Table S1. List and features of the 249 sheep parentage SNPs described in Tortereau et al. (2017) to use in the French breeds. Information about the chromosome (CHR) and position location in Oar 3.1, SNP name in Beadchip 50K, dbSNP name in Ensembl variation database, and MAF value within and across Spanish breeds.

				MAF								
CHR	SNP position in Oar3.1 and allele variation	SNP name in 50K Bead array	dbSNP name	Ansotana (n=41)	Churra Tensina (n=38)	Xisqueta (n=41)	Navarra (n=39)	Rasa aragonesa (n=38)	Roya bilbilitana (n=23)	Maellana (n=39)	Ojinegra (n=36)	Cartera (n=39)	Mean [1]
1	1:g.10853425C>T	OAR1_10582459.1	rs409079986	0.30	0.47	0.44	0.44	0.42	0.28	0.47	0.40	0.33	0.40
1	1:g.100318127G>A	OAR1_107634967.1	rs407290822	0.41	0.45	0.39	0.44	0.41	0.39	0.45	0.40	0.41	0.42
1	1:g.110869124T>C	OAR1_119764980.1	rs419545737	0.49	0.46	0.46	0.50	0.41	0.39	0.38	0.47	0.49	0.45
1	1:g.120692894A>G	OAR1_130854923.1	rs398687222	0.49	0.38	0.46	0.42	0.41	0.35	0.45	0.42	0.41	0.43
1	1:g.132369653T>C	OAR1_143223401.1	rs424960363	0.28	0.46	0.43	0.40	0.42	0.37	0.46	0.36	0.46	0.41
1	1:g.140015128T>C	OAR1_151167765.1	rs415611376	0.41	0.38	0.39	0.49	0.43	0.43	0.45	0.36	0.49	0.43
1	1:g.155539676G>A	OAR1_167533128.1	rs408545505	0.45	0.36	0.46	0.49	0.43	0.48	0.49	0.28	0.38	0.42
1	1:g.161028005T>C	OAR1_173637826.1	rs429501301	0.46	0.47	0.46	0.41	0.50	0.39	0.49	0.39	0.46	0.45
1	1:g.203664886C>T	OAR1_219943628.1	rs409154767	0.48	0.20	0.45	0.38	0.33	0.39	0.41	0.43	0.29	0.37
1	1:g.214163259A>G	OAR1_231043466.1	rs401456309	0.44	0.39	0.50	0.36	0.47	0.41	0.46	0.39	0.38	0.42
1	1:g.223603707G>A	OAR1_241150187.1	rs399550716	0.38	0.37	0.48	0.49	0.39	0.43	0.35	0.49	0.46	0.43
1	1:g.234564470A>C	OAR1_253227717.1	rs417464601	0.34	0.50	0.48	0.42	0.45	0.41	0.40	0.46	0.46	0.44
1	1:g.240685633C>A	OAR1_260245778.1	rs424797976	0.40	0.37	0.49	0.42	0.46	0.41	0.44	0.42	0.45	0.43
1	1:g.270981547G>A	OAR1_293501261.1	rs427305353	0.35	0.32	0.41	0.47	0.49	0.35	0.42	0.39	0.32	0.39
1	1:g.49686118C>T	OAR1_51821448.1	rs406196471	0.49	0.30	0.32	0.42	0.42	0.35	0.38	0.50	0.32	0.39
1	1:g.56341293A>G	OAR1_59316114.1	rs428280074	0.39	0.41	0.50	0.46	0.49	0.48	0.46	0.46	0.23	0.43
1	1:g.63931126C>T	OAR1_67572134.1	rs408954327	0.50	0.45	0.33	0.44	0.50	0.35	0.42	0.38	0.41	0.42
1	1:g.79805119T>C	OAR1_85127852_X.1	rs407789223	0.39	0.30	0.44	0.40	0.39	0.35	0.26	0.29	0.49	0.37
1	1:g.80705932A>G	OAR1_85975832.1	rs402432253	0.49	0.42	0.45	0.44	0.47	0.35	0.45	0.47	0.45	0.45
1	1:g.92766266G>A	OAR1_98453311.1	rs429184870	0.37	0.45	0.32	0.38	0.36	0.39	0.35	0.46	0.32	0.37
1	1:g.254054693C>T	s10553.1	rs425512767	0.46	0.37	0.49	0.44	0.47	0.33	0.49	0.50	0.44	0.45
1	1:g.172607565G>T	s13827.1	rs399133984	0.46	0.38	0.41	0.47	0.47	0.41	0.40	0.47	0.49	0.44

1	1:g.33596869A>C	s15094.1	rs422076171	0.41	0.43	0.46	0.45	0.47	0.41	0.44	0.46	0.33	0.43
1	1:g.262717919A>G	s18506.1	NA	0.44	0.39	0.43	0.42	0.47	0.48	0.41	0.47	0.27	0.42
1	1:g.197373540T>C	s38317.1	rs412859262	0.44	0.50	0.35	0.49	0.47	0.48	0.47	0.49	0.38	0.45
1	1:g.70973689A>G	s39409.1	rs430065128	0.41	0.43	0.45	0.44	0.42	0.28	0.47	0.40	0.49	0.43
1	1:g.1513820T>C	s46222.1	rs398738941	0.50	0.32	0.48	0.42	0.50	0.43	0.32	0.47	0.38	0.43
1	1:g.186718195T>C	s59862.1	rs159444776	0.44	0.49	0.45	0.32	0.50	0.46	0.46	0.31	0.31	0.41
1	1:g.21132185G>A	s68037.1	rs422041483	0.49	0.41	0.46	0.47	0.45	0.37	0.50	0.50	0.47	0.46
2	2:g.96566325C>T	OAR2_103999416.1	rs403168337	0.38	0.47	0.50	0.47	0.34	0.30	0.47	0.44	0.31	0.42
2	2:g.11514080G>A	OAR2_10676194.1	rs416163165	0.47	0.48	0.42	0.38	0.36	0.42	0.44	0.48	0.44	0.44
2	2:g.123528595C>G	OAR2_131721845.1	rs425037194	0.45	0.37	0.45	0.42	0.45	0.37	0.47	0.38	0.45	0.43
2	2:g.138151463G>A	OAR2_146752433.1	rs422922819	0.48	0.46	0.46	0.40	0.46	0.26	0.49	0.38	0.45	0.43
2	2:g.146181891G>A	OAR2_155220459.1	rs414638139	0.48	0.37	0.43	0.42	0.46	0.48	0.40	0.43	0.38	0.42
2	2:g.158187310C>T	OAR2_167802450.1	rs407959160	0.43	0.37	0.41	0.45	0.37	0.48	0.47	0.40	0.29	0.41
2	2:g.168825749G>A	OAR2_178886050.1	rs425257027	0.41	0.46	0.45	0.49	0.49	0.35	0.33	0.46	0.44	0.43
2	2:g.172616581G>A	OAR2_183001089.1	rs408932964	0.33	0.47	0.50	0.46	0.49	0.43	0.40	0.35	0.47	0.43
2	2:g.212668173T>C	OAR2_225176897.1	rs421410495	0.30	0.47	0.46	0.47	0.38	0.50	0.42	0.43	0.48	0.43
2	2:g.228425531A>G	OAR2_241193694.1	rs403169015	0.49	0.42	0.50	0.42	0.41	0.30	0.36	0.47	0.49	0.44
2	2:g.234718375G>A	OAR2_247866179.1	rs413324492	0.49	0.49	0.40	0.38	0.43	0.35	0.38	0.40	0.47	0.43
2	2:g.4537029T>C	OAR2_2788088.1	rs412647475	0.43	0.20	0.37	0.47	0.38	0.35	0.41	0.44	0.49	0.40
2	2:g.39614644G>A	OAR2_41310572.1	rs400063863	0.41	0.32	0.48	0.38	0.43	0.46	0.37	0.46	0.40	0.41
2	2:g.46648569A>G	OAR2_49526327.1	rs416340884	0.41	0.32	0.49	0.46	0.49	0.48	0.13	0.42	0.38	0.39
2	2:g.59972946A>G	OAR2_64445964.1	rs401154943	0.50	0.49	0.48	0.49	0.45	0.33	0.31	0.47	0.45	0.44
2	2:g.70976797C>T	OAR2_75637263.1	rs415759194	0.39	0.32	0.44	0.38	0.32	0.48	0.47	0.42	0.45	0.40
2	2:g.82290592T>C	OAR2_87487877_X.1	rs402748102	0.43	0.33	0.39	0.40	0.42	0.22	0.46	0.49	0.31	0.39
2	2:g.203246163G>T	s08070.1	rs424648098	0.43	0.43	0.49	0.46	0.45	0.43	0.50	0.49	0.37	0.45
2	2:g.191834956T>C	s12848.1	rs406818176	0.37	0.49	0.46	0.41	0.42	0.41	0.42	0.38	0.49	0.43
2	2:g.102400550A>G	s14796.1	rs418783905	0.39	0.45	0.46	0.50	0.46	0.35	0.49	0.46	0.44	0.45
2	2:g.186476111A>G	s18854.1	rs427026349	0.45	0.33	0.48	0.40	0.49	0.39	0.47	0.49	0.50	0.45

2	2:63387842G>T	s22322.1	rs416536730	0.38	0.42	0.43	0.42	0.46	0.41	0.29	0.26	0.27	0.37
2	2:g.246812583C>T	s47825.1	rs413119261	0.48	0.24	0.44	0.49	0.30	0.41	0.38	0.44	0.41	0.40
2	2:g.28252533A>G	s56017.1	rs414282578	0.48	0.46	0.45	0.41	0.41	0.35	0.47	0.40	0.40	0.43
3	3:g.182202867T>C	CL635241_413.1	rs409664674	0.41	0.17	0.41	0.35	0.36	0.33	0.36	0.28	0.36	0.34
3	3:g.36527598A/T	DU360304_324.1	rs55628636	0.43	0.17	0.49	0.46	0.45	0.50	0.23	0.46	0.49	0.40
3	3:g.105185065A>G	OAR3_111873998.1	rs401247957	0.44	0.34	0.49	0.38	0.49	0.35	0.38	0.43	0.44	0.42
3	3:g.156023738A>G	OAR3_130550060.1	rs401062963	0.45	0.46	0.50	0.44	0.47	0.26	0.29	0.47	0.46	0.43
3	3:g.139826948G>A	OAR3_149613458.1	rs428615496	0.49	0.29	0.38	0.42	0.49	0.39	0.44	0.44	0.49	0.43
3	3:g.144580389T>G	OAR3_154456922.1	rs419017828	0.32	0.34	0.45	0.50	0.41	0.50	0.17	0.46	0.33	0.38
3	3:g.156023738A>G	OAR3_166966160.1	rs401062963	0.48	0.45	0.49	0.47	0.49	0.41	0.46	0.43	0.40	0.46
3	3:g.16367095G>A	OAR3_17842455.1	rs400185910	0.44	0.42	0.34	0.35	0.42	0.48	0.42	0.39	0.42	0.41
3	3:g.166799096A>C	OAR3_179244393.1	rs411376405	0.44	0.29	0.26	0.44	0.46	0.43	0.38	0.40	0.37	0.38
3	3:g.192591487C>T	OAR3_207261036.1	rs420994569	0.37	0.50	0.50	0.46	0.47	0.41	0.49	0.47	0.49	0.46
3	3:g.23222991T>C	OAR3_24983282.1	rs398672515	0.49	0.41	0.46	0.45	0.47	0.37	0.35	0.43	0.49	0.44
3	3:g.40956953A>G	OAR3_43817056.1	rs413899957	0.45	0.34	0.38	0.41	0.36	0.28	0.42	0.24	0.41	0.37
3	3:g.52538335A>G	OAR3_55503740.1	rs416449662	0.44	0.45	0.50	0.47	0.33	0.46	0.47	0.40	0.44	0.44
3	3:64390959G>A	OAR3_68050383.1	rs419106164	0.43	0.29	0.35	0.29	0.49	0.43	0.49	0.32	0.42	0.39
3	3:g.7694496T>C	OAR3_7866036.1	rs412567923	0.45	0.41	0.50	0.42	0.38	0.46	0.41	0.40	0.50	0.44
3	3:g.75779925T>G	OAR3_80078321.1	rs417294215	0.46	0.20	0.50	0.47	0.47	0.48	0.37	0.47	0.38	0.42
3	3:g.89051199G>T	OAR3_94317335.1	rs401793481	0.49	0.39	0.39	0.49	0.42	0.50	0.35	0.43	0.45	0.43
3	3:g.90809192C>T	OAR3_96465036.1	rs409343867	0.43	0.34	0.30	0.27	0.49	0.30	0.41	0.46	0.45	0.39
3	3:g.135600087T>C	s08517.1	rs410724661	0.48	0.46	0.44	0.47	0.45	0.48	0.35	0.49	0.33	0.44
3	3:g.110770412T>C	s15797.1	rs427698295	0.43	0.49	0.46	0.45	0.30	0.37	0.44	0.49	0.44	0.43
3	3:g.211329921C>T	s28170.1	rs419326940	0.41	0.42	0.35	0.45	0.22	0.48	0.24	0.31	0.31	0.35
3	3:g.208711035G>T	s35827.1	rs399415834	0.46	0.45	0.48	0.44	0.49	0.50	0.38	0.35	0.38	0.43
3	3:g.174444814A>C	s62475.1	rs403915022	0.43	0.36	0.28	0.45	0.45	0.46	0.33	0.36	0.35	0.38
3	3:g.221830857C>T	s71177.1	rs406689917	0.41	0.38	0.49	0.42	0.37	0.46	0.47	0.39	0.44	0.42
4	4:g.108574116C>T	OAR4_116082708.1	rs413399435	0.43	0.38	0.39	0.42	0.42	0.39	0.46	0.44	0.47	0.43
4	4:g.13758450C>T	OAR4_13962498.1	rs408852771	0.45	0.45	0.50	0.40	0.46	0.43	0.42	0.38	0.36	0.43

4	4:g.26271540C>T	OAR4_27664020.1	rs430806646	0.37	0.38	0.48	0.37	0.33	0.41	0.28	0.47	0.36	0.38
4	4:g.38505828T>G	OAR4_40634758.1	rs412330247	0.41	0.37	0.49	0.42	0.39	0.41	0.49	0.25	0.38	0.40
4	4:g.43848244A>G	OAR4_46265640.1	rs410812189	0.50	0.45	0.48	0.36	0.47	0.48	0.47	0.46	0.47	0.46
4	4:g.55143416T>C	OAR4_58442053.1	rs426895887	0.43	0.33	0.43	0.42	0.42	0.43	0.46	0.36	0.46	0.42
4	4:g.63970121A>C	OAR4_67679879.1	rs428523218	0.45	0.30	0.46	0.41	0.46	0.37	0.49	0.46	0.37	0.42
4	4:g.71164019C>G	OAR4_75351458.1	rs410854670	0.46	0.25	0.30	0.36	0.37	0.35	0.46	0.49	0.47	0.39
4	4:g.85295809C>T	OAR4_90600909.1	rs409622612	0.48	0.37	0.50	0.33	0.43	0.39	0.42	0.29	0.49	0.41
4	4:g.98051546A>G	s52854.1	rs429585364	0.34	0.42	0.45	0.46	0.20	0.43	0.38	0.46	0.38	0.39
4	4:g.118543910C>T	s54163.1	rs410882420	0.30	0.33	0.45	0.41	0.49	0.43	0.49	0.42	0.38	0.41
4	4:g.5079824C>T	s56283.1	rs407949928	0.39	0.43	0.44	0.38	0.41	0.48	0.28	0.35	0.49	0.40
5	5:g.40614409C>T	DU425376_119.1	rs55630731	0.33	0.28	0.40	0.41	0.45	0.41	0.47	0.36	0.47	0.40
5	5:g.92243057C>T	OAR5_100495456.1	rs160119372	0.40	0.43	0.41	0.42	0.47	0.48	0.49	0.44	0.50	0.45
5	5:g.105255187T>G	OAR5_114604242.1	rs427976509	0.49	0.43	0.48	0.42	0.46	0.39	0.29	0.22	0.49	0.41
5	5:g.23520783A>G	OAR5_26383200.1	rs406122836	0.38	0.39	0.44	0.41	0.47	0.48	0.41	0.42	0.44	0.42
5	5:g.61562358C>T	OAR5_67725472_X.1	rs430357126	0.44	0.46	0.49	0.43	0.49	0.41	0.35	0.33	0.50	0.44
5	5:g.75250622G>A	OAR5_82840294.1	rs414916869	0.44	0.36	0.48	0.50	0.36	0.30	0.50	0.49	0.46	0.44
5	5:g.89476671G>T	OAR5_97654465.1	rs406573163	0.48	0.43	0.39	0.37	0.47	0.50	0.40	0.43	0.46	0.43
5	5:g.59000838C>T	s16840.1	rs406234142	0.48	0.30	0.34	0.29	0.38	0.35	0.26	0.26	0.42	0.34
5	5:g.4077688C>T	s33603.1	rs406559664	0.21	0.47	0.48	0.41	0.47	0.50	0.41	0.36	0.32	0.40
5	5:g.32648026T>G	s63572.1	rs422430483	0.43	0.45	0.48	0.33	0.39	0.46	0.37	0.46	0.41	0.42
5	5:g.10395387T>C	s68794.1	rs428562123	0.45	0.46	0.50	0.45	0.39	0.39	0.26	0.50	0.36	0.42
6	6:g.100552392G>A	CZ925803_293.1	rs55631802	0.27	0.46	0.49	0.45	0.38	0.43	0.28	0.40	0.49	0.40
6	6:g.96342867T>C	OAR6_105969740.1	rs428796433	0.40	0.42	0.43	0.42	0.42	0.41	0.49	0.40	0.50	0.43
6	6:g.518989A>C	OAR6_207091.1	rs418821072	0.26	0.37	0.49	0.37	0.46	0.33	0.31	0.22	0.45	0.36
6	6:g.18199965C>T	OAR6_21161555.1	rs423978489	0.41	0.42	0.35	0.45	0.37	0.24	0.41	0.36	0.36	0.38
6	6:g.27095086T>C	OAR6_30782553.1	rs402052961	0.46	0.42	0.49	0.49	0.33	0.35	0.42	0.50	0.38	0.43
6	6:g.30662865A>G	OAR6_34609120.1	rs404334779	0.49	0.42	0.38	0.43	0.43	0.46	0.44	0.47	0.41	0.44
6	6:g.46846451A>G	OAR6_51888877.1	rs411850971	0.50	0.26	0.49	0.46	0.46	0.30	0.44	0.44	0.46	0.43
6	6:g.52465716C>T	OAR6_57881110.1	rs399754170	0.44	0.41	0.44	0.47	0.46	0.41	0.46	0.40	0.31	0.42

6	6:g.67210923T>C	OAR6_73653927.1	rs411441341	0.40	0.32	0.43	0.45	0.39	0.41	0.23	0.40	0.35	0.37
6	6:g.114591052A>G	s32682.1	rs415552924	0.26	0.46	0.40	0.38	0.49	0.30	0.49	0.47	0.44	0.41
6	6:g.72900691T>C	s46614.1	rs418641732	0.44	0.34	0.37	0.49	0.49	0.37	0.35	0.42	0.46	0.41
6	6:g.89228745T>C	s74421.1	rs425799991	0.28	0.49	0.45	0.49	0.33	0.46	0.41	0.21	0.35	0.38
7	7:g.19002938C>A	OAR7_19813387.1	rs401406953	0.45	0.45	0.43	0.49	0.41	0.43	0.36	0.39	0.47	0.43
7	7:g.27446661T>C	OAR7_31172405.1	rs421082533	0.50	0.42	0.44	0.46	0.38	0.35	0.29	0.26	0.19	0.37
7	7:g.40393699T>C	OAR7_44708135.1	rs424232731	0.35	0.39	0.45	0.49	0.47	0.39	0.47	0.42	0.42	0.43
7	7:g.50018511T>C	OAR7_55373974.1	rs404117609	0.44	0.39	0.49	0.45	0.38	0.46	0.35	0.49	0.41	0.43
7	7:g.8245119T>A	OAR7_8208847.1	rs409002352	0.49	0.50	0.48	0.42	0.49	0.37	0.40	0.49	0.40	0.45
7	7:g.84840241T>C	OAR7_92295497.1	rs430560851	0.50	0.41	0.46	0.42	0.33	0.41	0.29	0.39	0.45	0.41
7	7:g.73298115T>G	s19570.1	rs430671311	0.48	0.39	0.44	0.47	0.47	0.39	0.47	0.33	0.33	0.42
7	7:g.97922358A>G	s22036.1	rs399953681	0.44	0.42	0.49	0.41	0.39	0.35	0.49	0.44	0.47	0.44
7	7:g.32165339A>G	s32988.1	rs417237868	0.40	0.47	0.44	0.41	0.42	0.48	0.46	0.39	0.50	0.44
7	7:g.66952015T>C	s51939.1	rs415714073	0.46	0.37	0.35	0.42	0.49	0.46	0.49	0.44	0.44	0.43
8	8:g.12201159C>G	OAR8_13715410.1	rs411691870	0.41	0.45	0.50	0.42	0.49	0.39	0.47	0.43	0.35	0.44
8	8:g.27526693T>C	OAR8_30023587.1	rs411080034	0.38	0.45	0.46	0.49	0.45	0.46	0.50	0.49	0.46	0.46
8	8:g.35268249C>T	OAR8_37910463_X.1	rs417109450	0.45	0.32	0.38	0.50	0.50	0.41	0.41	0.50	0.47	0.44
8	8:g.4274681G>A	OAR8_4553348.1	rs400616734	0.49	0.38	0.50	0.42	0.42	0.48	0.36	0.46	0.36	0.43
8	8:g.47354950C>A	OAR8_50832230.1	rs398750528	0.45	0.42	0.38	0.50	0.49	0.50	0.41	0.49	0.50	0.46
8	8:g.52047484C>T	OAR8_55890096.1	rs423339437	0.40	0.46	0.37	0.47	0.36	0.50	0.32	0.35	0.32	0.39
8	8:g.79634751A>G	OAR8_85882768.1	rs419787913	0.41	0.33	0.41	0.49	0.30	0.46	0.42	0.36	0.45	0.40
8	8:g.63246801T>C	s23660.1	rs413974292	0.37	0.38	0.40	0.35	0.21	0.30	0.38	0.44	0.27	0.35
8	8:g.85410438T>C	s48807.1	rs428642272	0.41	0.47	0.40	0.42	0.41	0.30	0.28	0.46	0.36	0.40
9	9:g.1522828T>C	OAR9_1251442.1	rs419862891	0.33	0.47	0.35	0.37	0.34	0.28	0.33	0.29	0.22	0.34
9	9:g.34335874C>T	OAR9_36090611.1	rs420607717	0.48	0.45	0.37	0.44	0.43	0.43	0.44	0.40	0.50	0.44
9	9:g.44948400C>T	OAR9_47174084.1	rs415504501	0.46	0.36	0.41	0.38	0.41	0.48	0.49	0.47	0.37	0.42
9	9:g.57839045T>C	OAR9_60824316.1	rs415683929	0.44	0.43	0.45	0.46	0.47	0.46	0.45	0.35	0.44	0.44
9	9:g.62312176G>A	OAR9_65574774.1	rs420752095	0.41	0.32	0.49	0.46	0.43	0.37	0.50	0.49	0.41	0.43
9	9:g.72430891G>A	OAR9_76865315.1	rs423704771	0.44	0.33	0.44	0.45	0.38	0.35	0.33	0.32	0.44	0.39

9	9:g.86194877A>G	OAR9_91399035.1	rs411798645	0.34	0.38	0.39	0.38	0.42	0.48	0.46	0.49	0.37	0.41
9	9:g.17107082C>T	s30197.1	rs406369141	0.37	0.34	0.50	0.32	0.50	0.46	0.47	0.39	0.38	0.41
9	9:g.21030569C>T	s35656.1	rs424122821	0.35	0.50	0.49	0.47	0.50	0.30	0.38	0.32	0.42	0.42
9	9:g.93460494A>G	s73841.1	rs408540659	0.37	0.37	0.49	0.36	0.34	0.43	0.47	0.35	0.42	0.40
10	10:g.14523808C>A	OAR10_13236794.1	rs402738379	0.45	0.33	0.44	0.41	0.47	0.35	0.44	0.50	0.36	0.42
10	10:g.23642798A>T	OAR10_23275930.1	rs416091614	0.44	0.45	0.46	0.45	0.39	0.43	0.37	0.49	0.49	0.44
10	10:g.44495989G>T	OAR10_45082466.1	rs424394550	0.38	0.42	0.34	0.40	0.46	0.39	0.35	0.43	0.46	0.40
10	10:g.53260597C>T	OAR10_54386995.1	rs398888529	0.34	0.18	0.43	0.46	0.49	0.30	0.27	0.18	0.42	0.35
10	10:g.9736034C>T	OAR10_8087004.1	rs428296318	0.45	0.36	0.37	0.47	0.41	0.41	0.49	0.40	0.45	0.42
10	10:g.76300586A>G	OAR10_83479781.1	rs401046121	0.38	0.49	0.45	0.46	0.46	0.30	0.42	0.49	0.40	0.43
10	10:g.82867736T>C	s05269.1	rs420310047	0.44	0.49	0.45	0.46	0.47	0.50	0.38	0.47	0.38	0.45
10	10:g.35185201T>G	s08289.1	rs429175127	0.37	0.47	0.40	0.38	0.30	0.37	0.47	0.43	0.47	0.41
10	10:g.64182232G>A	s54545.1	rs407377649	0.41	0.34	0.45	0.42	0.36	0.50	0.41	0.42	0.31	0.40
11	11:g.30057949C>A	DU213616_481.1	rs427747028	0.33	0.41	0.43	0.37	0.49	0.41	0.41	0.29	0.32	0.38
11	11:g.42545636T>C	OAR11_45273342.1	rs428418751	0.50	0.43	0.50	0.47	0.45	0.37	0.37	0.46	0.45	0.45
11	11:g.52488996A>G	OAR11_56075682.1	rs412137397	0.37	0.41	0.39	0.50	0.46	0.43	0.29	0.46	0.45	0.42
11	11:g.61605867G>A	OAR11_66432553.1	rs407234061	0.41	0.37	0.26	0.38	0.41	0.35	0.40	0.40	0.36	0.37
11	11:g.21848495A>G	s08572.1	rs408906517	0.34	0.21	0.48	0.42	0.34	0.30	0.42	0.39	0.33	0.36
11	11:g.12377481T>C	s11161.1	rs424755366	0.45	0.46	0.41	0.28	0.43	0.41	0.47	0.39	0.38	0.41
11	11:g.3353926A>C	s69127.1	rs429992903	0.49	0.14	0.44	0.47	0.45	0.50	0.35	0.42	0.49	0.41
12	12:g.51161421G>T	OAR12_56589339.1	rs411182467	0.44	0.46	0.38	0.31	0.37	0.48	0.37	0.33	0.47	0.40
12	12:g.6626081G>A	OAR12_8645998.1	rs409369958	0.43	0.49	0.43	0.36	0.42	0.37	0.35	0.44	0.38	0.41
12	12:g.17025462C>T	s19539.1	rs424578831	0.29	0.37	0.32	0.32	0.41	0.35	0.40	0.36	0.50	0.37
12	12:g.40442151G>A	s23222.1	rs408871295	0.48	0.26	0.50	0.33	0.45	0.28	0.44	0.28	0.42	0.39
12	12:g.77402823T>C	s49528.1	rs423812193	0.33	0.33	0.33	0.37	0.46	0.48	0.31	0.46	0.46	0.39
12	12:g.23519961T>C	s54219.1	rs403137032	0.49	0.33	0.40	0.46	0.43	0.39	0.45	0.39	0.35	0.41
12	12:g.31817231T>G	s69093.1	rs412032718	0.38	0.50	0.49	0.42	0.49	0.50	0.41	0.47	0.47	0.46
13	13:g.1366306T>C	OAR13_1832147.1	rs400190303	0.45	0.49	0.48	0.45	0.39	0.39	0.49	0.46	0.41	0.45
13	13:g.33670300C>T	OAR13_37048579.1	rs418235130	0.46	0.32	0.38	0.38	0.47	0.33	0.47	0.44	0.31	0.40

13	13:g.67942670A>G	OAR13_73111137.1	rs425091322	0.40	0.49	0.46	0.41	0.42	0.30	0.32	0.36	0.46	0.41
13	13:g.76736704C>T	OAR13_82659110.1	rs402249552	0.46	0.49	0.38	0.46	0.47	0.41	0.22	0.49	0.41	0.42
13	13:g.54155250T>C	s01404.1	rs406327267	0.38	0.47	0.49	0.37	0.43	0.20	0.37	0.50	0.37	0.41
13	13:g.23501230C>T	s02941.1	rs430460262	0.44	0.41	0.46	0.46	0.39	0.46	0.46	0.39	0.49	0.44
13	13:g.81067937A>G	s16659.1	rs420301087	0.48	0.49	0.30	0.42	0.32	0.46	0.24	0.49	0.28	0.38
13	13:g.14959437G>A	s36903.1	rs400268496	0.35	0.26	0.45	0.38	0.45	0.35	0.47	0.38	0.45	0.40
14	14:g.16894215T>C	OAR14_17417998.1	rs422440790	0.46	0.36	0.50	0.45	0.45	0.37	0.42	0.39	0.49	0.44
14	14:g.1558966C>A	OAR14_2036727.1	rs428361836	0.37	0.43	0.46	0.45	0.37	0.46	0.45	0.40	0.38	0.42
14	14:g.28558207G>A	OAR14_29709395.1	rs407414494	0.43	0.41	0.50	0.46	0.33	0.48	0.33	0.46	0.36	0.41
14	14:g.30825131C>T	OAR14_32063505.1	rs400742453	0.33	0.26	0.28	0.49	0.43	0.41	0.41	0.35	0.47	0.38
14	14:g.36349445A>G	OAR14_37812931.1	rs407495318	0.35	0.42	0.24	0.41	0.41	0.20	0.49	0.31	0.49	0.38
14	14:g.60324303T>C	s28142.1	rs417313494	0.38	0.42	0.34	0.38	0.42	0.46	0.33	0.38	0.45	0.39
14	14:g.51861128A>G	s42929.1	rs402986342	0.41	0.42	0.33	0.44	0.49	0.43	0.38	0.32	0.50	0.41
15	15:g.17433957C>T	OAR15_17900966.1	rs425490799	0.38	0.50	0.44	0.44	0.47	0.50	0.41	0.33	0.49	0.44
15	15:g.24905305A>G	OAR15_26039458.1	rs416068439	0.39	0.37	0.39	0.44	0.49	0.43	0.36	0.40	0.37	0.40
15	15:g.31109620T>C	OAR15_32604197.1	rs409561600	0.40	0.37	0.40	0.38	0.39	0.39	0.41	0.42	0.49	0.41
15	15:g.41186631A>G	OAR15_43258531.1	rs413960289	0.41	0.43	0.49	0.45	0.46	0.43	0.36	0.46	0.35	0.43
15	15:g.47160021C>A	OAR15_50594253.1	rs405038574	0.21	0.42	0.43	0.36	0.29	0.35	0.33	0.43	0.46	0.36
15	15:g.57194312G>A	OAR15_62628001.1	rs407539630	0.45	0.45	0.43	0.47	0.33	0.48	0.40	0.44	0.27	0.41
15	15:g.70545475T>C	OAR15_76452305.1	rs415562370	0.28	0.32	0.38	0.42	0.49	0.43	0.49	0.24	0.37	0.38
15	15:g.9527655G>T	OAR15_9266921.1	rs407376957	0.43	0.37	0.43	0.42	0.39	0.30	0.41	0.46	0.45	0.41
15	15:g.62206936A>G	s28069.1	rs414714025	0.44	0.41	0.33	0.35	0.36	0.33	0.46	0.42	0.45	0.40
16	16:g.30008576C>T	OAR16_32624937.1	rs414466013	0.36	0.18	0.23	0.28	0.28	0.26	0.36	0.43	0.27	0.30
16	16:g.44908520A>G	OAR16_48866451.1	rs417014576	0.46	0.38	0.39	0.49	0.42	0.41	0.40	0.38	0.46	0.42
16	16:g.56646949T>C	OAR16_61906879.1	rs424267639	0.49	0.47	0.39	0.37	0.39	0.43	0.49	0.47	0.45	0.44
16	16:g.60169896G>A	OAR16_65648237.1	rs421340906	0.30	0.43	0.38	0.45	0.38	0.37	0.44	0.26	0.19	0.36
16	16:g.19528547G>T	s43800.1	rs407154261	0.44	0.49	0.48	0.50	0.43	0.46	0.50	0.38	0.41	0.45
16	16:g.721836C>T	s45724.1	rs416209967	0.49	0.45	0.44	0.49	0.41	0.39	0.38	0.47	0.46	0.44
17	17:g.19291799G>A	OAR17_21695824.1	rs402218372	0.48	0.37	0.49	0.42	0.49	0.39	0.42	0.46	0.46	0.44

17	17:g.21454166C>T	OAR17_23905156.1	rs408884651	0.49	0.36	0.33	0.44	0.41	0.46	0.45	0.33	0.49	0.41
17	17:g.2096071C>T	OAR17_2428600.1	rs412527349	0.46	0.45	0.48	0.45	0.43	0.48	0.33	0.35	0.37	0.42
17	17:g.38774442C>T	OAR17_41952283.1	rs412661116	0.48	0.50	0.43	0.37	0.37	0.37	0.35	0.43	0.49	0.42
17	17:g.64789718C>T	OAR17_70518784.1	rs422243793	0.49	0.39	0.41	0.49	0.42	0.46	0.45	0.44	0.26	0.42
17	17:g.49508465A>G	s38178.1	rs419540052	0.41	0.47	0.38	0.29	0.37	0.35	0.44	0.40	0.24	0.37
17	17:g.71605574T>C	s67571.1	rs414015395	0.40	0.45	0.40	0.45	0.47	0.28	0.49	0.49	0.35	0.43
18	18:g.12512072T>C	OAR18_12434761.1	rs427091012	0.34	0.47	0.39	0.41	0.45	0.48	0.36	0.44	0.40	0.41
18	18:g.47071993A>G	OAR18_50075938.1	rs399279031	0.44	0.30	0.28	0.27	0.46	0.46	0.29	0.35	0.37	0.35
18	18:g.9394823T>C	OAR18_9257846.1	rs406900835	0.34	0.45	0.39	0.45	0.49	0.46	0.45	0.50	0.42	0.44
18	18:g.63268669T>C	s19585.1	rs429171258	0.33	0.22	0.27	0.36	0.43	0.46	0.37	0.44	0.27	0.34
18	18:g.55096089T>C	s57307.1	rs410877822	0.35	0.34	0.45	0.49	0.34	0.43	0.33	0.35	0.49	0.40
18	18:g.27825654A>G	s64245.1	rs406371723	0.34	0.29	0.39	0.42	0.39	0.48	0.35	0.42	0.47	0.39
19	19:g.20332585G>A	OAR19_21293460.1	rs400065957	0.46	0.37	0.30	0.50	0.46	0.50	0.45	0.46	0.46	0.44
19	19:g.36025522G>A	OAR19_37748290.1	rs411710453	0.40	0.42	0.48	0.40	0.47	0.50	0.32	0.46	0.45	0.43
19	19:g.44247196C>T	OAR19_46586538.1	rs400439948	0.48	0.38	0.50	0.47	0.36	0.35	0.44	0.39	0.47	0.43
19	19:g.6488754T>C	OAR19_6739574.1	rs414959232	0.34	0.42	0.35	0.47	0.39	0.41	0.41	0.33	0.33	0.38
19	19:g.57404392C>G	s09467.1	rs406597793	0.46	0.37	0.46	0.47	0.39	0.46	0.40	0.44	0.49	0.44
19	19:g.18761572T>G	s39036.1	rs426208530	0.37	0.38	0.46	0.49	0.43	0.39	0.46	0.44	0.47	0.44
20	20:g.13749756C>T	OAR20_14550082.1	rs402315735	0.40	0.34	0.41	0.47	0.34	0.37	0.49	0.43	0.49	0.42
20	20:g.18115232A>G	OAR20_18989750.1	rs404683170	0.48	0.50	0.49	0.29	0.47	0.41	0.32	0.46	0.44	0.43
20	20:g.26823270C>T	OAR20_29105617.1	rs398658087	0.44	0.32	0.49	0.45	0.36	0.48	0.44	0.32	0.37	0.40
20	20:g.44792127T>C	OAR20_48705943.1	rs398754184	0.44	0.38	0.41	0.46	0.36	0.43	0.50	0.38	0.47	0.43
20	20:g.32621630C>T	s55627.1	rs424743329	0.35	0.36	0.50	0.47	0.49	0.41	0.41	0.49	0.37	0.43
20	20:g.6991990T>C	s74768.1	rs429990921	0.32	0.34	0.44	0.33	0.46	0.26	0.45	0.38	0.28	0.37
21	21:g.8611904C>T	OAR21_10029991.1	rs426285171	0.45	0.34	0.39	0.45	0.46	0.41	0.37	0.46	0.44	0.42
21	21:g.17582315C>T	OAR21_19896489.1	rs408262797	0.45	0.22	0.43	0.49	0.50	0.35	0.46	0.46	0.42	0.42
21	21:g.21276440T>C	OAR21_23906179.1	rs418467681	0.41	0.42	0.46	0.42	0.39	0.30	0.31	0.43	0.27	0.38
21	21:g.47191370C>T	s18976.1	rs413992461	0.43	0.41	0.44	0.45	0.38	0.48	0.33	0.46	0.21	0.39
21	21:g.29711021C>T	s20228.1	rs418365888	0.33	0.38	0.38	0.42	0.37	0.39	0.41	0.35	0.45	0.39

												Mean[1]
22	22:g.8705247A>G	DU485922_519.1	rs418323933	0.45	0.25	0.33	0.41	0.34	0.33	0.45	0.38	0.32	0.36
22	22:g.14875152T>G	OAR22_18347742.1	rs408677267	0.45	0.45	0.45	0.47	0.45	0.50	0.33	0.40	0.47	0.44
22	22:g.20005759C>T	s15335.1	rs416088594	0.39	0.43	0.46	0.47	0.39	0.46	0.40	0.49	0.50	0.44
22	22:g.43405509G>A	s26430.1	rs405361410	0.48	0.46	0.48	0.45	0.41	0.41	0.45	0.49	0.49	0.46
22	22:g.32963011T>C	s66275.1	rs401361144	0.38	0.34	0.43	0.46	0.49	0.43	0.33	0.43	0.41	0.41
23	23:g.14524736T>C	OAR23_15705585.1	rs413448139	0.41	0.45	0.44	0.37	0.46	0.41	0.46	0.38	0.45	0.43
23	23:g.27513387T>C	OAR23_28704954.1	rs430286606	0.44	0.25	0.49	0.32	0.39	0.46	0.37	0.42	0.47	0.40
23	23:g.4134052T>C	OAR23_4498348.1	rs161353814	0.49	0.45	0.38	0.42	0.34	0.35	0.47	0.42	0.47	0.43
23	23:g.55218819A>G	OAR23_58750753.1	rs399162280	0.33	0.47	0.29	0.49	0.32	0.33	0.31	0.42	0.46	0.38
23	23:g.33190324T>C	s35293.1	rs398548145	0.46	0.41	0.32	0.35	0.42	0.33	0.42	0.47	0.40	0.40
23	23:g.47982840T>C	s72429.1	rs403495957	0.32	0.39	0.46	0.41	0.42	0.39	0.28	0.26	0.49	0.38
24	24:g.18272045T>C	OAR24_19994470.1	rs429965865	0.44	0.42	0.44	0.45	0.38	0.30	0.47	0.49	0.38	0.42
24	24:g.34985988G>A	s06024.1	rs399599015	0.40	0.49	0.34	0.47	0.26	0.48	0.27	0.31	0.33	0.37
24	24:g.5785403G>A	s13832.1	rs414382212	0.38	0.41	0.39	0.49	0.47	0.37	0.37	0.26	0.45	0.40
24	24:g.24493823T>C	s61978.1	rs429792709	0.40	0.28	0.45	0.47	0.46	0.41	0.40	0.43	0.50	0.42
25	25:g.11537447G>A	OAR25_11748248.1	rs426671193	0.46	0.43	0.35	0.41	0.45	0.43	0.41	0.50	0.42	0.43
25	25:g.24131825A>G	OAR25_25184395.1	rs407298229	0.45	0.38	0.45	0.32	0.39	0.39	0.50	0.35	0.45	0.41
25	25:g.32770469C>T	OAR25_34212086.1	rs415992203	0.35	0.38	0.49	0.49	0.37	0.48	0.41	0.36	0.44	0.42
25	25:g.44799856A>G	s15886.1	rs406251755	0.50	0.30	0.44	0.50	0.42	0.39	0.38	0.47	0.38	0.42
25	25:g.4611677T>C	s52776.1	rs429411655	0.50	0.34	0.45	0.42	0.43	0.39	0.47	0.49	0.50	0.45
26	26:g.18255713G>A	OAR26_21546761.1	rs414890647	0.44	0.41	0.48	0.49	0.46	0.50	0.42	0.46	0.49	0.46
26	26:g.29323850A>G	OAR26_33593891.1	rs423654005	0.34	0.46	0.45	0.42	0.45	0.48	0.46	0.38	0.37	0.42
26	26:g.43938104A>G	OAR26_49899043.1	rs400507749	0.43	0.42	0.30	0.49	0.42	0.48	0.37	0.40	0.36	0.42
26	26:g.4506172G>C	OAR26_5097307.1	rs430394149	0.38	0.50	0.28	0.37	0.49	0.43	0.45	0.44	0.44	0.42
26	26:g.39723658A>G	s37818.1	rs402065825	0.43	0.41	0.43	0.46	0.43	0.41	0.50	0.49	0.41	0.44
			Average-MAF	0.42	0.39	0.43	0.43	0.42	0.40	0.40	0.41	0.41	

[1] Mean: mean MAF over the 9 breeds

Table S2. List and features of the 163 sheep parentage SNPs described in Heaton et al. (2014) to use in the North American breeds and in globally diverse breeds. Information about the chromosome (CHR) and position location in Oar 3.1, SNP name in Beadchip 50K, dbSNP name in Ensembl variation database, and MAF value within and across Spanish breeds.

CHR	SNP position in Oar3.1 and allele variation	SNP name in 50K Bead array	dbSNP name	MAF									
				Ansotana (n=41)	Churra Tensina (n=38)	Xisqueta (n=41)	Navarra (n=39)	Rasa aragonesa (n=38)	Roya bilbilitana (n=23)	Maellana (n=39)	Ojinegra (n=36)	Cartera (n=39)	Mean[1]
1	1:g.187087905G>A	DU191809_420.1	rs428367938	0.35	0.50	0.43	0.38	0.38	0.41	0.45	0.35	0.38	0.40
1	1:g.18803224A>G	DU202534_254.1	rs55630764	0.24	0.34	0.20	0.28	0.25	0.48	0.29	0.24	0.17	0.27
1	1:g.189088599A>T	DU223430_259.1	rs159448617	0.46	0.38	0.49	0.38	0.46	0.43	0.37	0.26	0.33	0.40
1	1:g.97580021 C>A	DU271929_382.1	rs55630784	0.39	0.41	0.48	0.49	0.45	0.39	0.46	0.46	0.45	0.44
1	1:g.4561875C>T	DU299578_392.1	rs55630584	0.48	0.32	0.49	0.33	0.45	0.43	0.32	0.46	0.45	0.41
1	1:g.273690320C>T	DU342117_350.1	rs55630952	0.41	0.43	0.43	0.49	0.46	0.39	0.42	0.39	0.47	0.44
1	1:g.263074281C>T	DU348827_210.1	rs55628294	0.34	0.28	0.46	0.32	0.38	0.26	0.33	0.44	0.40	0.36
1	1:g.175225154C>T	DU463771_520.1	rs404688804	0.49	0.30	0.46	0.49	0.29	0.30	0.38	0.50	0.50	0.42
1	1:g.14316730G>A	DU518561_359.1	rs55630760	0.27	0.41	0.30	0.24	0.29	0.26	0.31	0.31	0.40	0.31
1	1:g.62731658 T>C	DU521806_135.1	rs406247141	0.49	0.43	0.44	0.37	0.49	0.48	0.44	0.39	0.33	0.43
1	1:g.120692894A>G	OAR1_130854923.1	rs398687222	0.49	0.38	0.46	0.42	0.41	0.35	0.45	0.42	0.41	0.43
1	1:g.159799774T>C	OAR1_172310048.1	rs421131731	0.44	0.47	0.40	0.46	0.49	0.43	0.37	0.29	0.41	0.42
1	1:g.210346970A>G	OAR1_227032731.1	rs398728270	0.40	0.42	0.50	0.29	0.34	0.43	0.45	0.42	0.41	0.41
1	1:g.44556454A>G	OAR1_46249324.1	rs413596825	0.40	0.29	0.29	0.40	0.47	0.46	0.26	0.49	0.21	0.36
1	1:g.81402726G>A	OAR1_86712802.1	rs422654902	0.45	0.41	0.46	0.32	0.32	0.43	0.42	0.36	0.42	0.40
1	1:g.32034706T>G	s23738.1	rs411155395	0.46	0.41	0.40	0.50	0.47	0.43	0.45	0.49	0.38	0.44
1	1:g.226842149G>A	s24804.1	rs406869245	0.49	0.46	0.49	0.36	0.34	0.41	0.40	0.43	0.29	0.41
1	1:g.247344151A>G	s30254.1	rs416786023	0.40	0.49	0.35	0.36	0.42	0.41	0.38	0.49	0.32	0.40
2	2:g.23366203G>A	DU247686_322.1	rs417329367	0.44	0.28	0.49	0.35	0.45	0.46	0.44	0.50	0.36	0.41
2	2:g.225783164A>G	DU260201_585.1	rs55628392	0.35	0.28	0.30	0.26	0.37	0.46	0.42	0.39	0.29	0.34
2	2:g.119810430C>T	DU266660_200.1	rs55630890	0.48	0.41	0.39	0.41	0.46	0.37	0.32	0.33	0.40	0.40

2	2:g.3275593G>A	DU383209_637.1	rs408404270	0.46	0.49	0.49	0.42	0.43	0.43	0.42	0.47	0.41	0.45
2	2:g.49841409 T>C	DU425907_184.1	rs55631241	0.33	0.39	0.30	0.33	0.47	0.37	0.35	0.46	0.36	0.37
2	2:g.38134680A>G	DU442796_339.1	rs55628459	0.45	0.32	0.48	0.47	0.49	0.39	0.38	0.47	0.49	0.44
2	2:g.26100485T>C	DU469454_586.1	rs420827200	0.35	0.41	0.22	0.33	0.24	0.30	0.23	0.24	0.27	0.029
2	2:g.191499918A>G	DU480434_533.1	rs55630522	0.50	0.42	0.35	0.33	0.50	0.48	0.32	0.46	0.35	0.41
2	2:g.63063096A>T	DU492516_411.1	rs416258913	0.37	0.30	0.48	0.38	0.49	0.43	0.47	0.29	0.28	0.39
2	2:g.18903649T>C	DU502334_443.1	rs404864032	0.44	0.41	0.40	0.44	0.46	0.35	0.45	0.49	0.37	0.43
2	2:g.132749103C>T	OAR2_141253696.1	rs402935114	0.37	0.18	0.24	0.46	0.32	0.33	0.37	0.32	0.38	0.33
2	2:g.167450410T>C	OAR2_177151313.1	rs402862453	0.48	0.42	0.28	0.47	0.47	0.30	0.41	0.44	0.35	0.41
2	2:g.187153020T>G	OAR2_198392100.1	rs416035122	0.46	0.42	0.39	0.42	0.43	0.48	0.40	0.39	0.42	0.42
2	2:g.208170752T>C	s13271.1	rs401785349	0.27	0.32	0.40	0.44	0.43	0.41	0.28	0.46	0.36	0.37
2	2:g.246890646C>T	s40679.1	rs416511009	0.45	0.47	0.43	0.45	0.34	0.46	0.47	0.50	0.38	0.44
2	2:g.80343267C>A	s51266.1	rs411947297	0.45	0.42	0.49	0.46	0.46	0.28	0.49	0.38	0.42	0.44
3	3:g.182202867T>C	CL635241_413.1	rs409664674	0.41	0.17	0.41	0.35	0.36	0.33	0.36	0.28	0.36	0.34
3	3:g.16475141A>G	DU200069_211.1	rs55631575	0.45	0.46	0.49	0.42	0.30	0.48	0.36	0.36	0.45	0.42
3	3:g.91261067T>C	DU225323_218.1	rs55628640	0.37	0.43	0.27	0.37	0.47	0.46	0.41	0.47	0.41	0.40
3	3:g.59477791T>C	DU231007_156.1	rs404956524	0.35	0.33	0.34	0.47	0.41	0.37	0.32	0.31	0.36	0.36
3	3:g.36527598A>T	DU360304_324.1	rs55628636	0.43	0.17	0.49	0.46	0.45	0.50	0.23	0.46	0.49	0.40
3	3:g.205405234G>A	DU408817_431.1	rs55628091	0.44	0.47	0.37	0.38	0.49	0.48	0.46	0.39	0.45	0.43
3	3:g.127942949T>C	DU511583_83.1	rs55630443	0.35	0.42	0.28	0.32	0.36	0.24	0.23	0.24	0.21	0.30
3	3:g.110196723G>A	OAR3_117378944.1	rs402726996	0.41	0.30	0.46	0.42	0.50	0.33	0.36	0.38	0.42	0.40
3	3:g.135953604A>G	OAR3_145344922.1	rs413327659	0.32	0.25	0.49	0.45	0.43	0.28	0.41	0.42	0.44	0.39
3	3:g.158339544T>C	OAR3_169414477.1	rs424902002	0.49	0.34	0.39	0.47	0.41	0.41	0.28	0.40	0.46	0.41
3	3:g.219760329C>T	OAR3_238210924.1	rs430194466	0.48	0.26	0.35	0.41	0.39	0.17	0.45	0.39	0.32	0.37
3	3:g.76037302T>C	s19512.1	rs400240374	0.32	0.39	0.39	0.41	0.41	0.41	0.46	0.39	0.41	0.40
4	3:g.58900947G>A	DU202116_405.1	rs400323667	0.35	0.46	0.45	0.50	0.49	0.35	0.49	0.35	0.26	0.41
4	4:g.23958565G>A	DU301854_372.1	rs410081516	0.50	0.43	0.28	0.50	0.39	0.39	0.42	0.29	0.50	0.41
4	4:g.91276412T>C	DU362773_332.1	rs424200320	0.48	0.20	0.33	0.31	0.42	0.35	0.19	0.38	0.50	0.35
4	4:g.73699694A>G	DU369175_467.1	rs55627898	0.39	0.18	0.27	0.24	0.26	0.26	0.17	0.25	0.32	0.26

4	4:g.2036361C>A	DU440434_247.1	rs430073135	0.46	0.38	0.40	0.42	0.47	0.39	0.46	0.49	0.32	0.42
4	4:g.102118865G>A	DU446965_356.1	rs413446909	0.45	0.28	0.45	0.42	0.41	0.48	0.42	0.42	0.46	0.42
4	4:g.41160751A>G	OAR4_43261444.1	rs430139504	0.48	0.41	0.49	0.44	0.45	0.46	0.36	0.42	0.46	0.44
5	5:g.92710604C>T	DU183841_402.1	rs55631954	0.29	0.29	0.33	0.44	0.39	0.33	0.41	0.42	0.45	0.37
5	5:g.14154057T>A	DU245849_435.1	rs55632453	0.44	0.43	0.44	0.45	0.41	0.43	0.37	0.49	0.49	0.44
5	5:g.26501145A>G	DU295081_249.1	rs405097188	0.46	0.38	0.46	0.50	0.47	0.30	0.40	0.28	0.44	0.42
5	5:g.40614409C>T	DU425376_119.1	rs55630731	0.33	0.28	0.40	0.41	0.45	0.41	0.47	0.36	0.47	0.40
5	5:g.55516282A>G	DU444709_372.1	rs55632012	0.46	0.26	0.46	0.44	0.45	0.43	0.49	0.40	0.41	0.42
5	5:g.12323397C>T	DU446213_412.1	rs55632460	0.40	0.16	0.40	0.37	0.37	0.28	0.21	0.26	0.18	0.29
5	5:g.64317332T>C	DU453259_440.1	rs55632027	0.41	0.49	0.44	0.21	0.41	0.41	0.38	0.33	0.21	0.36
5	5:g.101535922G>A	OAR5_110500655.1	rs426309627	0.30	0.43	0.50	0.40	0.49	0.46	0.41	0.43	0.29	0.41
6	6:g.100552392G>A	CZ925803_293.1	rs55631802	0.27	0.46	0.49	0.45	0.38	0.43	0.28	0.40	0.49	0.40
6	6:g.56592381T>C	DU194639_560.1	rs55628713	0.41	0.50	0.48	0.35	0.42	0.28	0.47	0.29	0.29	0.40
6	6:g18596986G>C	DU209581_415.1	rs55631807	0.49	0.36	0.44	0.40	0.26	0.43	0.27	0.39	0.31	0.37
6	6:g.2049348T>A	DU325267_788.1	rs55631897	0.49	0.49	0.49	0.49	0.30	0.46	0.44	0.35	0.47	0.44
6	6:g.30569842G>A	OAR6_34448315.1	rs420842988	0.39	0.38	0.43	0.47	0.45	0.41	0.44	0.42	0.41	0.42
6	6:g.81234347C>T	OAR6_88678679.1	rs405992812	0.26	0.47	0.20	0.22	0.38	0.30	0.27	0.28	0.18	0.28
7	7:g.74851595G>A	CZ920950_468.1	rs55629970	0.46	0.38	0.46	0.38	0.47	0.41	0.38	0.47	0.45	0.43
7	7:g.48962917G>A	DU398082_567.1	rs55630369	0.38	0.44	0.38	0.34	0.46	0.38	0.43	0.29	0.24	0.37
7	7:g.10616383T>C	DU467751_524.1	rs429637770	0.23	0.34	0.32	0.37	0.29	0.22	0.35	0.11	0.22	0.27
7	7:g.27924610 A>T	OAR7_31647698.1	rs415289247	0.35	0.45	0.46	0.45	0.37	0.39	0.44	0.26	0.46	0.41
7	7:g.96541422C>T	s03883.1	rs428757404	0.38	0.50	0.48	0.45	0.42	0.43	0.44	0.43	0.40	0.44
8	8:g.6522241G>A	DU213735_493.1	rs410349132	0.45	0.30	0.50	0.46	0.38	0.43	0.45	0.36	0.38	0.41
8	8:g.13172803G>T	OAR8_14718655.1	rs411120751	0.40	0.26	0.49	0.45	0.38	0.37	0.38	0.40	0.47	0.40
8	8:g.27947678T>C	OAR8_30441759.1	rs428204013	0.17	0.46	0.41	0.42	0.39	0.35	0.22	0.42	0.42	0.36
8	8:g.35878054C>T	OAR8_38564574.1	rs412339351	0.18	0.34	0.17	0.22	0.30	0.35	0.21	0.18	0.10	0.22
8	8:g.53232102A>G	OAR8_57122732.1	rs424566315	0.16	0.18	0.32	0.26	0.28	0.35	0.18	0.26	0.36	0.26
8	8:g.75417603 T>C	s64995.1	rs426637995	0.39	0.29	0.37	0.45	0.45	0.35	0.35	0.39	0.33	0.37
9	9:g.86369277A>C	DU189970_325.1	rs55631146	0.38	0.45	0.39	0.38	0.33	0.43	0.23	0.33	0.35	0.36

9	9:g.5581026A>G	DU329154_467.1	rs55632093	0.45	0.50	0.44	0.42	0.46	0.48	0.40	0.49	0.36	0.44
9	9:g.41081901T>G	DU425414_134.1	rs415385189	0.32	0.41	0.30	0.33	0.38	0.50	0.26	0.26	0.41	0.35
9	9:g.90950993C>T	DU471913_499.1	rs55631145	0.46	0.37	0.41	0.41	0.36	0.48	0.47	0.36	0.36	0.41
9	9:g.28990356G>T	OAR9_30296744.1	rs427017861	0.48	0.49	0.40	0.44	0.38	0.30	0.42	0.44	0.44	0.43
9	9:g.44300923C>T	OAR9_46531990.1	rs404853010	0.39	0.37	0.29	0.29	0.49	0.24	0.33	0.46	0.45	0.37
9	9:g.67155599T>C	OAR9_71172016.1	rs407275828	0.48	0.22	0.49	0.42	0.39	0.26	0.41	0.44	0.31	0.39
10	10:g.50790253G>T	DU182679_618.1	rs55629925	0.45	0.41	0.48	0.37	0.45	0.43	0.45	0.49	0.41	0.44
10	10:g.30934700C>T	DU388282_94.1	rs399429336	0.49	0.39	0.34	0.26	0.33	0.22	0.22	0.29	0.37	0.33
10	10:g.66285303G>A	OAR10_68517121.1	rs405595033	0.39	0.42	0.50	0.47	0.50	0.30	0.32	0.43	0.44	0.43
10	10:g.84553729T>C	OAR10_92199067.1	rs416976385	0.39	0.45	0.39	0.45	0.42	0.37	0.46	0.43	0.44	0.42
10	10:g.14113785G>A	s39039.1	rs411517599	0.50	0.30	0.41	0.35	0.49	0.46	0.44	0.35	0.45	0.41
11	11:g.32492623G>T	DU232778_232.1	rs428684178	0.44	0.33	0.33	0.36	0.47	0.41	0.45	0.43	0.49	0.41
11	11:g.1925955T>C	DU269694_582.1	rs426927742	0.48	0.49	0.46	0.45	0.38	0.46	0.46	0.38	0.37	0.44
11	11:g.59195782T>C	DU326572_241.1	rs407036860	0.43	0.42	0.33	0.42	0.41	0.36	0.32	0.44	0.43	0.40
11	11:g.15503138T>C	DU433863_261.1	rs420424043	0.38	0.34	0.40	0.45	0.43	0.41	0.36	0.46	0.47	0.41
11	11:g.25329667C>T	DU508448_227.1	rs55632117	0.37	0.47	0.30	0.37	0.42	0.30	0.36	0.50	0.41	0.39
11	11:g.52488996A>G	OAR11_56075682.1	rs412137397	0.37	0.41	0.39	0.50	0.46	0.43	0.29	0.46	0.45	0.42
12	12:g.75121332C>T	DU310703_497.1	rs55628141	0.45	0.37	0.35	0.40	0.39	0.46	0.36	0.38	0.33	0.38
12	12:g.9472534T>C	OAR12_11657392.1	rs425312186	0.45	0.46	0.48	0.49	0.39	0.24	0.36	0.40	0.36	0.41
12	12:g.50565416 C>T	s75196.1	rs416182289	0.35	0.26	0.43	0.50	0.49	0.46	0.47	0.38	0.50	0.43
13	13:g.2579952 A>G	DU175804_598.1	rs409850824	0.30	0.41	0.30	0.37	0.37	0.46	0.33	0.42	0.36	0.36
13	13:g.41314389T>C	DU411403_398.1	rs404126093	0.45	0.42	0.41	0.37	0.41	0.46	0.50	0.42	0.23	0.41
13	13:g.52140161A>G	DU452456_526.1	rs404599807	0.37	0.39	0.48	0.41	0.46	0.43	0.23	0.39	0.40	0.39
13	13:g.75619811A>C	DU462820_330.1	rs399206025	0.40	0.42	0.28	0.44	0.41	0.37	0.23	0.19	0.37	0.35
13	13:g.24150509C>T	OAR13_26732874.1	rs404877937	0.26	0.36	0.38	0.31	0.43	0.43	0.28	0.40	0.41	0.36
14	14:g.57922535T>C	DU223894_556.1	rs55631675	0.43	0.42	0.33	0.38	0.49	0.46	0.41	0.33	0.47	0.41
14	14:g.3047261A>G	DU231335_636.1	rs55631559	0.34	0.42	0.43	0.42	0.49	0.30	0.41	0.38	0.44	0.41
14	14:g.44825713C>A	DU462008_263.1	rs55632479	0.34	0.32	0.43	0.40	0.34	0.28	0.50	0.50	0.35	0.39
14	14:g.19579447C>T	OAR14_19986506.1	rs404386038	0.45	0.37	0.38	0.36	0.49	0.24	0.45	0.40	0.44	0.40

15	15:73444713G>A	DU301502_402.1	rs55632213	0.40	0.34	0.41	0.33	0.37	0.41	0.49	0.43	0.33	0.39
15	15:g.50813916C>T	DU352764_273.1	rs55632265	0.37	0.29	0.49	0.28	0.42	0.39	0.29	0.28	0.31	0.35
15	15:g.2412121T>C	DU464373_638.1	rs55629896	0.44	0.30	0.39	0.42	0.47	0.48	0.46	0.38	0.44	0.42
15	15:g.25604208A>G	s73229.1	rs402582767	0.39	0.41	0.49	0.37	0.29	0.46	0.38	0.49	0.38	0.40
16	16:g.33792622T>C	OAR16_36737603.1	rs400563307	0.37	0.26	0.46	0.40	0.45	0.33	0.49	0.47	0.49	0.42
16	16:g.59159427T>C	OAR16_64456388.1	rs419008783	0.45	0.43	0.29	0.47	0.42	0.39	0.49	0.33	0.49	0.42
16	16:g.20451206T>C	s37320.1	rs426217111	0.46	0.45	0.39	0.42	0.42	0.37	0.47	0.47	0.40	0.43
16	16:g.31472581 G>A	s51543.1	rs424350798	0.49	0.24	0.50	0.41	0.47	0.30	0.35	0.49	0.42	0.41
17	17:g.14335894C>T	DU206327_107.1	rs417906482	0.49	0.50	0.50	0.44	0.49	0.33	0.49	0.28	0.33	0.43
17	17:g.37956511G>A	DU300156_445.1	rs430367965	0.40	0.39	0.40	0.42	0.42	0.33	0.38	0.47	0.44	0.41
17	17:g.22259322T>C	DU378819_632.1	rs411078347	0.45	0.26	0.44	0.32	0.46	0.48	0.46	0.35	0.46	0.41
17	17:g.55644242T>C	DU463532_137.1	rs55628557	0.34	0.32	0.37	0.32	0.33	0.48	0.31	0.50	0.45	0.37
17	17:g.27375270 T>G	DU511222_139.1	rs55631819	0.32	0.30	0.28	0.33	0.25	0.24	0.22	0.44	0.29	0.30
17	17:g.70960176C>T	DU522113_438.1	rs55630833	0.41	0.22	0.41	0.47	0.30	0.43	0.44	0.35	0.41	0.38
18	18:g.39090405T>C	DU238011_215.1	rs55629942	0.26	0.47	0.35	0.31	0.25	0.37	0.13	0.21	0.33	0.29
18	18:g.54520252T>C	DU275655_167.1	rs55630359	0.48	0.30	0.37	0.31	0.25	0.17	0.31	0.26	0.26	0.31
18	18:g.25519688G>A	DU325612_517.1	rs416903259	0.45	0.41	0.44	0.49	0.38	0.30	0.40	0.28	0.49	0.41
18	18:g.67020106C>T	DU396708_413.1	rs428704284	0.45	0.39	0.40	0.38	0.29	0.41	0.46	0.47	0.40	0.41
18	18:g.3953149G>A	DU492379_209.1	rs55630330	0.48	0.34	0.32	0.38	0.42	0.30	0.47	0.29	0.38	0.38
19	19:g.56831202G>A	DU258053_237.1	rs55630923	0.49	0.28	0.38	0.26	0.45	0.39	0.18	0.32	0.49	0.36
19	19:g.17236645G>T	DU519086_548.1	rs400736832	0.39	0.36	0.37	0.47	0.49	0.30	0.47	0.40	0.46	0.42
19	19:g.38035834T>C	OAR19_39888179.1	rs419008033	0.37	0.43	0.33	0.41	0.38	0.48	0.28	0.42	0.32	0.37
20	20:g.31388950C>T	DU183112_480.1	rs420450599	0.41	0.45	0.43	0.50	0.42	0.39	0.45	0.40	0.40	0.43
20	20:g.5791469T>C	DU216457_129.1	rs418590722	0.49	0.43	0.35	0.42	0.41	0.30	0.49	0.44	0.36	0.42
20	20:g.48165709T>C	DU492723_242.1	rs427652928	0.49	0.47	0.33	0.46	0.45	0.43	0.47	0.38	0.38	0.43
20	20:g.18115232A>G	OAR20_18989750.1	rs404683170	0.48	0.50	0.49	0.29	0.47	0.41	0.32	0.46	0.44	0.43
21	21:g.33818529C>T	DU245518_579.1	rs55628071	0.45	0.38	0.37	0.35	0.43	0.39	0.29	0.46	0.40	0.39
21	21:g.28222567A>G	DU380983_440.1	rs55628049	0.33	0.38	0.37	0.35	0.26	0.28	0.38	0.49	0.42	0.37

21	21:g.39815659A>G	DU383863_376.1	rs55632237	0.34	0.46	0.35	0.47	0.37	0.37	0.42	0.39	0.44	0.40
21	21:g.12497679C>T	OAR21_14165572.1	rs426537154	0.41	0.46	0.49	0.49	0.38	0.36	0.49	0.37	0.38	0.43
22	22:g.13089948C>T	DU413316_575.1	rs409425881	0.48	0.37	0.35	0.36	0.42	0.43	0.45	0.33	0.49	0.41
22	22:g.546900C>T	OAR22_1023592.1	rs401383560	0.46	0.46	0.50	0.33	0.36	0.43	0.47	0.43	0.36	0.42
22	22:g.35875435C>T	OAR22_40609932.1	rs413738072	0.38	0.42	0.48	0.47	0.39	0.41	0.40	0.49	0.44	0.43
23	23:g.52766006C>G	DU258149_149.1	rs399563725	0.40	0.49	0.48	0.41	0.42	0.41	0.44	0.31	0.45	0.42
23	23:g.11553748T>C	DU302760_528.1	rs421206656	0.41	0.29	0.49	0.50	0.26	0.50	0.31	0.47	0.49	0.41
23	23:g.35289846C>T	OAR23_37250725.1	rs421265213	0.45	0.43	0.37	0.41	0.37	0.37	0.40	0.47	0.50	0.42
24	24:g.3289259G>A	CZ920359_258.1	rs55631633	0.20	0.41	0.33	0.26	0.28	0.20	0.23	0.21	0.22	0.26
24	24:g.33740824C>T	DU328546_113.1	rs429328785	0.43	0.47	0.43	0.47	0.45	0.37	0.49	0.42	0.33	0.43
24	24:g.20687733G>A	DU452167_477.1	rs426355985	0.49	0.32	0.39	0.36	0.47	0.37	0.44	0.42	0.36	0.40
24	24:g.16310285C>A	OAR24_17892863.1	rs398136625	0.39	0.41	0.44	0.31	0.39	0.20	0.21	0.38	0.24	0.34
24	24:g.18272045T>C	OAR24_19994470.1	rs429965865	0.44	0.42	0.44	0.45	0.38	0.30	0.47	0.49	0.38	0.42
24	24:g.42027686T>C	OAR24_44850918.1	rs416069786	0.28	0.13	0.22	0.42	0.18	0.24	0.26	0.40	0.32	0.27
24	24:g.26210836C>A	s32325.1	rs423333209	0.32	0.12	0.35	0.50	0.38	0.37	0.40	0.42	0.33	0.35
25	25:g.21525255T>C	DU405213_575.1	rs400830078	0.39	0.49	0.48	0.42	0.42	0.33	0.44	0.33	0.47	0.42
25	25:g.43906473T>C	DU426825_402.1	rs55631290	0.50	0.34	0.49	0.44	0.33	0.50	0.31	0.49	0.27	0.40
25	25:g.1257182T>C	DU512685_259.1	rs398589436	0.41	0.42	0.44	0.44	0.49	0.48	0.40	0.44	0.40	0.43
25	25:g.32804278C>T	OAR25_34247335.1	rs427202658	0.40	0.43	0.33	0.37	0.49	0.37	0.33	0.43	0.45	0.40
26	26:g.3411886T>C	DU286106_170.1	rs55628429	0.49	0.34	0.43	0.45	0.47	0.37	0.32	0.25	0.50	0.41
26	26:g.8453404A>G	OAR26_10633898.1	rs420444489	0.48	0.30	0.38	0.46	0.42	0.37	0.37	0.45	0.47	0.41
26	26:g.23458533A>C	OAR26_27421728.1	rs410978036	0.35	0.26	0.50	0.49	0.36	0.43	0.40	0.47	0.42	0.41
26	26:g.5892326G>A	OAR26_6517460.1	rs406289358	0.43	0.22	0.28	0.33	0.43	0.35	0.31	0.31	0.42	0.34
26	26:g.970365T>C	s06272.1	rs428012495	0.48	0.45	0.38	0.50	0.42	0.28	0.44	0.33	0.45	0.42
26	26:g.36783413G>A	s17574.1	rs430287747	0.33	0.28	0.40	0.42	0.36	0.26	0.49	0.46	0.32	0.37
			Average-MAF	0.40	0.37	0.40	0.40	0.40	0.38	0.38	0.39	0.39	

[1] Mean = mean MAF over the 9 breeds.

Table S3. List and features of the reduced panel of 158 SNPs selected for parentage assignment in Spanish breeds. Information about the chromosome (CHR) and position location in Oar 3.1, SNP name in Beadchip 50K, dbSNP name in Ensembl variation database, and MAF value within and across Spanish breeds.

CHR	SNP position in Oar3.1 and allele variation	SNP name in 50K Bead array	dbSNP name	MAF									
				Ansotana (n=41)	Churra Tensina (n=38)	Xisqueta (n=41)	Navarra (n=39)	Rasa aragonesa (n=38)	Roya bilbilitana (n=23)	Maellana (n=39)	Ojinegra (n=36)	Cartera (n=39)	Mean[1]
1	1:g.1513820T>C	s46222.1	rs398738941	0.50	0.32	0.48	0.42	0.50	0.43	0.32	0.47	0.38	0.41
1	1:g.21132185G>A	s68037.1	rs422041483	0.49	0.41	0.46	0.47	0.45	0.37	0.50	0.50	0.47	0.45
1	1:g.33596869A>C	s15094.1 [2]	rs422076171	0.41	0.43	0.46	0.45	0.47	0.41	0.44	0.46	0.33	0.41
1	1:g.49686118C>T	OAR1_51821448.1	rs406196471	0.49	0.30	0.32	0.42	0.42	0.35	0.38	0.50	0.32	0.38
1	1:g.63931126C>T	OAR1_67572134.1	rs408954327	0.50	0.45	0.33	0.44	0.50	0.35	0.42	0.38	0.41	0.41
1	1:g.80705932A>G	OAR1_85975832.1	rs402432253	0.49	0.42	0.45	0.44	0.47	0.35	0.45	0.47	0.45	0.44
1	1:g.92766266G>A	OAR1_98453311.1	rs429184870	0.37	0.45	0.32	0.38	0.36	0.39	0.35	0.46	0.32	0.38
1	1:g.100318127G>A	OAR1_107634967.1	rs407290822	0.41	0.45	0.39	0.44	0.41	0.39	0.45	0.40	0.41	0.41
1	1:g.110869124T>C	OAR1_119764980.1	rs419545737	0.49	0.46	0.46	0.50	0.41	0.39	0.38	0.47	0.49	0.44
1	1:g.120692894A>G	OAR1_130854923.1	rs398687222	0.49	0.38	0.46	0.42	0.41	0.35	0.45	0.42	0.41	0.43
1	1:g.140015128T>C	OAR1_151167765.1	rs415611376	0.41	0.38	0.39	0.49	0.43	0.43	0.45	0.36	0.49	0.41
1	1:g.161028005T>C	OAR1_173637826.1	rs429501301	0.46	0.47	0.46	0.41	0.50	0.39	0.49	0.39	0.46	0.45
1	1:g.172607565G>T	s13827.1	rs399133984	0.46	0.38	0.41	0.47	0.47	0.41	0.40	0.47	0.49	0.43
1	1:g.186718195T>C	s59862.1	rs159444776	0.44	0.49	0.45	0.32	0.50	0.46	0.46	0.31	0.31	0.41
1	1:g.197373540T>C	s38317.1	rs412859262	0.44	0.50	0.35	0.49	0.47	0.48	0.47	0.49	0.38	0.43
1	1:g.214163259A>G	OAR1_231043466.1	rs401456309	0.44	0.39	0.50	0.36	0.47	0.41	0.46	0.39	0.38	0.42
1	1:g.223603707G>A	OAR1_241150187.1 [2]	rs399550716	0.38	0.37	0.48	0.49	0.39	0.43	0.35	0.49	0.46	0.42
1	1:g.234564470A>C	OAR1_253227717.1	rs417464601	0.34	0.50	0.48	0.42	0.45	0.41	0.40	0.46	0.46	0.42
1	1:g.240685633C>A	OAR1_260245778.1 [2]	rs424797976	0.40	0.37	0.49	0.42	0.46	0.41	0.44	0.42	0.45	0.41
1	1:g.254054693C>T	s10553.1	rs425512767	0.46	0.37	0.49	0.44	0.47	0.33	0.49	0.50	0.44	0.44
1	1:g.270981547G>A	OAR1_293501261.1	rs427305353	0.35	0.32	0.41	0.47	0.49	0.35	0.42	0.39	0.32	0.39

2	2:g.28252533A>G	s56017.1	rs414282578	0.48	0.46	0.45	0.41	0.41	0.35	0.47	0.40	0.40	0.42
2	2:g.39614644G>A	OAR2_41310572.1	rs400063863	0.41	0.32	0.48	0.38	0.43	0.46	0.37	0.46	0.40	0.40
2	2:g.59972946A>G	OAR2_64445964.1	rs401154943	0.50	0.49	0.48	0.49	0.45	0.33	0.31	0.47	0.45	0.44
2	2:g.70976797C>T	OAR2_75637263.1	rs415759194	0.39	0.32	0.44	0.38	0.32	0.48	0.47	0.42	0.45	0.40
2	2:g.96566325C>T	OAR2_103999416.1	rs403168337	0.38	0.47	0.50	0.47	0.34	0.30	0.47	0.44	0.31	0.41
2	2:g.102400550A>G	s14796.1	rs418783905	0.39	0.45	0.46	0.50	0.46	0.35	0.49	0.46	0.44	0.44
2	2:g.123528595C>G	OAR2_131721845.1	rs425037194	0.45	0.37	0.45	0.42	0.45	0.37	0.47	0.38	0.45	0.42
2	2:g.146181891G>A	OAR2_155220459.1	rs414638139	0.48	0.37	0.43	0.42	0.46	0.48	0.40	0.43	0.38	0.41
2	2:g.168825749G>A	OAR2_178886050.1	rs425257027	0.41	0.46	0.45	0.49	0.49	0.35	0.33	0.46	0.44	0.44
2	2:g.172616581G>A	OAR2_183001089.1	rs408932964	0.33	0.47	0.50	0.46	0.49	0.43	0.40	0.35	0.47	0.43
2	2:g.186476111A>G	s18854.1	rs427026349	0.45	0.33	0.48	0.40	0.49	0.39	0.47	0.49	0.50	0.44
2	2:g.191834956T>C	s12848.1	rs406818176	0.37	0.49	0.46	0.41	0.42	0.41	0.42	0.38	0.49	0.43
2	2:g.203246163G>T	s08070.1	rs424648098	0.43	0.43	0.49	0.46	0.45	0.43	0.50	0.49	0.37	0.44
2	2:g.228425531A>G	OAR2_241193694.1	rs403169015	0.49	0.42	0.50	0.42	0.41	0.30	0.36	0.47	0.49	0.42
2	2:g.234718375G>A	OAR2_247866179.1	rs413324492	0.49	0.49	0.40	0.38	0.43	0.35	0.38	0.40	0.47	0.42
3	3:g.7694496T>C	OAR3_7866036.1	rs412567923	0.45	0.41	0.50	0.42	0.38	0.46	0.41	0.40	0.50	0.43
3	3:g.16367095G>A	OAR3_17842455.1	rs400185910	0.44	0.42	0.34	0.35	0.42	0.48	0.42	0.39	0.42	0.39
3	3:g.23222991T>C	OAR3_24983282.1	rs398672515	0.49	0.41	0.46	0.45	0.47	0.37	0.35	0.43	0.49	0.43
3	3:g.52538335A>G	OAR3_55503740.1	rs416449662	0.44	0.45	0.50	0.47	0.33	0.46	0.47	0.40	0.44	0.43
3	3:g.89051199G>T	OAR3_94317335.1	rs401793481	0.49	0.39	0.39	0.49	0.42	0.50	0.35	0.43	0.45	0.42
3	3:g.105185065A>G	OAR3_111873998.1	rs401247957	0.44	0.34	0.49	0.38	0.49	0.35	0.38	0.43	0.44	0.42
3	3:g.110770412T>C	s15797.1	rs427698295	0.43	0.49	0.46	0.45	0.30	0.37	0.44	0.49	0.44	0.41
3	3:g.135600087T>C	s08517.1	rs410724661	0.48	0.46	0.44	0.47	0.45	0.48	0.35	0.49	0.33	0.42
3	3:g.156023738A>G	OAR3_166966160.1	rs401062963	0.48	0.45	0.49	0.47	0.49	0.41	0.46	0.43	0.40	0.44
3	3:g.192591487C>T	OAR3_207261036.1	rs420994569	0.37	0.50	0.50	0.46	0.47	0.41	0.49	0.47	0.49	0.45
3	3:g.208711035G>T	s35827.1	rs399415834	0.46	0.45	0.48	0.44	0.49	0.50	0.38	0.35	0.38	0.42
3	3:g.221830857C>T	s71177.1	rs406689917	0.41	0.38	0.49	0.42	0.37	0.46	0.47	0.39	0.44	0.42
4	4:g.13758450C>T	OAR4_13962498.1	rs408852771	0.45	0.45	0.50	0.40	0.46	0.43	0.42	0.38	0.36	0.41
4	4:g.43848244A>G	OAR4_46265640.1	rs410812189	0.50	0.45	0.48	0.36	0.47	0.48	0.47	0.46	0.47	0.44

4	4:g.55143416T>C	OAR4_58442053.1	rs426895887	0.43	0.33	0.43	0.42	0.42	0.43	0.46	0.36	0.46	0.40
4	4:g.63970121A>C	OAR4_67679879.1	rs428523218	0.45	0.30	0.46	0.41	0.46	0.37	0.49	0.46	0.37	0.41
4	4:g.108574116C>T	OAR4_116082708.1	rs413399435	0.43	0.38	0.39	0.42	0.42	0.39	0.46	0.44	0.47	0.42
4	4:g.118543910C>T	s54163.1	rs410882420	0.30	0.33	0.45	0.41	0.49	0.43	0.49	0.42	0.38	0.41
5	5:g.23520783A>G	OAR5_26383200.1	rs406122836	0.38	0.39	0.44	0.41	0.47	0.48	0.41	0.42	0.44	0.42
5	5:g.32648026T>G	s63572.1	rs422430483	0.43	0.45	0.48	0.33	0.39	0.46	0.37	0.46	0.41	0.41
5	5:g.61562358C>T	OAR5_67725472_X.1	rs430357126	0.44	0.46	0.49	0.43	0.49	0.41	0.35	0.33	0.50	0.43
5	5:g.75250622G>A	OAR5_82840294.1	rs414916869	0.44	0.36	0.48	0.50	0.36	0.30	0.50	0.49	0.46	0.42
5	5:g.89476671G>T	OAR5_97654465.1	rs406573163	0.48	0.43	0.39	0.37	0.47	0.50	0.40	0.43	0.46	0.43
5	5:g.92243057C>T	OAR5_100495456.1	rs160119372	0.40	0.43	0.41	0.42	0.47	0.48	0.49	0.44	0.50	0.44
6	6:g.27095086T>C	OAR6_30782553.1	rs402052961	0.46	0.42	0.49	0.49	0.33	0.35	0.42	0.50	0.38	0.37
6	6:g.30662865A>G	OAR6_34609120.1	rs404334779	0.49	0.42	0.38	0.43	0.43	0.46	0.44	0.47	0.41	0.43
6	6:g.52465716C>T	OAR6_57881110.1	rs399754170	0.44	0.41	0.44	0.47	0.46	0.41	0.46	0.40	0.31	0.42
6	6:g.72900691T>C	s46614.1	rs418641732	0.44	0.34	0.37	0.49	0.49	0.37	0.35	0.42	0.46	0.41
6	6:g.96342867T>C	OAR6_105969740.1	rs428796433	0.40	0.42	0.43	0.42	0.42	0.41	0.49	0.40	0.50	0.42
7	7:g.8245119T>A	OAR7_8208847.1	rs409002352	0.49	0.50	0.48	0.42	0.49	0.37	0.40	0.49	0.40	0.44
7	7:g.19002938C>A	OAR7_19813387.1	rs401406953	0.45	0.45	0.43	0.49	0.41	0.43	0.36	0.39	0.47	0.42
7	7:g.32165339A>G	s32988.1	rs417237868	0.40	0.47	0.44	0.41	0.42	0.48	0.46	0.39	0.50	0.43
7	7:g.40393699T>C	OAR7_44708135.1	rs424232731	0.35	0.39	0.45	0.49	0.47	0.39	0.47	0.42	0.42	0.42
7	7:g.50018511T>C	OAR7_55373974.1	rs404117609	0.44	0.39	0.49	0.45	0.38	0.46	0.35	0.49	0.41	0.42
7	7:g.66952015T>C	s51939.1	rs415714073	0.46	0.37	0.35	0.42	0.49	0.46	0.49	0.44	0.44	0.42
7	7:g.73298115T>G	s19570.1	rs430671311	0.48	0.39	0.44	0.47	0.47	0.39	0.47	0.33	0.33	0.41
7	7:g.97922358A>G	s22036.1	rs399953681	0.44	0.42	0.49	0.41	0.39	0.35	0.49	0.44	0.47	0.43
8	8:g.4274681G>A	OAR8_4553348.1	rs400616734	0.49	0.38	0.50	0.42	0.42	0.48	0.36	0.46	0.36	0.41
8	8:g.12201159C>G	OAR8_13715410.1	rs411691870	0.41	0.45	0.50	0.42	0.49	0.39	0.47	0.43	0.35	0.43
8	8:g.27526693T>C	OAR8_30023587.1	rs411080034	0.38	0.45	0.46	0.49	0.45	0.46	0.50	0.49	0.46	0.44
8	8:g.35268249C>T	OAR8_37910463_X.1	rs417109450	0.45	0.32	0.38	0.50	0.50	0.41	0.41	0.50	0.47	0.44
8	8:g.47354950C>A	OAR8_50832230.1 [2]	rs398750528	0.45	0.42	0.38	0.50	0.49	0.50	0.41	0.49	0.50	0.44
8	8:g.52047484C>T	OAR8_55890096.1	rs423339437	0.40	0.46	0.37	0.47	0.36	0.50	0.32	0.35	0.32	0.38

8	8:g.79634751A>G	OAR8_85882768.1	rs419787913	0.41	0.33	0.41	0.49	0.30	0.46	0.42	0.36	0.45	0.40
9	9:g.17107082C>T	s30197.1 [2]	rs406369141	0.37	0.34	0.50	0.32	0.50	0.46	0.47	0.39	0.38	0.42
9	9:g.21030569C>T	s35656.1	rs424122821	0.35	0.50	0.49	0.47	0.50	0.30	0.38	0.32	0.42	0.42
9	9:g.34335874C>T	OAR9_36090611.1	rs420607717	0.48	0.45	0.37	0.44	0.43	0.43	0.44	0.40	0.50	0.42
9	9:g.44948400C>T	OAR9_47174084.1	rs415504501	0.46	0.36	0.41	0.38	0.41	0.48	0.49	0.47	0.37	0.41
9	9:g.57839045T>C	OAR9_60824316.1	rs415683929	0.44	0.43	0.45	0.46	0.47	0.46	0.45	0.35	0.44	0.43
9	9:g.62312176G>A	OAR9_65574774.1	rs420752095	0.41	0.32	0.49	0.46	0.43	0.37	0.50	0.49	0.41	0.42
9	9:g.72430891G>A	OAR9_76865315.1	rs423704771	0.44	0.33	0.44	0.45	0.38	0.35	0.33	0.32	0.44	0.37
9	9:g.86194877A>G	OAR9_91399035.1	rs411798645	0.34	0.38	0.39	0.38	0.42	0.48	0.46	0.49	0.37	0.40
9	9:g.93460494A>G	s73841.1	rs408540659	0.37	0.37	0.49	0.36	0.34	0.43	0.47	0.35	0.42	0.39
10	10:g.9736034C>T	OAR10_8087004.1	rs428296318	0.45	0.36	0.37	0.47	0.41	0.41	0.49	0.40	0.45	0.42
10	10:g.14523808C>A	OAR10_13236794.1	rs402738379	0.45	0.33	0.44	0.41	0.47	0.35	0.44	0.50	0.36	0.42
10	10:g.23642798A>T	OAR10_23275930.1	rs416091614	0.44	0.45	0.46	0.45	0.39	0.43	0.37	0.49	0.49	0.44
10	10:g.35185201T>G	s08289.1	rs429175127	0.37	0.47	0.40	0.38	0.30	0.37	0.47	0.43	0.47	0.41
10	10:g.44495989G>T	OAR10_45082466.1	rs424394550	0.38	0.42	0.34	0.40	0.46	0.39	0.35	0.43	0.46	0.40
10	10:g.64182232G>A	s54545.1	rs407377649	0.41	0.34	0.45	0.42	0.36	0.50	0.41	0.42	0.31	0.40
10	10:g.76300586A>G	OAR10_83479781.1	rs401046121	0.38	0.49	0.45	0.46	0.46	0.30	0.42	0.49	0.40	0.43
10	10:g.82867736T>C	s05269.1	rs420310047	0.44	0.49	0.45	0.46	0.47	0.50	0.38	0.47	0.38	0.44
11	11:g.42545636T>C	OAR11_45273342.1	rs428418751	0.50	0.43	0.50	0.47	0.45	0.37	0.37	0.46	0.45	0.40
12	12:g.6626081G>A	OAR12_8645998.1	rs409369958	0.43	0.49	0.43	0.36	0.42	0.37	0.35	0.44	0.38	0.40
12	12:g.23519961T>C	s54219.1	rs403137032	0.49	0.33	0.40	0.46	0.43	0.39	0.45	0.39	0.35	0.45
12	12:g.31817231T>G	s69093.1	rs412032718	0.38	0.50	0.49	0.42	0.49	0.50	0.41	0.47	0.47	0.39
12	12:g.51161421G>T	OAR12_56589339.1	rs411182467	0.44	0.46	0.38	0.31	0.37	0.48	0.37	0.33	0.47	0.39
12	12:g.77402823T>C	s49528.1	rs423812193	0.33	0.33	0.33	0.37	0.46	0.48	0.31	0.46	0.46	0.44
13	13:g.1366306T>C	OAR13_1832147.1	rs400190303	0.45	0.49	0.48	0.45	0.39	0.39	0.49	0.46	0.41	0.43
13	13:g.23501230C>T	s02941.1	rs430460262	0.44	0.41	0.46	0.46	0.39	0.46	0.46	0.39	0.49	0.39
13	13:g.33670300C>T	OAR13_37048579.1	rs418235130	0.46	0.32	0.38	0.38	0.47	0.33	0.47	0.44	0.31	0.40
13	13:g.67942670A>G	OAR13_73111137.1	rs425091322	0.40	0.49	0.46	0.41	0.42	0.30	0.32	0.36	0.46	0.42
14	14:g.1558966C>A	OAR14_2036727.1	rs428361836	0.37	0.43	0.46	0.45	0.37	0.46	0.45	0.40	0.38	0.44

14	14:g.16894215T>C	OAR14_17417998.1	rs422440790	0.46	0.36	0.50	0.45	0.45	0.37	0.42	0.39	0.49	0.40
14	14:g.28558207G>A	OAR14_29709395.1	rs407414494	0.43	0.41	0.50	0.46	0.33	0.48	0.33	0.46	0.36	0.40
14	14:g.51861128A>G	s42929.1	rs402986342	0.41	0.42	0.33	0.44	0.49	0.43	0.38	0.32	0.50	0.38
14	14:g.60324303T>C	s28142.1	rs417313494	0.38	0.42	0.34	0.38	0.42	0.46	0.33	0.38	0.45	0.40
15	15:g.9527655G>T	OAR15_9266921.1	rs407376957	0.43	0.37	0.43	0.42	0.39	0.30	0.41	0.46	0.45	0.43
15	15:g.17433957C>T	OAR15_17900966.1	rs425490799	0.38	0.50	0.44	0.44	0.47	0.50	0.41	0.33	0.49	0.40
15	15:g.24905305A>G	OAR15_26039458.1	rs416068439	0.39	0.37	0.39	0.44	0.49	0.43	0.36	0.40	0.37	0.40
15	15:g.31109620T>C	OAR15_32604197.1	rs409561600	0.40	0.37	0.40	0.38	0.39	0.39	0.41	0.42	0.49	0.42
15	15:g.41186631A>G	OAR15_43258531.1	rs413960289	0.41	0.43	0.49	0.45	0.46	0.43	0.36	0.46	0.35	0.38
15	15:g.62206936A>G	s28069.1	rs414714025	0.44	0.41	0.33	0.35	0.36	0.33	0.46	0.42	0.45	0.43
16	16:g.721836C>T	s45724.1	rs416209967	0.49	0.45	0.44	0.49	0.41	0.39	0.38	0.47	0.46	0.44
16	16:g.19528547G>T	s43800.1	rs407154261	0.44	0.49	0.48	0.50	0.43	0.46	0.50	0.38	0.41	0.40
16	16:g.44908520A>G	OAR16_48866451.1	rs417014576	0.46	0.38	0.39	0.49	0.42	0.41	0.40	0.38	0.46	0.44
16	16:g.56646949T>C	OAR16_61906879.1	rs424267639	0.49	0.47	0.39	0.37	0.39	0.43	0.49	0.47	0.45	0.41
17	17:g.2096071C>T	OAR17_2428600.1	rs412527349	0.46	0.45	0.48	0.45	0.43	0.48	0.33	0.35	0.37	0.43
17	17:g.19291799G>A	OAR17_21695824.1	rs402218372	0.48	0.37	0.49	0.42	0.49	0.39	0.42	0.46	0.46	0.41
17	17:g.21454166C>T	OAR17_23905156.1	rs408884651	0.49	0.36	0.33	0.44	0.41	0.46	0.45	0.33	0.49	0.41
17	17:g.38774442C>T	OAR17_41952283.1	rs412661116	0.48	0.50	0.43	0.37	0.37	0.37	0.35	0.43	0.49	0.43
18	18:g.9394823T>C	OAR18_9257846.1	rs406900835	0.34	0.45	0.39	0.45	0.49	0.46	0.45	0.50	0.42	0.41
18	18:g.12512072T>C	OAR18_12434761.1	rs427091012	0.34	0.47	0.39	0.41	0.45	0.48	0.36	0.44	0.40	0.39
18	18:g.55096089T>C	s57307.1	rs410877822	0.35	0.34	0.45	0.49	0.34	0.43	0.33	0.35	0.49	0.38
19	19:g.6488754T>C	OAR19_6739574.1	rs414959232	0.34	0.42	0.35	0.47	0.39	0.41	0.41	0.33	0.33	0.43
19	19:g.18761572T>G	s39036.1	rs426208530	0.37	0.38	0.46	0.49	0.43	0.39	0.46	0.44	0.47	0.42
19	19:g.20332585G>A	OAR19_21293460.1	rs400065957	0.46	0.37	0.30	0.50	0.46	0.50	0.45	0.46	0.46	0.44
19	19:g.36025522G>A	OAR19_37748290.1	rs411710453	0.40	0.42	0.48	0.40	0.47	0.50	0.32	0.46	0.45	0.41
19	19:g.44247196C>T	OAR19_46586538.1	rs400439948	0.48	0.38	0.50	0.47	0.36	0.35	0.44	0.39	0.47	0.44
19	19:g.57404392C>G	s09467.1	rs406597793	0.46	0.37	0.46	0.47	0.39	0.46	0.40	0.44	0.49	0.41
20	20:g.13749756C>T	OAR20_14550082.1	rs402315735	0.40	0.34	0.41	0.47	0.34	0.37	0.49	0.43	0.49	0.39
20	20:g.26823270C>T	OAR20_29105617.1	rs398658087	0.44	0.32	0.49	0.45	0.36	0.48	0.44	0.32	0.37	0.43

20	20:g.32621630C>T	s55627.1	rs424743329	0.35	0.36	0.50	0.47	0.49	0.41	0.41	0.49	0.37	0.41
20	20:g.44792127T>C	OAR20_48705943.1	rs398754184	0.44	0.38	0.41	0.46	0.36	0.43	0.50	0.38	0.47	0.41
21	21:g.8611904C>T	OAR21_10029991.1	rs426285171	0.45	0.34	0.39	0.45	0.46	0.41	0.37	0.46	0.44	0.39
21	21:g.29711021C>T	s20228.1	rs418365888	0.33	0.38	0.38	0.42	0.37	0.39	0.41	0.35	0.45	0.42
22	22:g.14875152T>G	OAR22_18347742.1	rs408677267	0.45	0.45	0.45	0.47	0.45	0.50	0.33	0.40	0.47	0.45
22	22:g.20005759C>T	s15335.1	rs416088594	0.39	0.43	0.46	0.47	0.39	0.46	0.40	0.49	0.50	0.41
22	22:g.32963011T>C	s66275.1	rs401361144	0.38	0.34	0.43	0.46	0.49	0.43	0.33	0.43	0.41	0.45
22	22:g.43405509G>A	s26430.1	rs405361410	0.48	0.46	0.48	0.45	0.41	0.41	0.45	0.49	0.49	0.41
23	23:g.4134052T>C	OAR23_4498348.1	rs161353814	0.49	0.45	0.38	0.42	0.34	0.35	0.47	0.42	0.47	0.41
23	23:g.14524736T>C	OAR23_15705585.1	rs413448139	0.41	0.45	0.44	0.37	0.46	0.41	0.46	0.38	0.45	0.39
23	23:g.33190324T>C	s35293.1	rs398548145	0.46	0.41	0.32	0.35	0.42	0.33	0.42	0.47	0.40	0.41
24	24:g.18272045T>C	OAR24_19994470.1	rs429965865	0.44	0.42	0.44	0.45	0.38	0.30	0.47	0.49	0.38	0.43
25	25:g.4611677T>C	s52776.1	rs429411655	0.50	0.34	0.45	0.42	0.43	0.39	0.47	0.49	0.50	0.42
25	25:g.11537447G>A	OAR25_11748248.1	rs426671193	0.46	0.43	0.35	0.41	0.45	0.43	0.41	0.50	0.42	0.40
25	25:g.24131825A>G	OAR25_25184395.1	rs407298229	0.45	0.38	0.45	0.32	0.39	0.39	0.50	0.35	0.45	0.40
25	25:g.32770469C>T	OAR25_34212086.1	rs415992203	0.35	0.38	0.49	0.49	0.37	0.48	0.41	0.36	0.44	0.41
25	25:g.44799856A>G	s15886.1	rs406251755	0.50	0.30	0.44	0.50	0.42	0.39	0.38	0.47	0.38	0.45
26	26:g.18255713G>A	OAR26_21546761.1	rs414890647	0.44	0.41	0.48	0.49	0.46	0.50	0.42	0.46	0.49	0.41
26	26:g.29323850A>G	OAR26_33593891.1	rs423654005	0.34	0.46	0.45	0.42	0.45	0.48	0.46	0.38	0.37	0.43
26	26:g.39723658A>G	s37818.1	rs402065825	0.43	0.41	0.43	0.46	0.43	0.41	0.50	0.49	0.41	0.41
26	26:g.43938104A>G	OAR26_49899043.1	rs400507749	0.43	0.42	0.30	0.49	0.42	0.48	0.37	0.40	0.36	0.41
			Average-MAF	0.43	0.41	0.44	0.44	0.43	0.42	0.42	0.43	0.43	

[1] Mean = mean MAF over the 9 breeds.
[2] SNPs from the reduced panel that failed or had a call rate <0.95 in KASP genotyping.

Table S4. Major statistics for the set of 153 SNPs after deleting the five SNPs from the set of 158 SNPs that failed or had a call rate < 0.95 in KASP genotyping on the 9 Spanish populations: MAF, PI (probability of identity), PE1 and PE2 (exclusion probabilities considering the exclusion of one or the two parents respectively).

Breeds	Subset French panel (158 SNPs)			
	MAF	PI	1-PE1	1-PE2
Ansotana	0.43	6.44E-63	4.56E-09	3.05E-22
Churra Tensina	0.41	3.06E-63	8.50E-09	5.13E-22
Xisqueta	0.44	3.55E-64	4.19E-09	2.86E-22
Navarra	0.44	1.79E-63	3.76E-09	2.59E-22
Rasa aragonesa	0.43	1.66E-62	4.69E-09	3.12E-22
Roya bilbilitana	0.42	8.87E-62	7.25E-09	4.49E-22
Maellana	0.42	1.71E-62	6.13E-09	3.91E-22
Ojinegra	0.42	3.59E-63	5.72E-09	3.72E-22
Cartera	0.43	2.90E-64	4.92E-09	3.26E-22