	34965104	34980436
ncRNA_exonic	LOC106502804, LOC106502805	13	81113997	81144592
ncRNA_exonic	TRNAG-CCC	14	12601882	12618872

ncRNA_exonic	LOC108637501	14	88864473	88889301
ncRNA_exonic	LOC108637541	14	90641838	90653975
ncRNA_exonic	MIR129	15	9297152	9327393
ncRNA_exonic	LOC108637626	15	18277483	18294441
ncRNA_exonic	LOC102183984	15	66540106	66555418
ncRNA_exonic	LOC108637686	15	73511850	73520709
ncRNA_exonic	TRNAG-CCC	17	8746043	8756645
ncRNA_exonic	LOC106503091	18	22909060	22919465
ncRNA_exonic	LOC102184275	18	46947804	46971139
ncRNA_exonic	TRNAC-ACA	18	47090405	47112747
ncRNA_exonic	TRNAT-UGU	19	7667765	7684688
ncRNA_exonic	LOC108638199	19	60943249	60950705
ncRNA_exonic	LOC108638392	20	4643229	4655180
ncRNA_exonic	TRNAR-UCG	20	7501252	7509320
ncRNA_exonic	LOC106503312	20	18783278	18802235
ncRNA_exonic	LOC106503347	21	10992715	11005765
ncRNA_exonic	LOC106503377	21	56886639	56902793
ncRNA_exonic	LOC106503413	22	13210950	13217405
ncRNA_exonic	LOC108633370	22	23878078	23897386
ncRNA_exonic	LOC108633370	22	23975969	23987889
ncRNA_exonic	LOC102173237	22	31410341	31448094
ncRNA_exonic	LOC108633442	23	548748	567760
ncRNA_exonic	TRNAL-UAA	23	37018030	37038269
ncRNA_exonic	TRNAW-CCA	24	23321405	23352168
ncRNA_exonic	TRNAC-GCA	24	36011073	36023801
ncRNA_exonic	LOC102173519	24	41707570	41762925
ncRNA_exonic	TRNAC-GCA	24	46064907	46072059
ncRNA_exonic	LOC106503642	26	17519240	17529183
ncRNA_exonic	LOC106503660	27	36868284	36880480
ncRNA_exonic	LOC102189648	27	37547984	37579095
ncRNA_exonic	LOC106503712	29	437570	443985
ncRNA_exonic	LOC108634200	29	6764178	6780725
ncRNA_intronic	LOC102176916	1	19156409	19162582
ncRNA_intronic	LOC102176916	1	19164808	19177489
ncRNA_intronic	LOC108636831	1	51287726	51297277
ncRNA_intronic	LOC108636831	1	51341364	51350508
ncRNA_intronic	LOC106502907	2	88165504	88178531

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ncRNA_intronic	LOC102189087	3	36683465	36697629
ncRNA_intronic	LOC106502060	4	25421505	25439069
ncRNA_intronic	LOC108636201	6	9107831	9111661
ncRNA_intronic	LOC108636202	6	11954855	11961779
ncRNA_intronic	LOC106502376	7	1444403	1447684
ncRNA_intronic	LOC108636363	7	60526387	60548801
ncRNA_intronic	LOC108636636	8	35018281	35024679
ncRNA_intronic	LOC106502417	8	64002939	64017583
ncRNA_intronic	LOC106502417	8	64025563	64064450
ncRNA_intronic	LOC108636716	9	9514411	9530544
ncRNA_intronic	LOC108637000	10	72485132	72496226
ncRNA_intronic	LOC102168837	12	20467612	20476295
ncRNA_intronic	LOC102181967	13	3185471	3191235
ncRNA_intronic	NFATC2	13	78825862	78834301
ncRNA_intronic	LOC106502867	14	36582779	36622704
ncRNA_intronic	LOC106502867	14	36748712	36756869
ncRNA_intronic	LOC108637679	15	49338156	49359951
ncRNA_intronic	LOC108637679	15	49414721	49442393
ncRNA_intronic	LOC106503297	19	57803496	57822935
ncRNA_intronic	LOC102185059	27	28675546	28680112
ncRNA_intronic	LOC102189648	27	37528819	37539459
ncRNA_intronic	LOC102169358	28	27686094	27703353
ncRNA_intronic	LOC108634141	28	29838884	29869289
ncRNA_intronic	LOC102182099	28	32988158	32997177

upstream	LOC102184948	1	84632842	84652491
upstream	CPO	2	40688295	40696192
upstream	GPD2	2	96337831	96355570
upstream	LOC102185233	3	109016261	109022666
upstream	LOC102181844	5	58117399	58126486
upstream	TM7SF3	5	81375533	81379871
upstream	MKL1	5	110758084	110772916
upstream	PGM2	6	57700504	57717025
upstream	TRNAY-GUA	6	79800118	79804060
upstream	LRPAP1	6	115526837	115536684
upstream	LOC102169955	7	69146473	69152795
upstream	SQSTM1	7	107362962	107369509
upstream	LOC102171874	8	84512511	84533042
upstream	DCT	12	17049321	17064741
upstream	LOC102187058	12	67421580	67429422
upstream	LOC102177262	15	4895868	4905393
upstream	ARHGAP20	15	61543166	61554100
upstream	ADORA1	16	283589	293429
upstream	TLR5	16	25124910	25135279
upstream	NCF2	16	63264664	63269045
upstream	KIAA0319	18	34980	40885
upstream	AKTIP	18	23227630	23246062
upstream	CLEC14A	21	47806181	47815157
upstream	FRMD5	21	55324593	55335130
upstream	TRNAC-ACA	23	3832753	3836653
upstream	LOC102169865	23	20231207	20234493
upstream	LOC102185806	26	206876	212456
upstream	PSAP	28	17615188	17625131
upstream	SLC15A3	29	36530675	36538515

Supplementary Table S5 Introgressed segments from East African goats into Iranian goat population.

position	Genes	Chromosome	Start	End
downstream	LOC106503198	1	46384769	46392740
downstream	LOC102181009	5	97428452	97435823
downstream	CD109	9	514228	525801
downstream	RFX6	9	20924020	20942313
downstream	LOC108637634	15	35207376	35210496
downstream	LOC102179590	19	13924056	13929136
downstream	HIF1AN	26	30217479	30240425
exonic	CRYZL1, DONSON,SON	1	330560	407534
exonic	IFNGR2	1	551118	560933
exonic	NCAM2	1	14024288	14037420
exonic	LOC102190992	1	42415060	42425155
exonic	LOC102180153	1	44585861	44592895
exonic	NFKBIZ	1	45940564	45983676
exonic	ALCAM	1	50031222	50050483
exonic	CCDC54	1	51826433	51842096
exonic	MYH15	1	53067520	53092077
exonic	SPICE1	1	57929830	57934279
exonic	EHHADH	1	81547238	81551698
exonic	VPS8	1	81802042	81842335
exonic	PLD1	1	95401637	95416661
exonic	LOC102180430	1	106802906	106830238
exonic	LEKR1	1	110239496	110278767
exonic	LEKR1	1	110306290	110342562
exonic	C1H3orf33	1	111465914	111472846
exonic	AGTR1	1	119036283	119060761
exonic	LOC102175526	1	121570314	121610093
exonic	RASA2	1	126909685	126953677
exonic	RBP2	1	129148743	129166244
exonic	PCCB	1	132552474	13256438

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exonic	CEP63	1	134339695	134373399
exonic	BRWD1	1	138888328	138908651
exonic	BRWD1	1	138918500	138948042
exonic	MX1	1	141263601	141273118
exonic	TMPRSS3	1	142255738	142260936
exonic	LRRC3	1	144325331	144339566
exonic	LOC102172669, LOC102178311	1	148245612	148293591
exonic	PLCL2	1	153702340	153729369
exonic	KCNH8	1	156388675	156396409
exonic	ECE1	2	4552607	4562429
exonic	RAP1GAP	2	4825049	4843196
exonic	ATPIF1,SESN2	2	10824452	10848030
exonic	DIS3L2	2	16028330	16047035
exonic	TRIP12	2	17885294	17893043
exonic	SPHKAP	2	19425512	19432336
exonic	DOCK10	2	22792766	22801333
exonic	BARD1	2	33032802	33041922
exonic	ABI2, LOC102176567	2	44371560	44394963
exonic	PTPN4	2	64443237	64462694
exonic	LRP1B	2	80427517	80441830
exonic	EPC2	2	88793047	88809999
exonic	FMNL2	2	92502657	92512820
exonic	PKP4	2	98528119	98540355
exonic	KCNH7	2	102153512	102169480
exonic	SCN9A	2	106203520	106216417
exonic	ZNF385B	2	118860547	118896200
exonic	CERKL	2	121340793	121373410
exonic	LOC102186637	2	135758832	13576596

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exonic	HDAC4	3	2410368	2417140
exonic	COL6A3	3	3953870	3967267
exonic	MROH2A	3	7322807	7333362
exonic	USP40	3	7545647	7589336
exonic	THRAP3	3	11233601	11252051
exonic	CSF3R	3	11401313	11417403
exonic	FOXJ3	3	16785728	16800882
exonic	PPCS	3	17083466	17096810
exonic	YBX1	3	17247952	17272792
exonic	IPP,TMEM69	3	20362857	20404158
exonic	SCP2	3	27474994	27490988
exonic	LOC102190572	3	34950332	34958957
exonic	ITGB3BP	3	38836247	38856697
exonic	DIRAS3	3	43638017	43648894
exonic	ERICH3	3	50787754	50799879
exonic	ERICH3	3	50825701	50838758
exonic	CRYZ	3	50876012	50889129
exonic	GNG5,SPATA1	3	61606226	61625369
exonic	CLCA1	3	63645246	63660639
exonic	CDC7	3	68713922	68762715
exonic	ABCD3	3	71474600	71480022
exonic	COL11A1	3	80031903	80038934
exonic	SLC25A24	3	85509706	85517215
exonic	STXBP3	3	85952033	85969392
exonic	PROK1	3	87590803	87597783
exonic	KCNA3	3	87817611	87838862
exonic	PDE4DIP	3	97603705	97616596
exonic	ADAR	3	104146672	104173602
exonic	KCNN3	3	104301535	104311911
exonic	LOC102183650	3	106925858	106977332
exonic	LOC102169923	3	107606460	107617662
exonic	LOC102178587	3	108206094	108208347
exonic	SLAMF6	3	110771861	110786377
exonic	CD84	3	110820506	11086384

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exonic	LOC102180640	3	111128633	111135249
exonic	UFC1, USP21	3	111773152	111791955
exonic	ATF6	3	112403409	112410128
exonic	RGS5	3	113947149	113953490
exonic	NUF2	3	114168644	114173980
exonic	AGAP3	4	6155197	6165887
exonic	ARHGEF5	4	13023313	13040418
exonic	LOC108635892	4	14865635	14868958
exonic	LOC102179184	4	14921994	14930021
exonic	MGAM2	4	15100070	15113645
exonic	DGKI	4	18830273	18842588
exonic	POT1	4	30971937	30981010
exonic	PTPRZ1	4	33877386	33886379
exonic	POU6F2	4	38399068	38419857
exonic	CCM2	4	43577999	43618164
exonic	STEAP1	4	45859794	45871031
exonic	ST7	4	68903778	68935166
exonic	ST7	4	69024323	69042276
exonic	CBLL1,SLC26A3	4	71489317	71508255
exonic	CBLL1	4	71516946	71536674
exonic	SYPL1	4	73121317	73152282
exonic	GNAI1	4	79294667	79324798
exonic	KIAA1324L	4	86938511	86946095
exonic	TRA2A	4	88423218	88453747
exonic	ISPD	4	95609591	95619451
exonic	AGMO	4	96542320	96562867
exonic	HEPACAM2	4	110026034	110037640
exonic	LGR5	5	953607	960847
exonic	CEP290	5	17655334	17668930
exonic	KITLG	5	18110489	18162612
exonic	LOC102184404	5	24981110	24995725
exonic	HOXC10, HOXC11, HOXC6, HOXC8,HOXC9	5	25739659	25800358

exonic	ESPL1, ITGB7, MFSD5,RARG	5	26468467	26540233
exonic	EIF4B	5	26663602	26691197
exonic	HIGD1C	5	28618286	28630788
exonic	ADCY6, LOC102182479	5	30643774	30676558
exonic	SLC38A4	5	33021019	33040453
exonic	LRRK2	5	40180232	40184423
exonic	HMG A2	5	47271612	47322293
exonic	TMEM5	5	49258244	49273818
exonic	LOC102189738, STAT2	5	56353425	56381880
exonic	SYN3	5	70230820	70256842
exonic	LOC102190762	5	70340402	70373070
exonic	LOC102172428	5	73259322	73263263
exonic	LOC102171493	5	73275378	73278621
exonic	LOC102172041	5	73341378	73342931
exonic	CSF2RB	5	74042524	74061625
exonic	ARNTL2	5	81054426	81061067
exonic	ITPR2	5	82047723	82059725
exonic	SLCO1C1	5	87619666	87631449
exonic	PDE3A	5	88074785	88095046
exonic	PIK3C2G	5	89923925	89929239
exonic	EPS8	5	92895422	92903723
exonic	PTPRO	5	93017492	93028257
exonic	LOC102169365, LOC102179923, SMIM10L1	5	97254189	97293126
exonic	STYK1	5	97619943	97625809
exonic	LOC108636059	5	98184187	98195786
exonic	RIMKLB	5	100111595	10013469 8
exonic	SLC6A13	5	106127394	10613869 7
exonic	CCDC77	5	106230704	10624999 8
exonic	EP300	5	111205835	11129887 3
exonic	TTLL1	5	112795302	11280328 7
exonic	SCUBE1	5	113004663	11301211 2

exonic	MLC1	5	118421923	118427921
exonic	ENPEP	6	15227528	15248534
exonic	SMARCAD1	6	30936664	30963803
exonic	ZCCHC4	6	45314318	45326327
exonic	TLR1	6	58600240	58615233
exonic	ATP8A1	6	61914424	61922078
exonic	TXK	6	67326444	67335537
exonic	TXK	6	67340645	67346259
exonic	TEC, TXK	6	67363480	67390081
exonic	USP46	6	68817782	68835564
exonic	CENPC	6	83886569	83899000
exonic	LOC102185995	6	84645531	84659199
exonic	PPBP	6	89429959	89439817
exonic	CXCL10	6	91389493	91402186
exonic	CCNI	6	92380206	92407595
exonic	PLAC8	6	98336739	98361606
exonic	WDFY3	6	99929308	99942217
exonic	WDFY3	6	99990413	100013498
exonic	WDFY3	6	100049266	100059613
exonic	ARHGAP24	6	100805757	100818622
exonic	EVC	6	103832502	103851659
exonic	STX18	6	104999026	105012537
exonic	CLNK	6	105830117	105836926
exonic	RAB28	6	108891765	108911447
exonic	RAB28	6	108926992	108972234
exonic	FBXL5	6	111049735	111111593
exonic	DOK7, HGFAC	6	115691596	115713192
exonic	HTT	6	116837110	116856796
exonic	HTT	6	116864138	116884209
exonic	HTT	6	116901526	11691171

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exonic	HTT	6	116916294	116933157
exonic	SLC25A46	7	900134	929108
exonic	ARSK	7	15674211	15683058
exonic	TMEM167A	7	27668302	27682777
exonic	EBF1	7	39880541	39908011
exonic	LOC108636345	7	42224122	42236719
exonic	GRIA1	7	45250176	45280300
exonic	FAT2	7	47643255	47665715
exonic	CSF1R	7	49000333	49021013
exonic	CSF1R, HMGXB3, SLC26A2, TIGD6	7	49032065	49131028
exonic	PDE6A	7	49135966	49196233
exonic	DPYSL3	7	51777740	51800657
exonic	ARHGAP26	7	56386150	56412918
exonic	ARHGAP26	7	56586945	56603971
exonic	TGFBI	7	63045697	63059641
exonic	SKP1, TCF7	7	64686827	64713129
exonic	FSTL4	7	65646807	65656178
exonic	ATP5D, C7H19orf24, CBARP, CIRBP, EFNA2, MIDN, STK11	7	66754962	66838443
exonic	GPX4, SBNO2	7	66858166	66892535
exonic	LOC102174385	7	68645639	68653752
exonic	LOC102172706	7	68768963	68773918
exonic	LOC102182030	7	70449875	70461506
exonic	CEP120	7	80299224	80308498
exonic	SLC12A2	7	84754505	84773350
exonic	SLC12A2	7	84793010	84810946
exonic	FBN2	7	85002904	85019344
exonic	AP3D1, IZUMO4	7	89119045	89138265
exonic	AES, TLE2, TLE6	7	89784996	89830291
exonic	PIP5K1C, TJP3	7	90270428	90328661
exonic	EEF2, PIAS4, ZBTB7A	7	90519516	90593708
exonic	ICAM1, ICAM4, ICAM5, MRPL4,	7	94682500	94724168

	ZGLP1			
exonic	MAST3,PIK3R2	7	103713753	103731940
exonic	LOC102172985	7	107322323	107335668
exonic	C7H5orf45,SQSTM1	7	107377909	107384088
exonic	GLRA3	8	6922590	6936810
exonic	EXTL3	8	9829130	9847638
exonic	NUGGC	8	10600321	10604884
exonic	IFT74,LRRC19	8	17202798	17215469
exonic	IFT74	8	17219233	17227160
exonic	CNTLN	8	27013848	27035200
exonic	CNTLN	8	27096287	27121996
exonic	LOC108636663	8	32873944	32880684
exonic	SLC1A1	8	39764008	39776928
exonic	GABBR2	8	63396323	63425792
exonic	CHMP5,NFX1	8	74837013	74859781
exonic	UBAP2,UBE2R2	8	75119214	75141692
exonic	AGTPBP1	8	78675310	78692374
exonic	CARD19,NINJ1	8	84231829	84271698
exonic	ROR2	8	85857270	85865506
exonic	EPB41L4B	8	98496172	98508176
exonic	COL27A1	8	103234184	103252455
exonic	AGP,AKNA	8	103258992	103285335
exonic	CNTRL	8	110218941	110230759
exonic	SNTG2,TPO	8	111895147	111906860
exonic	HMG3	9	6118636	6135161
exonic	LCA5	9	6429112	6440397
exonic	TRDN	9	15244127	15255843
exonic	LOC102181592, LOC108633231	9	21467994	21508001
exonic	HS3ST5	9	23698777	23715213
exonic	SLC16A10	9	26537012	26552825
exonic	SESN1	9	28360856	28401417
exonic	UBE2J1	9	48115796	48123925
exonic	AKIRIN2,ORC3	9	49533939	49602145
exonic	RARS2,SLC35A1	9	49681253	49696819

exonic	ENPP1	9	57084676	57095697
exonic	HIVEP2	9	67246979	67268173
exonic	PLAGL1, ZC2HC1B	9	68393670	68412563
exonic	TAB2	9	73574416	73617950
exonic	ESR1	9	76270535	76307704
exonic	SYNE1	9	76768503	76774024
exonic	IGF2R	9	83509895	83547917
exonic	MAP3K4	9	84053862	84060424
exonic	PDE10A	9	88193995	88209731
exonic	TSHR	10	10614560	10661326
exonic	PGF	10	16888360	16916649
exonic	ISCA2,LTBP2,NPC2	10	17327919	17361190
exonic	LIN52	10	17549948	17568021
exonic	ALDH6A1, BBOF1,LIN52	10	17674141	17739290
exonic	DHRS7	10	30849847	30858660
exonic	TMEM260	10	34223574	34238972
exonic	LOC106502552	10	38160063	38175696
exonic	BLOC1S6	10	38252149	38263715
exonic	MAP4K5	10	59630109	59661548
exonic	CCNDBP1,EPB42	10	64616147	64629145
exonic	TTBK2	10	64920771	64934649
exonic	TTBK2	10	64950716	64966552
exonic	EHD4	10	65682654	65700289
exonic	LOC102168731	10	73666757	73671769
exonic	LOC102181869	10	79947145	79958434
exonic	NEO1	10	81305086	81315210
exonic	MYO9A	10	82382399	82396483
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exonic	LRRC49	10	83357200	83376541
exonic	MTFMT	10	89325012	89334228
exonic	SPG21	10	89338242	89351979
exonic	CCDC112,PGGT1B	10	97092795	97121214
exonic	ZC3H6	11	29305	52360
exonic	NPHP1	11	1620161	1627067
exonic	EXOC6B	11	11588001	11611521
exonic	EML4	11	24496675	24531550
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exonic	LOC102187496	11	24642106	24661306

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exonic	CFAP36, PNPT1, PPP4R3B	11	37836824	38003251
exonic	LOC102172632	11	44259386	44275225
exonic	LIMS1	11	44319451	44332297
exonic	SLC5A7	11	44611562	44623122
exonic	IL37	11	46255369	46263152
exonic	LOC102180231	11	46280764	46293629
exonic	RAB1A	11	63225271	63244119
exonic	ACTR2	11	63309630	63336477
exonic	C11H2orf42	11	68198778	68217781
exonic	CAPN14	11	68455035	68466465
exonic	ALK	11	70402118	70417753
exonic	BRE	11	71331433	71368286
exonic	LDAH	11	77801953	77813451
exonic	ATP6V1C2	11	86484820	86520148
exonic	ATP6V1C2	11	86529221	86548953
exonic	NOL10	11	86567210	86657281
exonic	HPCAL1,ODC1	11	86770236	86827638
exonic	CMPK2	11	89665677	89677964
exonic	ZER1	11	98779459	98799051
exonic	PLPP7	11	100958862	10096634 3
exonic	SETX	11	101793296	10181651 0
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exonic	LOC102177727, UBAC2	12	10076696	10166055
exonic	HS6ST3	12	12241335	12259718
exonic	LOC108637289	12	14284039	14287693

exonic	LOC102179751	12	15999418	16005284
exonic	LOC102179751	12	16191767	16219215
exonic	GPC5	12	19975432	19986183
exonic	SLAIN1	12	33172532	33181442
exonic	ATP12A	12	50076824	50109230
exonic	CRYL1	12	50773470	50805177
exonic	EEF1AKMT1, IFT88, IL17D, LATS2,XPO4	12	50871510	51115282
exonic	SAP18,SKA3	12	51126740	51153597
exonic	MICU2	12	51252157	51310434
exonic	FGF9	12	51320482	51352886
exonic	NBEA	12	60810014	60933455
exonic	COG6	12	63924353	63932948
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exonic	FNDC3A	12	67810146	67826244
exonic	COG3	12	70973296	70984444
exonic	GPALPP1,NUFIP1	12	71397696	71406197
exonic	TDRD3	12	84814465	84831282
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exonic	PAK5	13	2251651	2257563
exonic	FBXO18	13	10690567	10707484
exonic	SFMBT2	13	11759348	11773200
exonic	SFMBT2	13	11783660	11791354
exonic	UPF2	13	15942384	15961711
exonic	UPF2	13	15968229	15993139
exonic	CAMK1D	13	16440322	16464351
exonic	LOC102175218, LOC102175492	13	16940412	16954169
exonic	KIF5B	13	32660647	32713548
exonic	WAC	13	35435679	35477707
exonic	PCSK2	13	37275974	37280576
exonic	LARP4B	13	45837257	45857176
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exonic	C13H20orf196	13	47525168	47534112
exonic	LKAAEAR1, NPBWR2, OPRL1, RGS19, SOX18, TCEA2	13	53080776	53146251

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exonic	RBL1	13	65637826	65657815
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exonic	PREX1	13	76421145	76432018
exonic	RUNX1T1	14	9945343	9961179
exonic	C14H8orf37	14	13124163	13147957
exonic	STK3	14	16499496	16563701
exonic	RGS22	14	17916504	17935700
exonic	OXR1	14	24269661	24283466
exonic	ZBTB10	14	38370181	38405786
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exonic	SNTG1	14	61454794	61473497
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exonic	TG	14	73725642	73743550
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exonic	LOC102168475	15	934819	944569
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exonic	LOC102168904	15	986829	992305
exonic	FAM111B	15	1190872	1201177
exonic	LOC108637605	15	4861337	4865882
exonic	ACCS	15	8818193	8829022
exonic	KIF18A	15	24217424	24230238
exonic	ANO3	15	25634165	25645208
exonic	SPCS2	15	28777667	28790413
exonic	ARHGEF17	15	30194021	30224674
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exonic	LOC102177547, RRM1,STIM1	15	32148588	32371040
exonic	LOC102177820	15	33613637	33620317
exonic	LOC102175600	15	34082080	34090288
exonic	LOC102169889	15	34727566	34749507

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exonic	DENND5A	15	38913174	38996878
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exonic	C15H11orf65	15	64294087	64301368
exonic	SESN3	15	67100790	67114794
exonic	LOC102191717	15	79203082	79211241
exonic	LOC102183889	15	81506689	81525380
exonic	LOC102183344	15	81567415	81594050
exonic	LOC102187877, LOC102188152, LOC102188423	15	81655126	81707043
exonic	NFASC	16	2155461	2164991
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exonic	LOC102184713	16	5069560	5078377
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exonic	HHIPL2	16	24510738	24521006
exonic	OPN3	16	33690511	33707871
exonic	KMO	16	33723745	33738332
exonic	RGS7	16	34320201	34332848
exonic	SELL	16	35866126	35885651
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exonic	DNM3	16	38105372	38124371
exonic	VPS13D	16	39833848	39873728
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exonic	PARK7	16	43943669	43958884
exonic	PRDM16	16	48357020	48384580
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exonic	TOR1AIP1	16	59710741	59724316
exonic	PTPRC	16	76179804	76182018
exonic	NEFH	17	2562442	2578483
exonic	POP5,RNF10	17	8275253	8291189
exonic	KSR2	17	13548751	13562149
exonic	FAM109A	17	16117397	16136311

exonic	FAT4	17	38666614	38682323
exonic	MAML3	17	52982147	53002140
exonic	LRBA	17	63796304	63805514
exonic	TMEM154	17	65844589	65857291
exonic	TLL1	17	70292653	70300229
exonic	VAC14	18	2662082	2680997
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exonic	COG4,SF3B3	18	2838003	2876000
exonic	FA2H	18	3397044	3412078
exonic	NUDT7	18	6174375	6181060
exonic	PKD1L2	18	9114655	9146795
exonic	PIEZO1	18	15393703	15410675
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exonic	PHKB	18	21380743	21391217
exonic	CHD9	18	23079212	23130893
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exonic	PDP2	18	35854314	35870780
exonic	ESRP2,NFATC3	18	36818108	36882769
exonic	PRMT7,SLC7A6OS	18	36936740	36975506
exonic	KIAA0355	18	45783587	45817278
exonic	LOC106503120	18	45969844	45987054
exonic	LOC102191453	18	46116372	46128319
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exonic	ATP4A	18	47043076	47052024
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exonic	DEDD2, GSK3A, POU2F2,ZNF526	18	51923808	52035107
exonic	LOC108638072, TEX101	18	52572279	52604085
exonic	RSPH6A,SYMPK	18	54392792	54417109
exonic	IRF2BP1,MYPOP	18	54450523	54473576
exonic	GLTSCR1	18	55644278	55660406
exonic	RPL18,SPHK2	18	56285958	56295532
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exonic	KCNC3,NAPSA	18	57513852	57528460
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exonic	LOC102169619	18	62993096	62998087
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exonic	LOC102174328	18	63185220	63199220
exonic	LOC102180879	19	5841797	5846432
exonic	PPM1E	19	9539771	9554431
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exonic	DHX33	19	25898292	25920649
exonic	DNAH9	19	30152927	30167691
exonic	TEKT3	19	32485136	32499904
exonic	CENPV,PIGL,UBB	19	32921007	32961263
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exonic	TTLL6	19	37389645	37415735
exonic	LOC102170459	19	42598841	42613366
exonic	SOST	19	43279153	43295554
exonic	NPLOC4, PDE6G,TSPAN10	19	50523350	50559207
exonic	RNF213	19	51581146	51595116
exonic	TNRC6C	19	53288128	53310253
exonic	PRKCA	19	61793023	61817229
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exonic	TMEM171	20	8517237	8524332
exonic	TNPO1	20	8733121	8755419
exonic	BDP1,MCCC2	20	10010319	10027898
exonic	RNF180	20	15294979	15316980
exonic	IPO11	20	16939557	16952831
exonic	HMGCS1	20	31428445	31442395
exonic	C9	20	35102056	35110624
exonic	RICTOR	20	35404383	35421323
exonic	CDH18	20	53782751	53795652
exonic	LOC102188534	21	1216134	1231056
exonic	UBE3A	21	1521186	1555593
exonic	ASB7	21	5257995	5275143
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exonic	LOC102188356	21	19175723	19185256
exonic	LOC102187807	21	19186601	19191752
exonic	LOC102180801	21	19336144	19374772

exonic	LOC102181632	21	19429023	19431499
exonic	SEC11A	21	21625210	21639062
exonic	SEC11A	21	21645118	21691395
exonic	ALPK3,ZNF592	21	21728362	21769744
exonic	ALPK3	21	21775805	21810640
exonic	TJP1	21	28070365	28084204
exonic	UBE2Q2	21	30748577	30761119
exonic	TTC6	21	47372091	47400528
exonic	MAP1A,PPIP5K1	21	54775320	54791764
exonic	FBLN5	21	56035876	56054945
exonic	SLC25A29	21	64474327	64491485
exonic	LOC108638534	21	67153335	67186204
exonic	LOC102171239, LOC102185461	21	69151126	69187990
exonic	ARPP21	22	9566606	9576654
exonic	SCN10A	22	11989122	12004098
exonic	LOC108638609	22	29970717	29991737
exonic	FOXP1	22	30486344	30522464
exonic	SUCLG2	22	34089740	34104999
exonic	LRIG1	22	34991849	35004404
exonic	DNAH12	22	43610619	43630782
exonic	IL17RD	22	43855096	43882333
exonic	SEMA3G	22	48542412	48560806
exonic	PPM1M,TWF2,WDR82	22	48715855	48756237
exonic	ALAS1,POC1A	22	48787495	48825504
exonic	DHX30	22	51981203	52002032
exonic	LRRC2	22	52927993	52942614
exonic	IFT122	22	56276112	56285425
exonic	PPARG	22	56699092	56717971
exonic	DUSP22	23	119493	168298
exonic	FOXF2	23	684574	701680
exonic	LOC108633439, RREB1	23	2226904	2295230
exonic	SLC35B3	23	3189111	3210108
exonic	CAP2	23	10468992	10491039
exonic	LYRM4	23	16120212	16126865
exonic	FAM65B	23	17068822	17096788
exonic	LOC108633421	23	19186200	19191199
exonic	SUPT3H	23	30524900	30612552
exonic	HSP90AB1	23	31092514	31110079

exonic	TREM1	23	33643471	33653928
exonic	MOCS1	23	34954637	34963996
exonic	ANKS1A	23	39666860	39684421
exonic	HMGCLL1	23	43672665	43683844
exonic	TXNL4A	24	396201	410476
exonic	ATP9B	24	743413	757443
exonic	ATP9B	24	764562	778739
exonic	ATP9B	24	816531	870488
exonic	ZNF516	24	2646611	2654270
exonic	DSG2	24	25910697	25924452
exonic	DSG1	24	26111942	26130177
exonic	LOC102184211	24	26355714	26369019
exonic	DSC3	24	26404768	26418818
exonic	COLEC12	24	35721309	35748093
exonic	ENOSF1	24	35904035	35915676
exonic	DLGAP1	24	37934082	38015254
exonic	SLC14A2	24	45594607	45601316
exonic	ZNF532	24	58202530	58209754
exonic	ZC3H7A	25	10345942	10359275
exonic	SNX29	25	10638654	10655127
exonic	SNX29	25	10771804	10788899
exonic	PARN	25	13268551	13281651
exonic	PARN	25	13351967	13370560
exonic	ATXN2L,TUFM	25	25871601	25894754
exonic	LOC108633856, SRCAP	25	26729243	26754575
exonic	FKBP6	25	33578513	33605135
exonic	LOC102190953	25	34494581	34504459
exonic	PRKRIP1	25	35547162	35562135
exonic	LOC102190927	25	37015145	37029750
exonic	PDZD8	26	14279932	14316312
exonic	ENO4	26	14738062	14756160
exonic	ATRNL1	26	16096955	16109792
exonic	VTI1A	26	19002607	19019087
exonic	ADD3	26	21289606	21365972
exonic	ENTPD7	26	30984419	30998579
exonic	LOC102185056	26	35355188	35381413
exonic	TBC1D12	26	35690654	35702437
exonic	MYOF	26	36639405	36646644
exonic	MARCH5	26	37570868	37610391

exonic	PCDH15	26	46380290	46385539
exonic	INTS10	27	7769435	7794999
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exonic	MSR1	27	24576570	24600006
exonic	ZDHHC2	27	25516653	25531171
exonic	MTMR7	27	25651988	25705934
exonic	VEGFC	27	37470318	37543083
exonic	SH2D4B	28	9854912	9897742
exonic	ANK3	28	29630856	29644142
exonic	EGLN1	28	41189450	41225910
exonic	EXOC8,SPRTN	28	41236399	41268306
exonic	GNPAT	28	41299172	41311288
exonic	NUP133	28	43724916	43730213
exonic	TYR	29	5789397	5800064
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exonic	LOC102185985	29	25214839	25225462
exonic	LOC102180107	29	27215410	27221759
exonic	FAM118B,FOXRED1,SRPR A	29	28942522	28958506
exonic	CD5,VPS37C	29	36676587	36692730
exonic	APOOL,LOC102171498	29	39550684	39641318
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exonic	AHNAK	29	41188159	41200037
exonic	EEF1G,MTA2, TUT1	29	41248265	41272992
exonic	LOC102175469, LOC108633235, LOC108634204	29	42125891	42228912
exonic	BAD,PLCB3	29	42987217	43004177
exonic	KDM2A	29	45522568	45556950
exonic	ANO9,SIGIRR	29	45978214	46004551
exonic	MOB2	29	50983806	51002761
intronic	ROBO2	1	23202289	23211455
intronic	ROBO1	1	25461419	25475665

intronic	ROBO1	1	25722617	25730523
intronic	CLIC6	1	41071092	41075901
intronic	LSAMP	1	60856373	60868496
intronic	SEMA5B	1	66950750	67014017
intronic	TBL1XR1	1	89505813	89518618
intronic	NAALADL2	1	91008027	91026235
intronic	TNIK	1	95679172	95693041
intronic	SLC9A9	1	124809260	124818319
intronic	NMNAT3	1	128961780	128970062
intronic	STAG1	1	132232245	132250295
intronic	CPNE4	1	137919352	137922494
intronic	HLCS	1	149006282	149015959
intronic	KCNH8	1	156235313	156242283
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intronic	KCNH8	1	156450512	156470355
intronic	SLC9A1	2	9869059	9881770
intronic	SPHKAP	2	19499117	19508460
intronic	IRS1	2	20752393	20772235
intronic	DOCK10	2	22628583	22635668
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intronic	ERBB4	2	35916856	35926123
intronic	MAP2	2	38389311	38405296
intronic	PARD3B	2	42465057	42475765
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intronic	CNTNAP5	2	59773533	59787215
intronic	DPP10	2	69139893	69147992
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intronic	GTDC1	2	83901644	83920164
intronic	EPC2	2	88769990	88781973
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intronic	KCNH7	2	102187529	102199774
intronic	SCN9A	2	106339392	106342944

intronic	SCN9A	2	106345357	106351739
intronic	CERS6	2	108599963	108617023
intronic	OLA1	2	113727119	113738075
intronic	UGGT1	2	132179242	132183731
intronic	TRAF3IP1	3	3044834	3051142
intronic	SPATA6	3	22983885	22998087
intronic	GLIS1	3	28269802	28289203
intronic	USP24	3	29628585	29637286
intronic	DAB1	3	32067346	32075151
intronic	AK5	3	53847388	53858754
intronic	LRRC8D	3	67211685	67222723
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intronic	ABCD3	3	71444909	71464861
intronic	DPYD	3	74336835	74351546
intronic	DPYD	3	74555581	74566047
intronic	SNX7	3	75930714	75940491
intronic	C3H1orf226	3	112931193	112936402
intronic	PTN	4	19459339	19471035
intronic	GNAI1	4	79245006	79271576
intronic	GNAI1	4	79276066	79290500
intronic	CACNA2D1	4	81951774	81966731
intronic	GRM3	4	86795350	86807615
intronic	HDAC9	4	93790056	93812405
intronic	ISPD	4	95863673	95874489
intronic	LIN7A	5	10248384	10261563
intronic	TMTC2	5	12138992	12156976
intronic	YAF2	5	37986455	38003956
intronic	FAM19A2	5	50787893	50799137
intronic	ETV6	5	96707134	96718779
intronic	A4GALT	5	112521544	112529613
intronic	MARCH1	6	2092695	2097995
intronic	MARCH1	6	2202168	2210175
intronic	CAMK2D	6	12297886	12301006
intronic	STPG2	6	27071084	27081863
intronic	BMPR1B	6	30077534	30096804

intronic	BMPR1B	6	30145939	30179765
intronic	BMPR1B	6	30186762	30250757
intronic	PDLIM5	6	30560719	30570968
intronic	GRID2	6	31718535	31752901
intronic	CCSER1	6	34366849	34374501
intronic	KCNIP4	6	41325582	41334376
intronic	DTHD1	6	56339918	56344046
intronic	DTHD1	6	56355279	56360740
intronic	GRXCR1	6	62257982	62263347
intronic	KCTD8	6	63566778	63573196
intronic	KCTD8	6	63578685	63594556
intronic	KCTD8	6	63610265	63626148
intronic	GABRB1	6	66403109	66411035
intronic	CORIN	6	66967297	66981987
intronic	ADGRL3	6	77347474	77359106
intronic	ANTXR2	6	95190382	95200582
intronic	C6H4orf22	6	95489496	95501117
intronic	C6H4orf22	6	95847031	95850756
intronic	C6H4orf22	6	95902024	95910691
intronic	PRKG2	6	96436608	96447540
intronic	ENOPH1	6	97683237	97697469
intronic	ARHGAP24	6	100828161	10084093 2
intronic	ARHGAP24	6	100888735	10089753 1
intronic	ARHGAP24	6	101181810	10119134 7
intronic	STK32B	6	104247514	10425414 5
intronic	LOC102173830	6	113222038	11323235 4
intronic	CAMK4	7	290891	309367
intronic	TMEM232	7	1141117	1147420
intronic	ADGRV1	7	20066082	20077825
intronic	EDIL3	7	26302067	26305747
intronic	SGCD	7	42933706	42944563
intronic	SGCD	7	43099123	43106492
intronic	GRIA1	7	45401870	45408920
intronic	GRIA1	7	45515801	45537499
intronic	LOC102185650	7	69816661	69829172
intronic	COL23A1	7	71126399	71133888

intronic	PRR16	7	77396604	77406640
intronic	PINX1	8	8363624	8376171
intronic	ADAMTSL1	8	25802516	25808510
intronic	CNTLN	8	27039102	27082758
intronic	GLIS3	8	40316676	40329114
intronic	UBE2R2	8	75031740	75057697
intronic	DAPK1	8	80533835	80539689
intronic	SLC31A1	8	102173196	102185105
intronic	UBE3D	9	10115467	10126006
intronic	PKIB	9	15755830	15764199
intronic	DSE	9	21583983	21601040
intronic	PDSS2	9	30092084	30107219
intronic	THEMIS	9	53099433	53106327
intronic	PTPRK	9	53366737	53374518
intronic	EYA4	9	58532129	58544150
intronic	UTRN	9	68798111	68805400
intronic	UTRN	9	69109222	69118892
intronic	PARK2	9	84290221	84298148
intronic	PARK2	9	85466853	85483860
intronic	NRXN3	10	12350298	12358090
intronic	NRXN3	10	13318699	13329489
intronic	LIN52	10	17577066	17593647
intronic	RAD51B	10	23202310	23217763
intronic	KCNH5	10	28059488	28074187
intronic	SYT16	10	29042717	29058264
intronic	MDGA2	10	62568013	62573552
intronic	TTBK2	10	64886307	64896025
intronic	ARSB	10	91343254	91350431
intronic	IQGAP2	10	93336457	93343028
intronic	SV2C	10	93724702	93728700
intronic	KCNN2	10	98124364	98136842
intronic	AFF3	11	4724533	4735200
intronic	AFF3	11	4976749	4982668
intronic	EXOC6B	11	11508321	11520031
intronic	PAIP2B	11	13240818	13250103
intronic	SOCS5	11	28753592	28762918
intronic	NRXN1	11	32636341	32649696
intronic	ACYP2	11	36445270	36453466
intronic	CCDC85A	11	38550597	38572682

intronic	LRRTM4	11	58906021	58913384
intronic	LRRTM4	11	59061901	59071376
intronic	LCLAT1	11	69121092	69140115
intronic	BRE	11	71265036	71317700
intronic	RNF144A	11	89565108	89577280
intronic	FAM155A	12	3266604	3272992
intronic	FAM155A	12	3345481	3352342
intronic	PCCA	12	9409873	9421163
intronic	LOC108637289	12	14268270	14269161
intronic	LOC108637289	12	14280966	14282749
intronic	LOC102179751	12	15707498	15709089
intronic	LOC102179751	12	15724559	15727283
intronic	LOC102179751	12	16221875	16231163
intronic	LOC102179751	12	16233867	16235207
intronic	PCDH9	12	46594464	46601869
intronic	PCDH9	12	46901550	46910279
intronic	PCDH9	12	46961435	46967037
intronic	PCDH9	12	47173452	47192856
intronic	COG6	12	63959740	63970715
intronic	FAM124A	12	65909867	65925219
intronic	LOC108637261	12	72851942	72857686
intronic	MACROD2	13	8385564	8394695
intronic	USP6NL	13	15649161	15659410
intronic	PARD3	13	17982607	17988289
intronic	PIP4K2A	13	23179052	23192892
intronic	CACNB2	13	32016732	32025733
intronic	NSUN6	13	32376607	32384160
intronic	DIP2C	13	45966187	45986875
intronic	C13H20orf194	13	51142912	51157338
intronic	TAF4	13	54432220	54444708
intronic	DLGAP4	13	65175651	65197752
intronic	PTPRT	13	70596137	70609704
intronic	DEPTOR	14	856216	862065
intronic	RALYL	14	3701172	3706931
intronic	RALYL	14	4300346	4306269
intronic	SPAG1	14	17997613	18003878
intronic	ANGPT1	14	24957380	24971466
intronic	EXT1	14	35675278	35684968
intronic	CPA6	14	50345467	50369060

intronic	ZFAT	14	74759226	74766270
intronic	ADGRB3	14	88943283	88952863
intronic	LMBRD1	14	90236475	90250018
intronic	KCNQ5	14	93793985	93804442
intronic	KCNQ5	14	94071712	94078941
intronic	LOC102176906	15	4134223	4141884
intronic	CCDC73	15	19583591	19593081
intronic	ACER3	15	26576810	26586805
intronic	FAM168A	15	30070600	30088662
intronic	ALKBH8	15	65436428	65442670
intronic	GUCY1A2	15	65737815	65748216
intronic	BRINP3	16	13956100	13965494
intronic	CNIH3	16	26247997	26251868
intronic	PLD5	16	33247530	33258016
intronic	RERE	16	43385777	43399998
intronic	CAMTA1	16	44780083	44810767
intronic	PRDM16	16	48206794	48223745
intronic	RABGAP1L	16	54479734	54502385
intronic	PAPPA2	16	56325310	56331538
intronic	PAPPA2	16	56355405	56368576
intronic	LOC102184834	16	61299695	61304032
intronic	HHAT	16	71290053	71298872
intronic	TMEM132C	17	22426440	22432193
intronic	FSTL5	17	34555984	34563200
intronic	SPATA5	17	36583005	36599704
intronic	DCHS2	17	67573001	67581995
intronic	VAC14	18	2713004	2727935
intronic	CDH13	18	10655346	10668996
intronic	CDH13	18	11456575	11462648
intronic	CBFA2T3	18	15474849	15490895
intronic	ANKRD11	18	15778034	15793074
intronic	ANKRD11	18	15813156	15829492
intronic	PHKB	18	21399411	21422307
intronic	CHD9	18	23025956	23049824
intronic	GRIK5	18	52119609	52126392
intronic	LOC108638086	18	61608138	61612116
intronic	LOC102189340	19	18774596	18798825
intronic	HS3ST3A1	19	31484689	31490723
intronic	SLC39A11	19	57565675	57574783

intronic	CACNG4	19	62235602	62244830
intronic	DOCK2	20	1707210	1719856
intronic	FCHO2	20	8676057	8691393
intronic	PDE4D	20	19155052	19187006
intronic	PDE4D	20	19551696	19563066
intronic	NIM1K	20	31485468	31492276
intronic	PLCXD3	20	33087749	33098610
intronic	RAI14	20	39407423	39417526
intronic	ADAMTS12	20	39928724	39932034
intronic	LOC102187435	20	48791541	48808666
intronic	CTNND2	20	62160713	62176532
intronic	PAPD7	20	66436058	66446148
intronic	LOC102188534	21	1239619	1256760
intronic	ATP10A	21	2115025	2122581
intronic	GABRB3	21	3197165	3203428
intronic	SLCO3A1	21	14311150	14317549
intronic	AGBL1	21	16527436	16533828
intronic	CPEB1	21	22189875	22209171
intronic	PCSK6	21	28711371	28724722
intronic	UNC79	21	57522491	57534882
intronic	VOPP1	22	420462	426404
intronic	RBMS3	22	3878090	3884340
intronic	RBMS3	22	4427185	4436517
intronic	SRGAP3	22	17185457	17223040
intronic	MAGI1	22	35477962	35494045
intronic	CADPS	22	38541088	38555769
intronic	FHIT	22	40211973	40221376
intronic	FHIT	22	40296235	40311482
intronic	FHIT	22	40466196	40477656
intronic	NR2C2	22	57267897	57282750
intronic	NR2C2	22	57291320	57306498
intronic	PHACTR1	23	6658573	6675019
intronic	CARMIL1	23	17489147	17501853
intronic	TRAM2	23	24220789	24237813
intronic	COL21A1	23	44628317	44637350
intronic	DST	23	45280057	45288483
intronic	KHDRBS2	23	47987203	47993386
intronic	KHDRBS2	23	48471163	48477659
intronic	DTNA	24	22776522	22792836

intronic	CCDC178	24	24323305	24335455
intronic	GAREM1	24	25061486	25081640
intronic	DSG2	24	25941940	25950322
intronic	CHST9	24	30195994	30203607
intronic	PTPRM	24	40870102	40881839
intronic	IQCK	25	17217741	17228097
intronic	LOC102181832	25	34713762	34715595
intronic	LOC102181832	25	34721436	34728887
intronic	LOC102181832	25	34730873	34738634
intronic	LOC102181832	25	34762594	34765976
intronic	COL26A1	25	36228209	36246413
intronic	ADAM12	26	6292194	6299875
intronic	ADD3	26	21372952	21391213
intronic	XPNPEP1	26	21525593	21534792
intronic	LOC102185708	26	35407916	35410423
intronic	PLCE1	26	35885724	35893428
intronic	LOC102188374	26	41131184	41137005
intronic	SGMS1	26	42620874	42627443
intronic	PCDH15	26	46101118	46119190
intronic	PCDH15	26	46258308	46266802
intronic	DLC1	27	22010370	22021635
intronic	CSMD1	27	40580360	40586170
intronic	ARHGAP22	28	2764253	2768679
intronic	NRG3	28	8543396	8549569
intronic	ADK	28	15435174	15447245
intronic	CDH23	28	17832371	17839553
intronic	DEUP1	29	918658	927795
intronic	FAT3	29	1728791	1734343
intronic	TYR	29	5866326	5874634
intronic	DLG2	29	10213053	10217113
intronic	DLG2	29	10443322	10450808
intronic	DLG2	29	11187814	11201114
intronic	TENM4	29	16309985	16329208
intronic	GAB2	29	17088856	17098915
intronic	NELL1	29	23613439	23626325
intronic	CD6	29	36558477	36572112
ncRNA_exonic	LOC106503198	1	46366623	46376672
ncRNA_exonic	LOC108635782	1	76657509	76664886
ncRNA_exonic	TRNAR-CCU	1	84814604	84834209

ncRNA_exonic	TRNAE-UUC	3	40689565	40704085
ncRNA_exonic	LOC106502073	4	2725507	2739080
ncRNA_exonic	LOC108635838	4	37553459	37567807
ncRNA_exonic	LOC108635844	4	50288340	50326558
ncRNA_exonic	LOC108635919	4	89254550	89273487
ncRNA_exonic	LOC102172252	5	73185757	73195994
ncRNA_exonic	LOC102172252	5	73198376	73202707
ncRNA_exonic	LOC108636074	5	110854755	110863731
ncRNA_exonic	TRNAW-CCA	6	52964631	52978235
ncRNA_exonic	LOC102178993	6	89480872	89490313
ncRNA_exonic	LOC108636456	7	59538279	59563193
ncRNA_exonic	LOC108636401	7	96106793	96119216
ncRNA_exonic	TRNAS-GGA	8	6736042	6745953
ncRNA_exonic	LOC106502458	9	6975377	6985866
ncRNA_exonic	TRNAW-CCA	9	11719614	11729868
ncRNA_exonic	LOC108637006	10	78882057	78891208
ncRNA_exonic	TRNAC-GCA	11	86404772	86423495
ncRNA_exonic	TRNAC-GCA	12	7032153	7042617
ncRNA_exonic	TRNAN-GUU	13	22746721	22775908
ncRNA_exonic	TRNAE-UUC	13	34968760	34984358
ncRNA_exonic	LOC106502866	14	38322915	38347596
ncRNA_exonic	LOC106503091	18	22910745	22919112
ncRNA_exonic	LOC108637979	18	39671339	39687463
ncRNA_exonic	TRNAE-CUC	22	8154664	8169631
ncRNA_exonic	LOC102187720	22	17006245	17021692
ncRNA_exonic	LOC108633370	22	23888515	23895443
ncRNA_exonic	LOC106503441	22	41856665	41865628
ncRNA_exonic	TRNAW-CCA	22	51812063	51844922
ncRNA_exonic	LOC108633442	23	549198	567760
ncRNA_exonic	LOC106503492	23	21052679	21058269
ncRNA_exonic	TRNAL-UAA	23	37017301	37037565
ncRNA_exonic	LOC108633787	24	26018909	26032347
ncRNA_exonic	TRNAC-GCA	24	46067536	46073849
ncRNA_exonic	LOC108634039	26	23028706	23037851
ncRNA_exonic	LOC102189648	27	37547389	37572984
ncRNA_exonic	TRNAG-CCC	27	39257198	39266490
ncRNA_exonic	TRNAS-GGA	27	42137838	42144054
ncRNA_exonic	LOC108634243	29	17837223	17853158
ncRNA_exonic	LOC108634236	29	35458516	35466806

ncRNA_intronic	LOC108636831	1	51341595	51350464
ncRNA_intronic	RPL37A	2	31291788	31302695
ncRNA_intronic	LOC106502907	2	88155933	88195581
ncRNA_intronic	LOC106502907	2	88247244	88263660
ncRNA_intronic	LOC106502060	4	25422661	25438988
ncRNA_intronic	LOC108636716	9	9519362	9530544
ncRNA_intronic	LOC102178917	12	60073693	60085213
ncRNA_intronic	LOC108637686	15	73512959	73519203
ncRNA_intronic	LOC106503377	21	56890407	56897180
ncRNA_intronic	LOC102185059	27	28676042	28683765
upstream	LOC102175899	1	108237897	108253381
upstream	PPIE	3	14462123	14468425
upstream	USP24	3	29644123	29663304
upstream	LOC102174001	5	31209099	31222948
upstream	HSD17B11	6	102721605	102732320
upstream	GCNT1	8	52342428	52351627
upstream	ESD	12	69803006	69812277
upstream	PTCHD3	13	36474899	36482459
upstream	LOC108637671	15	34758890	34763887
upstream	ARHGAP20	15	61544242	61554592
upstream	LOC102188633	21	19153236	19161354
upstream	CLEC14A	21	47806042	47814899
upstream	LOC102186111	21	58712778	58715664
upstream	EIF1B	22	13015003	13029680
upstream;downstream	LOC108634008; LOC102185708	26	35401313	35404290

Supplementary Table S6 Summary of candidate selective sweeps.

Chr	start	END	FST	$\ln(\theta\pi_{\text{Group1}}/\theta\pi_{\text{Group2}})^*$	Genes
1	775001	850000	0.141082	0.619252913	IFNAR2
1	57900001	57975000	0.186622	0.569251598	CFAP44, SPICE1
2	120575001	120625000	0.148639	0.415444366	UBE2E3
3	96625001	96850000	0.203299	0.844083365	3BHSD, HAO2
3	100700001	100750000	0.182447	0.527822981	SELENBP1
3	110800001	110875000	0.182496	0.41103904	CD84
3	110875001	110925000	0.180898	0.407753065	SLAMF1
4	58700001	58775000	0.177445	0.471691507	HERPUD2
4	73100001	73175000	0.181239	0.501156444	SYPL1
5	18075001	18160000	0.454048	1.420025483	KITLG
5	26500001	26550000	0.149643	0.567388996	ITGB7, RARG, ZNF740
5	47275001	47350000	0.135243	1.235764923	HMGA2
6	15200001	15275000	0.147523	0.657014837	ENPEP
6	30200001	30275000	0.167199	0.438869494	BMPR1B
6	67225001	67300000	0.157621	0.508373726	CNGA1,NIPAL1
7	49100001	49200000	0.221582	0.581866992	PDE6A, SLC26A2, TIGD6
7	51400001	51475000	0.172192	0.598061703	SPINK1
7	90250001	90325000	0.141639	0.625229016	CACTIN, PIP5K1C, TJP3
10	17675001	17750000	0.297063	0.549652547	ALDH6A1, BBOF1, LIN52
11	18325001	18400000	0.195614	0.778204604	NONE, CRIM1
11	95850001	95900000	0.163594	0.338490431	MAPKAP1
12	50050001	50125000	0.14698	0.694992653	ATP12A, RNF17
12	50900001	50950000	0.125416	0.846781175	IFT88, IL17D
12	51200001	51325000	0.193079	0.975950662	MICU2, ZDHHC20
12	51375001	51425000	0.124026	0.60616359	FGF9, TRNAK- UUU
12	60025001	60125000	0.227857	0.959763303	LOC102178917

12	60875001	60950000	0.160113	1.996805736	NBEA
12	84800001	84850000	0.149985	0.438788082	TDRD3
13	52800001	52850000	0.135622	0.367773968	LOC102175312
13	65175001	65225000	0.153519	0.444589625	DLGAP4, MYL9
14	47700001	47750000	0.122946	0.348150583	XKR9
16	40000001	40050000	0.124499	0.523638791	TNFRSF1B
16	53450001	53500000	0.130223	0.497145095	PRDX6, SLC9C2
16	54050001	54125000	0.190185	0.377618043	RABGAP1L
17	9500001	9575000	0.219311	0.488490975	TRNAR-GCG
18	2650001	2725000	0.14843	0.594779487	VAC14
18	23100001	23150000	0.145944	0.442969419	CHD9
18	47000001	47050000	0.13907	0.528577124	ATP4A, DMKN, GAPDHS, SBSN,TMEM147
18	62650001	62700000	0.135451	0.395973889	LOC108638088
19	22875001	22925000	0.150366	0.428649527	HIC1, SMG6
23	175001	225000	0.123668	0.449647014	IRF4
24	725001	900000	0.233126	0.627794906	ATP9B, NFATC1
24	25850001	25975000	0.300842	0.860375395	DSG2, LOC108633772, TTR
26	21300001	21350000	0.15343	0.610795242	ADD3
27	25650001	25700000	0.160576	0.379439189	MTMR7
28	9850001	9900000	0.146506	0.560569108	SH2D4B

*Group1: Northwest Asian goats; Group2: Southwest Asian population