

Supplemental material

Towards a genomic-driven conservation strategy for the autochthonous Mora Romagnola pig breed by leveraging population genomic parameters, genomic inbreeding and signature of selection analyses

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Supplementary Figures

Figure S1. Multidimensional scaling plot with two components (C1 and C2) based on the genotyped Mora Romagnola pigs. Different colours indicated different farms.



Supplementary Tables

Table S1. Number of pigs (males and females) of the Mora Romagnola breed sampled in various farms. Animals were born from 2015 to 2020.

Farm ID	Males	Females
1	2	-
2	2	-
3	7	1
4	1	-
5	1	-
6	6	-
7	2	-
8	1	-
9	4	-
10	6	-
11	2	-
12	4	-
13	3	-
14	1	-
15	4	-
16	3	-
17	2	-
18	44	42
19	10	-
20	1	-
5 different farms*	14	83
Total	120	126

* Exchange of pigs between farms occurred during the sampling, therefore, precise farm origin could not be indicated.

Table S2. Minor allele frequencies (MAF) of SNPs mapped on the different autosomes.

Chromosome	Total no. of SNPs	MAF mean (sd)	Proportion of SNPs with MAF = 0
SSC1	5320	0.13 (0.14)	0.08
SSC2	3321	0.16 (0.15)	0.10
SSC3	3019	0.19 (0.16)	0.07
SSC4	3512	0.17 (0.15)	0.07
SSC5	2586	0.17 (0.17)	0.10
SSC6	3709	0.19 (0.15)	0.08
SSC7	3564	0.19 (0.15)	0.05
SSC8	3001	0.09 (0.10)	0.10
SSC9	3222	0.18 (0.16)	0.07
SSC10	2258	0.13 (0.14)	0.13
SSC11	2080	0.20 (0.15)	0.08
SSC12	2086	0.21 (0.16)	0.11
SSC13	3876	0.13 (0.13)	0.07
SSC14	3835	0.16 (0.13)	0.05
SSC15	3129	0.21 (0.17)	0.07
SSC16	2028	0.19 (0.19)	0.09
SSC17	1908	0.12 (0.14)	0.14
SSC18	1518	0.17 (0.15)	0.10

Table S3. Effective population size (N_e) of the Mora Romagnola breed computed with SNep software.

Generations ago	N_e
*1	34
*3	35
*5	37
*7	38
*9	40
11	41
13	34
15	36
17	38
20	40
23	43
27	47
32	51
38	56
45	61
54	68
65	78
80	89
98	103
120	118
150	141
187	167
234	201
293	243
367	295
454	347
552	425
657	482
759	562
847	606
915	651
958	654

* Asterisks indicate the generations for which N_e was estimated with linear prediction based on SNep values derived from less recent generations.

Table S4. ROH islands identified in the Mora Romagnola breed using the 99th percentile threshold of SNPs in ROH.

SSC ¹	Start ²	End ³	Other studies ⁴
1	252973690	253112372	Schiavo et al. (2021) f/p
1	254194333	258733435	Schiavo et al. (2021) f/p/s
8	23848828	26603667	Schiavo et al. (2021) f
8	86032397	88023321	Schiavo et al. (2021) f/p/s
8	93688527	101826311	Schiavo et al. (2021) f/p/s
9	67987	1529819	Schiavo et al. (2021) f/p/s
10	61953693	63109993	Bovo et al. (2020) H; Schiavo et al. (2021) f
10	64840437	65091626	Schiavo et al. (2021) f
17	42675969	44262254	Schiavo et al. (2021) f/p

¹ *Sus scrofa* chromosome.

^{2,3} Nucleotide positions (start and end) of the ROH island.

⁴ Regions comprising signatures of selection identified by other studies with different approaches: Bovo et al. (2020) with pooled heterozygosity (H); Schiavo et al. (2021) with ROH island analyses based on various thresholds: SNPs present in a ROH in at least 50% of the genotyped population (f); 99th percentile SNPs in a ROH (p); threshold depending on the overall coverage in ROH (s).

Table S5. ROH islands identified using the SNPs included in a ROH for 50% of the pigs in the breed population and comparative information from other studies. In bold, the ROH islands including iHS signals identified in the current study (see Table S7).

Coordinates ¹	No. of SNPs ²	Mean frequency (sd) ³	Other studies ⁴
1:49383-2046776	84	0.55 (0.01)	Schiavo et al. (2021) f
1:82988475-103168064	320	0.71 (0.06)	Muñoz et al. (2019), Schiavo et al. (2021) f
1:113471371-113564381	2	0.52 (0.00)	-
1:194358748-274287863	1644	0.75 (0.08)	Muñoz et al. (2019), Schiavo et al. (2021) f/p/s
2:4951880-6525912	58	0.52 (0.01)	-
2:88625034-91295005	52	0.66 (0.01)	Schiavo et al. (2021) f
2:115405374-121463456	160	0.58 (0.03)	Schiavo et al. (2021) f
2:126483882-126491056	2	0.50 (0.00)	Schiavo et al. (2021) f
2:130796875-133405407	89	0.53 (0.01)	-
2:141640834-141856321	7	0.50 (0.00)	-
2:143709064-149925824	177	0.53 (0.05)	Schiavo et al. (2021) f
3:162026-3535609	166	0.59(0.02)	Schiavo et al. (2021) f
3:12231753-12508945	17	0.50 (0.00)	Muñoz et al. (2019)
4:3517282-5888444	131	0.56 (0.02)	Schiavo et al. (2021) f
4:9796424-16878107	272	0.66 (0.08)	Muñoz et al. (2019), Schiavo et al. (2021) f
4:18573649-23121548	135	0.60 (0.02)	Schiavo et al. (2021) f
4:43318571-89758404	828	0.60 (0.03)	Schiavo et al. (2021) f
4:96856811-98560694	61	0.55 (0.01)	Schiavo et al. (2021) f
5:4822131-7379745	129	0.56 (0.02)	Schiavo et al. (2021) f
5:8462279-8688865	18	0.51 (0.00)	Schiavo et al. (2021) f
5:12060845-12138942	4	0.52 (0.00)	Schiavo et al. (2021) f
5:65384458-66633362	34	0.52 (0.01)	-
5:76707156-76859810	5	0.51 (0.00)	-
6:63627525-66019964	53	0.68 (0.01)	Muñoz et al. (2019), Schiavo et al. (2021) f
6:68122699-68661391	5	0.51 (0.00)	Schiavo et al. (2021) f
6:73021485-81911517	177	0.60 (0.08)	Schiavo et al. (2021) f
6:92829247-98778424	124	0.53 (0.02)	Schiavo et al. (2021) f
7:870196-4717572	181	0.56 (0.02)	-

7:112551082-115114200	121	0.53 (0.02)	Bovo et al. (2020) F, Schiavo et al. (2021) f
7:117463408-121779462	147	0.70 (0.09)	Schiavo et al. (2021) f
8:75255-14596290	508	0.60 (0.03)	Schiavo et al. (2021) f
8:15959754-16481495	32	0.53 (0.02)	Schiavo et al. (2021) f
8:18203713-45485536	538	0.70 (0.08)	Muñoz et al. (2019), Schiavo et al. (2021) f
8:46773018-114694795	960	0.73 (0.10)	Muñoz et al. (2019), Bovo et al. (2020) F, Schiavo et al. (2021) f/p/s
8:124526684-133228052	349	0.71(0.06)	Muñoz et al. (2019), Schiavo et al. (2021) f
9:67987-9566684	273	0.67 (0.11)	Muñoz et al. (2019), Schiavo et al. (2021) f
9:13668609-17753945	170	0.61 (0.02)	Muñoz et al. (2019), Schiavo et al. (2021) f
9:132612393-139401728	197	0.57 (0.03)	Muñoz et al. (2019), Schiavo et al. (2021) f
10:6172937-6981778	47	0.53 (0.01)	-
10:38258345-69319538	1083	0.75 (0.08)	Muñoz et al. (2019), Bovo et al. (2020) H, Schiavo et al. (2021) f/p/s
11:61867141-62508449	17	0.51 (0.00)	Schiavo et al. (2021) f
12:17606564-18861894	57	0.55 (0.01)	-
13:1261352-11400881	448	0.59 (0.05)	Muñoz et al. (2019), Schiavo et al. (2021) f
13:56984798-192503726	1752	0.70 (0.05)	Muñoz et al. (2019), Bovo et al. (2020) H/F, Schiavo et al. (2021) f/p
13:206156412-208240760	77	0.56 (0.02)	Muñoz et al. (2019), Schiavo et al. (2021) f
14:5152743-6720143	69	0.57 (0.01)	Schiavo et al. (2021) f
14:11345561-20754947	256	0.61 (0.10)	Muñoz et al. (2019), Schiavo et al. (2021) f
14:36654300-36654300	1	0.50 (-)	Schiavo et al. (2021) f
14:38016877-83843294	989	0.62 (0.11)	Schiavo et al. (2021) f/p
14:89342603-89369797	2	0.51 (0.00)	Schiavo et al. (2021) f
14:99280405-102286462	69	0.52 (0.01)	Schiavo et al. (2021) f
15:27467996-29398749	74	0.53 (0.02)	Schiavo et al. (2021) f
15:70876579-74207779	32	0.53 (0.00)	Muñoz et al. (2019), Bovo et al. (2020) H, Schiavo et al. (2021) f
15:100561634-110685802	181	0.62 (0.12)	Schiavo et al. (2021) f
15:119181219-121133798	75	0.71 (0.01)	Bovo et al. (2020) F, Schiavo et al. (2021) f
16:8643-6463773	250	0.62 (0.10)	Schiavo et al. (2021) f
16:8271650-9819337	36	0.50 (0.00)	Schiavo et al. (2021) f
16:45944534-53553838	136	0.55 (0.02)	-
17:6798935-8573182	63	0.54 (0.01)	Schiavo et al. (2021) f
17:9636094-20037877	281	0.72 (0.02)	Schiavo et al. (2021) f

17:29183893-29367046	7	0.51 (0.00)	Schiavo et al. (2021) f
17:30925272-49682078	531	0.71 (0.08)	Muñoz et al. (2019), Schiavo et al. (2021) f/p
17:58697623-59711926	36	0.51 (0.01)	-
18:215145-14967118	442	0.60 (0.04)	Muñoz et al. (2019), Schiavo et al. (2021) f
18:44446104-44627584	7	0.50 (0.00)	-

¹ Chromosome and coordinate positions (start and end) of the ROH island.

² Number of SNPs included in the ROH island.

³ Mean frequency and standard deviation of the SNPs included in the ROH island.

⁴ Regions comprising signatures of selection identified by other studies with different approaches: Muñoz et al. (2019) with F_{ST} analyses; Bovo et al. (2020) with pooled heterozygosity (H) and F_{ST} analyses (F); Schiavo et al. (2021) with ROH island analyses based on various thresholds: SNPs present in a ROH in at least 50% of the genotyped population (f); 99th percentile SNPs in a ROH (p); threshold depending on the overall coverage in ROH (s).

Table S6. Distribution of SNPs within the 99th and 99.9th percentiles in the iHS analysis.

SSC ¹	No of informative SNPs ²	99th ³	99.9th ⁴
1	1344	7	0
2	1307	5	0
3	1233	16	2
4	1628	15	0
5	802	6	1
6	2014	32	0
7	1666	10	1
8	234	2	0
9	1216	9	7
10	118	0	0
11	644	3	0
12	521	14	1
13	1205	5	1
14	2140	20	2
15	1418	28	2
16	368	6	0
17	161	0	0
18	241	2	1

¹ *Sus scrofa* chromosome.

² Total number of informative SNPs per chromosome.

³ Number of SNPs in the 99th percentile.

⁴ Number of SNPs in the 99.9th percentile.

Table S7. Top 99.9th and 99th percentile SNPs identified in the iHS analysis with highlighted those that identified signals of signatures of selection (at least three consecutive with less than 1 Mb of distance). In bold, those that also matched ROH islands.

SNP	SSC	Position	iHS	P	Percentiles	Signals (progressive no.)	Other studies ¹
DRGA0000364	1	27449330	-0.010372	0.003609	99th		-
ALGA0118278	1	42241032	-0.003400	0.001180	99th		-
MARC0080112	1	45580780	-0.008705	0.003027	99th		-
MARC0008079	1	67187528	-0.010495	0.003652	99th		-
ASGA0003306	1	67278674	-0.010037	0.003492	99th		-
ALGA0004609	1	81087435	0.010879	0.003786	99th		-
ASGA0003638	1	81202837	0.010827	0.003768	99th		-
WU_10.2_2_33700153	2	31235697	-0.008952	0.003113	99th		-
H3GA0007317	2	109429724	0.004956	0.001721	99th		-
ALGA0015589	2	123070322	0.008739	0.003039	99th	1	Schiavo et al. (2021) f
WU_10.2_2_128490093	2	123086483	0.008739	0.003039	99th	1	Schiavo et al. (2021) f
ALGA0015586	2	123116831	0.008739	0.003039	99th	1	Schiavo et al. (2021) f
MARC0054270	3	15947984	-0.004115	0.001428	99th		-
H3GA0055215	3	18297619	-0.007934	0.002758	99th		-
WU_10.2_3_20872357	3	20543691	-0.004483	0.001556	99th		-
ALGA0124476	3	27597984	-0.008070	0.002805	99th		-
WU_10.2_3_32685787	3	31895974	0.007755	0.002696	99th		-
ALGA0018558	3	36760253	0.000316	0.000110	99.9th		-
ASGA0014499	3	47990150	0.006687	0.002323	99th		-
MARC0071357	3	48736419	-0.003660	0.001270	99th		-
WU_10.2_3_67506828	3	64328012	-0.010100	0.003514	99th		-
CASI0004604	3	87448969	0.005181	0.001799	99th		-
MARC0060764	3	102730198	0.003894	0.001351	99th		-
ALGA0020662	3	106551256	0.000836	0.000290	99.9th	2	Muñoz et al. (2019)
ALGA0020674	3	106629419	0.002198	0.000762	99th	2	Muñoz et al. (2019)
WU_10.2_3_113598607	3	106649932	0.002198	0.000762	99th	2	Muñoz et al. (2019)
H3GA0010320	3	106674030	0.002198	0.000762	99th	2	Muñoz et al. (2019)

ASGA0015801	3	106803035	0.002198	0.000762	99th	2	Muñoz et al. (2019)
WU_10.2_4_13953867	4	13515405	0.003675	0.001275	99th		Schiavo et al. (2021) f
ALGA0023916	4	20318986	0.009527	0.003314	99th		Schiavo et al. (2021) f
ALGA0025036	4	50116546	-0.003847	0.001335	99th		-
ALGA0025269	4	57681269	0.009040	0.003144	99th	3	Schiavo et al. (2021) f
ASGA0019781	4	57720796	0.009040	0.003144	99th	3	Schiavo et al. (2021) f
ALGA0025268	4	57738825	0.009040	0.003144	99th	3	Schiavo et al. (2021) f
ASGA0019919	4	64021390	0.005344	0.001856	99th		-
ASGA0020103	4	71056915	-0.006355	0.002208	99th		Schiavo et al. (2021) f
ALGA0026051	4	76028428	-0.007673	0.002667	99th		Schiavo et al. (2021) f
H3GA0013772	4	100056015	0.007202	0.002503	99th	4	-
WU_10.2_4_110397349	4	100679090	-0.006846	0.002379	99th	4	-
ALGA0027373	4	100971367	-0.005914	0.002054	99th	4	-
ALGA0027379	4	101134875	-0.001904	0.000660	99th	4	-
WU_10.2_4_111208001	4	101306504	-0.001904	0.000660	99th	4	-
WU_10.2_4_120927704	4	110233282	-0.004148	0.001440	99th		-
ASGA0024834	5	17293407	-0.002553	0.000886	99th		-
WU_10.2_5_19467341	5	19061553	0.004825	0.001675	99th		-
WU_10.2_5_62199482	5	58854272	0.008597	0.002989	99th		-
WU_10.2_5_63468345	5	60373658	-0.003497	0.001213	99th		Schiavo et al. (2021) f
MARC0013873	5	79815601	0.003069	0.001065	99th		-
WU_10.2_5_90997070	5	86515044	0.000847	0.000294	99.9th		-
ASGA0093627	6	10750175	0.008736	0.003038	99th		-
ASGA0027650	6	15763225	-0.002803	0.000972	99th		-
MARC0092953	6	18775570	-0.010463	0.003641	99th		-
MARC0003290	6	25884885	-0.009912	0.003448	99th		-
WU_10.2_6_32079033	6	36932089	-0.002905	0.001008	99th		-
WU_10.2_6_32105054	6	36958111	-0.002905	0.001008	99th		-
MARC0013086	6	45804490	0.009495	0.003303	99th		-
WU_10.2_14_143801280	6	47946317	-0.010462	0.003640	99th	5	-
MARC0067005	6	47971494	-0.010462	0.003640	99th	5	-
WU_10.2_14_143752406	6	47990340	-0.010462	0.003640	99th	5	-

WU_10.2_14_143732890	6	48011157	-0.010462	0.003640	99th	5	-
WU_10.2_14_143723014	6	48021032	-0.010462	0.003640	99th	5	-
MARC0032442	6	54530101	0.008056	0.002800	99th	6	-
DIAS0000822	6	54535449	0.008056	0.002800	99th	6	-
H3GA0053555	6	54578570	0.008056	0.002800	99th	6	-
MARC0049189	6	54635475	0.008056	0.002800	99th	6	-
ASGA0028206	6	54827092	0.008075	0.002807	99th	6	-
M1GA0008527	6	54876969	0.008075	0.002807	99th	6	-
ASGA0028216	6	54961295	0.008075	0.002807	99th	6	-
ASGA0028211	6	55022419	0.008075	0.002807	99th	6	-
M1GA0008539	6	55065825	0.008075	0.002807	99th	6	-
H3GA0055471	6	119358759	-0.008207	0.002853	99th		-
MARC0102757	6	119382621	-0.008207	0.002853	99th		-
ASGA0029318	6	124634230	-0.002199	0.000763	99th		-
ALGA0036624	6	126198693	0.007836	0.002724	99th		-
ALGA0036626	6	126227295	0.007836	0.002724	99th		-
MARC0067538	6	129793350	-0.002572	0.000892	99th		-
ASGA0029425	6	132518046	0.007184	0.002497	99th		-
WU_10.2_6_132855160	6	143318442	-0.008649	0.003007	99th		-
WU_10.2_6_133156299	6	143618517	-0.006558	0.002278	99th		-
WU_10.2_6_134266656	6	145384551	0.006780	0.002356	99th		Muñoz et al. (2019)
ASGA0029661	6	145392721	0.006780	0.002356	99th		Muñoz et al. (2019)
MARC0101292	7	16427125	-0.004131	0.001434	99th		-
MARC0077442	7	25442390	0.008086	0.002811	99th		-
WU_10.2_7_31310181	7	26867773	-0.006288	0.002184	99th		-
H3GA0021445	7	45733937	-0.001284	0.000445	99.9th		-
ALGA0041685	7	48472175	0.006765	0.002350	99th		-
ALGA0042490	7	67678462	0.006024	0.002092	99th		-
WU_10.2_7_90664681	7	84737447	-0.004737	0.001644	99th		-
ASGA0034845	7	88172698	-0.002814	0.000976	99th		-
ASGA0034837	7	88236294	-0.003042	0.001056	99th		-
ALGA0043503	7	89270110	-0.006679	0.002321	99th		-

WU_10.2_8_85997597	8	80832011	0.004512	0.001566	99th		Schiavo et al. (2021) f
ALGA0049156	8	109734649	0.007323	0.002545	99th		Muñoz et al. (2019), Schiavo et al. (2021) f
MARC0004327	9	25938892	-0.001738	0.000603	99.9th		-
H3GA0027860	9	84566529	0.001489	0.000516	99.9th	7	-
ALGA0054078	9	84593678	0.001489	0.000516	99.9th	7	-
SIRI0001174	9	84944836	0.001181	0.000409	99.9th	7	-
ALGA0054090	9	85091355	0.001181	0.000409	99.9th	7	-
ALGA0054096	9	85154442	0.001181	0.000409	99.9th	7	-
ALGA0054098	9	85178689	0.001181	0.000409	99.9th	7	-
ALGA0054284	9	95550581	0.004323	0.001501	99th		-
ASGA0044062	9	95572942	0.004323	0.001501	99th		-
MARC0069602	11	31472254	0.007705	0.002678	99th		-
M1GA0026511	11	54156273	-0.010054	0.003498	99th		Schiavo et al. (2021) f
11_59280101	11	54220784	-0.010054	0.003498	99th		Schiavo et al. (2021) f
12_18954173	12	18639726	0.008630	0.003001	99th		-
WU_10.2_12_18926625	12	18667234	0.008630	0.003001	99th		-
CASI0010145	12	27382851	-0.008721	0.003033	99th	8	-
ALGA0114849	12	27607930	-0.000188	0.000065	99.9th	8	-
ALGA0065816	12	27939156	0.009009	0.003133	99th	8	-
ALGA0065836	12	28012232	0.006581	0.002286	99th	8	-
H3GA0052850	12	28052993	-0.009803	0.003410	99th	8	-
WU_10.2_12_39307673	12	37823958	-0.009722	0.003382	99th	9	-
WU_10.2_12_39438023	12	37852186	-0.009722	0.003382	99th	9	-
WU_10.2_12_39442355	12	37856517	-0.009722	0.003382	99th	9	-
WU_10.2_12_39460882	12	37872429	-0.009722	0.003382	99th	9	-
ALGA0111445	12	37948182	-0.009722	0.003382	99th	9	-
WU_10.2_12_40049479	12	38430392	0.004820	0.001673	99th	9	-
WU_10.2_12_42849657	12	41017405	0.004434	0.001539	99th		-
ALGA0069649	13	36487351	-0.006554	0.002277	99th		-
ASGA0057747	13	54723824	-0.003849	0.001336	99th		-
ALGA0070372	13	55042882	0.003807	0.001321	99th		-
ALGA0107905	13	109846265	-0.000758	0.000263	99.9th		Schiavo et al. (2021) f

MARC0092745	13	121276421	0.010679	0.003716	99th		Schiavo et al. (2021) f
DRGA0013628	14	13708197	-0.009961	0.003465	99th		Schiavo et al. (2021) f
H3GA0039144	14	15984992	0.008959	0.003116	99th		Schiavo et al. (2021) f
ALGA0075941	14	19673910	-0.009085	0.003160	99th		Schiavo et al. (2021) f
ALGA0076563	14	27422122	-0.002443	0.000847	99th		-
WU_10.2_14_32134935	14	30406999	-0.002514	0.000872	99th		-
ASGA0062543	14	31414485	0.000828	0.000287	99.9th		-
ASGA0062917	14	40078893	0.004784	0.001661	99th		Schiavo et al. (2021) f
ALGA0077099	14	40117526	0.004784	0.001661	99th		Schiavo et al. (2021) f
ALGA0077457	14	47826895	-0.001111	0.000385	99.9th	10	Schiavo et al. (2021) f
H3GA0040138	14	48143820	0.007037	0.002445	99th	10	Schiavo et al. (2021) f
ASGA0063296	14	48250503	0.006604	0.002294	99th	10	Schiavo et al. (2021) f
MARC0058459	14	48782016	-0.003952	0.001372	99th	10	Schiavo et al. (2021) f
ASGA0063908	14	60162431	0.004189	0.001454	99th		Muñoz et al. (2019), Schiavo et al. (2021) f
DRGA0013970	14	64191357	-0.006553	0.002277	99th		-
INRA0044786	14	69783258	-0.010879	0.003786	99th		Schiavo et al. (2021) f/p
ALGA0079103	14	78063962	0.005931	0.002060	99th		Schiavo et al. (2021) f
INRA0045115	14	78526259	0.006032	0.002095	99th		Schiavo et al. (2021) f
ASGA0064701	14	80059618	0.007879	0.002739	99th		Schiavo et al. (2021) f
WU_10.2_14_86835185	14	80302674	-0.005088	0.001767	99th		Schiavo et al. (2021) f
ALGA0081983	14	126020198	0.004698	0.001631	99th		-
WU_10.2_15_20890625	15	18419100	-0.006188	0.002150	99th		Schiavo et al. (2021) f
ALGA0084558	15	27298595	0.010870	0.003783	99th	11	Schiavo et al. (2021) f
WU_10.2_15_31827282	15	27382209	0.007398	0.002571	99th	11	Schiavo et al. (2021) f
ALGA0084569	15	27412163	0.007398	0.002571	99th	11	Schiavo et al. (2021) f
H3GA0053947	15	33865479	0.004501	0.001563	99th		-
H3GA0044181	15	33869346	0.004501	0.001563	99th		-
MARC0009458	15	90012606	0.004454	0.001546	99th	12	-
ALGA0086369	15	90584878	0.004454	0.001546	99th	12	-
ALGA0086370	15	90617583	0.004454	0.001546	99th	12	-
INRA0049870	15	90640846	0.004454	0.001546	99th	12	-
ALGA0086372	15	90690194	0.004454	0.001546	99th	12	-

ALGA0086374	15	90724025	0.004454	0.001546	99th	12	-
ALGA0086375	15	90742504	0.004454	0.001546	99th	12	-
DRGA0015292	15	90823336	0.004454	0.001546	99th	12	-
ALGA0086378	15	91114789	0.004454	0.001546	99th	12	-
H3GA0044718	15	91347879	0.004454	0.001546	99th	12	-
ALGA0086391	15	91427440	0.004454	0.001546	99th	12	-
ALGA0086392	15	91475969	0.004454	0.001546	99th	12	-
15_131513545	15	118797626	-0.004858	0.001687	99th		Schiavo et al. (2021) f
ASGA0070620	15	120351434	0.010400	0.003619	99th		Schiavo et al. (2021) f
ALGA0087190	15	125174580	0.003960	0.001374	99th	13	-
ASGA0070696	15	125185192	0.003960	0.001374	99th	13	-
WU_10.2_15_134919214	15	125199840	0.003960	0.001374	99th	13	-
WU_10.2_15_134842540	15	125221982	0.003960	0.001374	99th	13	-
WU_10.2_15_134886041	15	125267403	0.007339	0.002550	99th	13	-
WU_10.2_15_134777587	15	125339280	0.007339	0.002550	99th	13	-
MARC0034977	15	125390455	-0.000621	0.000215	99.9th	13	-
WU_10.2_15_139873551	15	126379518	-0.000006	0.000002	99.9th	13	-
ALGA0090520	16	42549068	-0.005245	0.001821	99th	14	-
ALGA0090527	16	42634215	-0.005245	0.001821	99th	14	-
WU_10.2_16_46256016	16	42980555	-0.005330	0.001851	99th	14	-
WU_10.2_16_47916509	16	44573177	0.009878	0.003436	99th		-
WU_10.2_16_56573278	16	52293663	-0.010882	0.003787	99th		-
H3GA0053095	16	55650747	-0.008472	0.002945	99th		-
WU_10.2_18_46086164	18	41773323	0.010282	0.003577	99th		-
ALGA0098358	18	43597777	-0.001589	0.000551	99.9th		-

¹ Regions comprising signatures of selection identified by other studies with different approaches: Muñoz et al. (2019) with F_{ST} analyses; Schiavo et al. (2021) with ROH island analyses based on various thresholds: SNPs present in a ROH in at least 50% of the genotyped population (f); 99th percentile SNPs in a ROH (p).

Table S8. ROH islands identified with SNPs present in ROH in at least 50% of the genotyped pigs, including iHS 99th percentile SNPs. In bold, signatures of selection identified with both approaches.

ROH island coordinates ¹	iHS SNP position	iHS SNP	iHS <i>p</i> -value
4:9796424-16878107	13515405	WU_10.2_4_13953867	0.001275
4:18573649-23121548	20318986	ALGA0023916	0.003314
4:43318571-89758404	50116546	ALGA0025036	0.001335
4:43318571-89758404	57681269	ALGA0025269	0.003144
4:43318571-89758404	57720796	ASGA0019781	0.003144
4:43318571-89758404	57738825	ALGA0025268	0.003144
4:43318571-89758404	64021390	ASGA0019919	0.001856
4:43318571-89758404	71056915	ASGA0020103	0.002208
4:43318571-89758404	76028428	ALGA0026051	0.002667
8:46773018-114694795	80832011	WU_10.2_8_85997597	0.001566
8:46773018-114694795	109734649	ALGA0049156	0.002545
12:17606564-18861894	18639726	12_18954173	0.003001
12:17606564-18861894	18667234	WU_10.2_12_18926625	0.003001
13:56984798-192503726	109846265	ALGA0107905	0.000263
13:56984798-192503726	121276421	MARC0092745	0.003716
14:11345561-20754947	13708197	DRGA0013628	0.003465
14:11345561-20754947	15984992	H3GA0039144	0.003116
14:11345561-20754947	19673910	ALGA0075941	0.00316
14:38016877-83843294	40078893	ASGA0062917	0.001661
14:38016877-83843294	40117526	ALGA0077099	0.001661
14:38016877-83843294	47826895	ALGA0077457	0.000385
14:38016877-83843294	48143820	H3GA0040138	0.002445
14:38016877-83843294	48250503	ASGA0063296	0.002294
14:38016877-83843294	48782016	MARC0058459	0.001372
14:38016877-83843294	60162431	ASGA0063908	0.001454
14:38016877-83843294	64191357	DRGA0013970	0.002277
14:38016877-83843294	69783258	INRA0044786	0.003786
14:38016877-83843294	78063962	ALGA0079103	0.00206
14:38016877-83843294	78526259	INRA0045115	0.002095
14:38016877-83843294	80059618	ASGA0064701	0.002739
14:38016877-83843294	80302674	WU_10.2_14_86835185	0.001767
15:119181219-121133798	120351434	ASGA0070620	0.003619
16:45944534-53553838	52293663	WU_10.2_16_56573278	0.003787

¹ Chromosome and coordinate positions (start and end) of the ROH island.

Table S9. Gene annotation of ROH islands identified with the 99th percentile threshold.

SSC ¹	ROH island start position ²	ROH island end position ³	Gene position: start ⁴	Gene position: end ⁵	Gene symbol
1	252973690	253112372	252986716	253093059	<i>PTBP3</i>
1	254194333	258733435	254711820	254720559	<i>KIF12</i>
1	254194333	258733435	254939154	254943065	<i>ORM1</i>
1	254194333	258733435	254962957	254967528	<i>LOC110256124</i>
1	254194333	258733435	255207373	255211836	<i>TEX48</i>
1	254194333	258733435	257622063	257629864	<i>LOC110256902</i>
1	254194333	258733435	258376685	258389764	<i>LOC110257087</i>
1	254194333	258733435	254337551	254351651	<i>LOC110257083</i>
1	254194333	258733435	254683885	254703220	<i>AMBP</i>
1	254194333	258733435	254721545	254725218	<i>LOC106509240</i>
1	254194333	258733435	254942874	255004453	<i>AKNA</i>
1	254194333	258733435	255168666	255195980	<i>TMEM268</i>
1	254194333	258733435	257051421	257066911	<i>TRIM32</i>
1	254194333	258733435	257844499	257884406	<i>LOC102163214</i>
1	254194333	258733435	254078618	254211805	<i>RGS3</i>
1	254194333	258733435	254477856	254679347	<i>ZNF618</i>
1	254194333	258733435	255009765	255095281	<i>WHRN</i>
1	254194333	258733435	255533235	255630381	<i>TNC</i>
1	254194333	258733435	256544496	256784813	<i>PAPPA</i>
1	254194333	258733435	258307056	258362548	<i>LOC110257084</i>
1	254194333	258733435	254768576	254924893	<i>COL27A1</i>
1	254194333	258733435	255736585	255904317	<i>LOC102161373</i>
1	254194333	258733435	256825466	257740676	<i>ASTN2</i>
8	23848828	26603667	24232031	24236372	<i>LOC110262003</i>
8	23848828	26603667	25448743	25457814	<i>LOC102162681</i>
8	23848828	26603667	24623459	24665035	<i>LOC110262071</i>
8	86032397	88023321	86255028	86256907	<i>LOC100624892</i>
8	86032397	88023321	86688070	86690490	<i>LOC110262150</i>
8	86032397	88023321	87459598	87465271	<i>LOC100739463</i>

8	86032397	88023321	86019111	86036738	<i>ZNF330</i>
8	86032397	88023321	86069231	86085233	<i>LOC106504720</i>
8	86032397	88023321	86522028	86526162	<i>UCP1</i>
8	86032397	88023321	86527970	86546652	<i>ELMOD2</i>
8	86032397	88023321	86566554	86617453	<i>MGAT4D</i>
8	86032397	88023321	86617601	86623835	<i>LOC102162631</i>
8	86032397	88023321	86680782	86690691	<i>SCOC</i>
8	86032397	88023321	87318180	87394563	<i>MGST2</i>
8	86032397	88023321	87478266	87527190	<i>SETD7</i>
8	86032397	88023321	87570013	87609083	<i>LOC102162389</i>
8	86032397	88023321	87885411	87909231	<i>NOCT</i>
8	86032397	88023321	86087938	86330418	<i>RNF150</i>
8	86032397	88023321	86402745	86518182	<i>TBC1D9</i>
8	86032397	88023321	86621120	86674994	<i>CLGN</i>
8	86032397	88023321	86690729	86826643	<i>LOC110262151</i>
8	86032397	88023321	87422467	87445671	<i>LOC110262152</i>
8	86032397	88023321	87545106	87570545	<i>RAB33B</i>
8	86032397	88023321	87608439	87691313	<i>NAA15</i>
8	86032397	88023321	87774594	87878847	<i>ELF2</i>
8	86032397	88023321	87912816	87951123	<i>LOC110262015</i>
8	86032397	88023321	86879353	87323123	<i>MAML3</i>
8	93688527	101826311	97441898	97450209	<i>LOC102158494</i>
8	93688527	101826311	101322911	101323418	<i>LOC110261982</i>
8	93688527	101826311	101502188	101514358	<i>LOC110262160</i>
8	93688527	101826311	101640938	101645683	<i>IL2</i>
8	93688527	101826311	95199490	95219084	<i>LOC102164088</i>
8	93688527	101826311	96641208	96693568	<i>LOC102166663</i>
8	93688527	101826311	96751295	96856069	<i>LARP1B</i>
8	93688527	101826311	96887464	96924862	<i>ABHD18</i>
8	93688527	101826311	96925063	96972390	<i>MFSD8</i>
8	93688527	101826311	97013360	97056003	<i>LOC102167943</i>
8	93688527	101826311	97032179	97088240	<i>HSPA4L</i>

8	93688527	101826311	97095503	97120940	<i>SLC25A31</i>
8	93688527	101826311	99776308	99783639	<i>LOC102159784</i>
8	93688527	101826311	99782797	99828655	<i>ANKRD50</i>
8	93688527	101826311	101241155	101302760	<i>NUDT6</i>
8	93688527	101826311	101354891	101435417	<i>BBS12</i>
8	93688527	101826311	101430196	101433752	<i>LOC100622849</i>
8	93688527	101826311	101488284	101500749	<i>LOC110262159</i>
8	93688527	101826311	101523430	101540592	<i>LOC110262161</i>
8	93688527	101826311	93649052	93884456	<i>LOC110262017</i>
8	93688527	101826311	93939938	94073596	<i>LOC396566</i>
8	93688527	101826311	95865140	95949398	<i>C8H4orf33</i>
8	93688527	101826311	95949460	96199116	<i>SCLT1</i>
8	93688527	101826311	96989011	97013324	<i>PLK4</i>
8	93688527	101826311	97123062	97204659	<i>INTU</i>
8	93688527	101826311	99141967	99312131	<i>FAT4</i>
8	93688527	101826311	99309421	99520976	<i>LOC106504728</i>
8	93688527	101826311	101278877	101344084	<i>FGF2</i>
8	93688527	101826311	101737084	101937212	<i>KIAA1109</i>
8	93688527	101826311	96208217	96564132	<i>JADE1</i>
8	93688527	101826311	101644084	101715418	<i>ADAD1</i>
8	93688527	101826311	100449476	100863780	<i>SPRY1</i>
9	67987	1529819	518449	519710	<i>ASCL3</i>
9	67987	1529819	527691	528409	<i>LOC110255346</i>
9	67987	1529819	528817	531650	<i>LOC110255347</i>
9	67987	1529819	560793	572869	<i>LOC110262312</i>
9	67987	1529819	708531	712410	<i>RPL27A</i>
9	67987	1529819	757455	760464	<i>LOC110255348</i>
9	67987	1529819	1021095	1028514	<i>LOC102158037</i>
9	67987	1529819	1323258	1325761	<i>LOC100736607</i>
9	67987	1529819	1353301	1356664	<i>LOC100736745</i>
9	67987	1529819	1409516	1413311	<i>LOC100521027</i>
9	67987	1529819	1432676	1434790	<i>LOC100736678</i>

9	67987	1529819	1454509	1455738	<i>LOC100521386</i>
9	67987	1529819	1484569	1486416	<i>LOC100522088</i>
9	67987	1529819	45164	104776	<i>ZNF143</i>
9	67987	1529819	199151	223896	<i>LOC102164595</i>
9	67987	1529819	223973	249813	<i>TMEM41B</i>
9	67987	1529819	268372	357334	<i>DENND5A</i>
9	67987	1529819	462623	510263	<i>TMEM9B</i>
9	67987	1529819	711571	769799	<i>TRIM66</i>
9	67987	1529819	1183821	1260209	<i>TUB</i>
9	67987	1529819	1291660	1297987	<i>EIF3F</i>
9	67987	1529819	1343299	1345295	<i>LOC100520502</i>
9	67987	1529819	1358994	1371472	<i>LOC110255349</i>
9	67987	1529819	1473850	1475114	<i>LOC100522815</i>
9	67987	1529819	111657	163137	<i>IPO7</i>
9	67987	1529819	389806	457651	<i>SCUBE2</i>
9	67987	1529819	513383	537779	<i>AKIP1</i>
9	67987	1529819	653814	703383	<i>ST5</i>
9	67987	1529819	786619	937978	<i>STK33</i>
9	67987	1529819	1134915	1183873	<i>RIC3</i>
9	67987	1529819	1045138	1082974	<i>LMO1</i>
10	61953693	63109993	62851310	62854267	<i>LOC110255714</i>
10	61953693	63109993	61907283	61970316	<i>LOC110255605</i>
10	64840437	65091626	64939694	64945072	<i>LOC110255721</i>
10	64840437	65091626	64776315	64859118	<i>PFKFB3</i>
10	64840437	65091626	64886433	64909006	<i>RBM17</i>
10	64840437	65091626	64910606	64918999	<i>LOC110255720</i>
10	64840437	65091626	64948149	65001320	<i>IL2RA</i>
10	64840437	65091626	65022227	65054385	<i>IL15RA</i>
10	64840437	65091626	65060714	65108975	<i>FBXO18</i>
17	42675969	44262254	43208083	43214045	<i>LOC110257425</i>
17	42675969	44262254	43408390	43411782	<i>MAFB</i>
17	42675969	44262254	43649886	43654283	<i>LOC110257414</i>

17	42675969	44262254	43799253	43810089	<i>LOC110257392</i>
17	42675969	44262254	43792888	43797284	<i>LOC110257501</i>
17	42675969	44262254	43810003	43844553	<i>PLCG1</i>
17	42675969	44262254	44006838	44013501	<i>EMILIN3</i>
17	42675969	44262254	43710270	43799700	<i>TOP1</i>
17	42675969	44262254	43848345	43963084	<i>ZHX3</i>
17	42675969	44262254	44048056	44265472	<i>CHD6</i>

¹ *Sus scrofa* chromosome.

^{2,3} Coordinate positions (nucleotides for the start and end positions) of the ROH island.

^{4,5} Coordinate positions (nucleotides for the start and end positions) of the annotated genes.

Table S10. Gene annotation of signatures of selection regions identified with the iHS approach.

SSC ¹	Position ²	SNP	Signals ³	Gene position: start ⁴	Gene position: end ⁵	Gene symbol	Distance in bp ⁶
2	123070322	ALGA0015589	1	123003077	123142865	<i>DMXL1</i>	0
2	123086483	WU_10.2_2_128490093	1	123003077	123142865	<i>DMXL1</i>	0
2	123116831	ALGA0015586	1	123003077	123142865	<i>DMXL1</i>	0
3	106551256	ALGA0020662	2	106300748	106724538	<i>LTBP1</i>	0
3	106629419	ALGA0020674	2	106300748	106724538	<i>LTBP1</i>	0
3	106649932	WU_10.2_3_113598607	2	106300748	106724538	<i>LTBP1</i>	0
3	106674030	H3GA0010320	2	106300748	106724538	<i>LTBP1</i>	0
3	106803035	ASGA0015801	2	106822203	106999125	<i>TTC27</i>	19168
4	57681269	ALGA0025269	3	57677895	57744713	<i>IL7</i>	0
4	57720796	ASGA0019781	3	57677895	57744713	<i>IL7</i>	0
4	57738825	ALGA0025268	3	57677895	57744713	<i>IL7</i>	0
4	100056015	H3GA0013772	4	99970388	100058291	<i>BCL9</i>	0
4	100679090	WU_10.2_4_110397349	4	100646939	100863353	<i>LOC100624559</i>	0
4	100971367	ALGA0027373	4	100951522	101152348	<i>NOTCH2</i>	0
4	101134875	ALGA0027379	4	100951522	101152348	<i>NOTCH2</i>	0
4	101306504	WU_10.2_4_111208001	4	101285123	101301055	<i>LOC102159652</i>	5449
6	47946317	WU_10.2_14_143801280	5	47946679	47948710	<i>LOC102161030</i>	362
6	47971494	MARC0067005	5	47971270	47981532	<i>LRFN1</i>	0
6	47990340	WU_10.2_14_143752406	5	47990241	47997332	<i>GMFG</i>	0
6	48011157	WU_10.2_14_143732890	5	48002726	48046563	<i>SAMD4B</i>	0
6	48021032	WU_10.2_14_143723014	5	48002726	48046563	<i>SAMD4B</i>	0
6	54530101	MARC0032442	6	54528905	54551645	<i>ALDH16A1</i>	0
6	54535449	DIAS0000822	6	54528905	54551645	<i>ALDH16A1</i>	0
6	54578570	H3GA0053555	6	54577414	54579797	<i>RPS11</i>	0
6	54635475	MARC0049189	6	54618977	54636031	<i>NOSIP</i>	0
6	54827092	ASGA0028206	6	54823680	54830425	<i>FUZ</i>	0
6	54876969	M1GA0008527	6	54870359	54880814	<i>PNKP</i>	0
6	54961295	ASGA0028216	6	54964008	54969235	<i>SIGLEC11</i>	2713

6	55022419	ASGA0028211	6	54973734	55041607	<i>VRK3</i>	0
6	55065825	M1GA0008539	6	55059627	55069937	<i>IZUMO2</i>	0
9	84566529	H3GA0027860	7	84551874	84931146	<i>AGMO</i>	0
9	84593678	ALGA0054078	7	84551874	84931146	<i>AGMO</i>	0
9	84944836	SIRI0001174	7	84551874	84931146	<i>AGMO</i>	13690
9	85091355	ALGA0054090	7	85010443	85020175	<i>LOC106504971</i>	71180
9	85154442	ALGA0054096	7	85010443	85020175	<i>LOC106504971</i>	134267
9	85178689	ALGA0054098	7	85310482	85357173	<i>LOC110255479</i>	131793
12	27382851	CASI0010145	8	27372164	27373922	<i>LOC106505444</i>	8929
12	27607930	ALGA0114849	8	27526180	27565177	<i>UTP18</i>	42753
12	27939156	ALGA0065816	8	27979321	28619022	<i>CA10</i>	40165
12	28012232	ALGA0065836	8	27979321	28619022	<i>CA10</i>	0
12	28052993	H3GA0052850	8	27979321	28619022	<i>CA10</i>	0
12	37823958	WU_10.2_12_39307673	9	37720133	37944048	<i>USP32</i>	0
12	37852186	WU_10.2_12_39438023	9	37720133	37944048	<i>USP32</i>	0
12	37856517	WU_10.2_12_39442355	9	37720133	37944048	<i>USP32</i>	0
12	37872429	WU_10.2_12_39460882	9	37720133	37944048	<i>USP32</i>	0
12	37948182	ALGA0111445	9	37949378	37962994	<i>LOC110256037</i>	1196
12	38430392	WU_10.2_12_40049479	9	38450708	38457583	<i>LHX1</i>	20316
14	47826895	ALGA0077457	10	47799778	47809893	<i>LOC100525309</i>	17002
14	48143820	H3GA0040138	10	48126807	48153103	<i>DRG1</i>	0
14	48250503	ASGA0063296	10	48210539	48303510	<i>SFII</i>	0
14	48782016	MARC0058459	10	48760057	49007759	<i>LOC102158332</i>	0
15	27298595	ALGA0084558	11	26875305	27740340	<i>CNTNAP5</i>	0
15	27382209	WU_10.2_15_31827282	11	26875305	27740340	<i>CNTNAP5</i>	0
15	27412163	ALGA0084569	11	26875305	27740340	<i>CNTNAP5</i>	0
15	90012606	MARC0009458	12	89842424	90150352	<i>ZNF804A</i>	0
15	90584878	ALGA0086369	12	90309791	90323809	<i>LOC106506288</i>	261069
15	90617583	ALGA0086370	12	90902067	91000873	<i>FSIP2</i>	284484
15	90640846	INRA0049870	12	90902067	91000873	<i>FSIP2</i>	261221
15	90690194	ALGA0086372	12	90902067	91000873	<i>FSIP2</i>	211873
15	90724025	ALGA0086374	12	90902067	91000873	<i>FSIP2</i>	178042

15	90742504	ALGA0086375	12	90902067	91000873	<i>FSIP2</i>	159563
15	90823336	DRGA0015292	12	90902067	91000873	<i>FSIP2</i>	78731
15	91114789	ALGA0086378	12	90902067	91000873	<i>FSIP2</i>	113916
15	91347879	H3GA0044718	12	91493591	91517362	<i>ZC3H15</i>	145712
15	91427440	ALGA0086391	12	91493591	91517362	<i>ZC3H15</i>	66151
15	91475969	ALGA0086392	12	91493591	91517362	<i>ZC3H15</i>	17622
15	125174580	ALGA0087190	13	124954326	124959520	<i>LOC110257090</i>	215060
15	125185192	ASGA0070696	13	124954326	124959520	<i>LOC110257090</i>	225672
15	125199840	WU_10.2_15_134919214	13	124954326	124959520	<i>LOC110257090</i>	240320
15	125221982	WU_10.2_15_134842540	13	124954326	124959520	<i>LOC110257090</i>	262462
15	125267403	WU_10.2_15_134886041	13	125522685	125528929	<i>LOC102160902</i>	255282
15	125339280	WU_10.2_15_134777587	13	125522685	125528929	<i>LOC102160902</i>	183405
15	125390455	MARC0034977	13	125522685	125528929	<i>LOC102160902</i>	132230
15	126379518	WU_10.2_15_139873551	13	126287393	126346496	<i>LOC102163217</i>	33022
16	42549068	ALGA0090520	14	42479812	42484365	<i>HTR1A</i>	64703
16	42634215	ALGA0090527	14	42686225	42951928	<i>RNF180</i>	52010
16	42980555	WU_10.2_16_46256016	14	42935423	43062238	<i>LOC110257331</i>	0

¹ *Sus scrofa* chromosome.

² Coordinate position of the SNP.

³ Progressive number of the iHS signals (regions) as reported in Table S6.

^{4,5} Coordinate positions (nucleotides for the start and end positions) of the annotated genes.

⁶ Distance in nucleotides of the SNP from the closest gene reported. When the SNP was located within the reported gene, “0” nucleotides was indicated.

Table S11. Functional gene enrichment analyses obtained using the GWAS Catalog Database v.2025 for the list of genes included in the ROH islands identified with the 99th percentile threshold alone and with a combined list that also merged the list of gene annotated in the 14 iHS signal regions.

Functional term ¹	With genes in ROH islands		With genes in ROH islands + iHS signals	
	<i>p</i> -value ¹	Odds ratio ²	Adjusted <i>p</i> -value ³	Odds ratio ⁴
Body Mass Index (Age Less Than50)	1.77E-10	91.33	2.63E-08	54.67
Body Mass Index × Sex × Age Interaction	2.04E-07	38.06	2.77E-05	22.79
Malaria	8.91E-05	11.68	0.00003292	6.86
Soluble Interleukin-2 Receptor Subunit Alpha	0.00007844	272.89	0.0004085	169.89
Alopecia Areata	0.0009035	18.15	0.01061	11.18
Irritable Bowel Syndrome	0.004420	40.90	0.01919	25.46
Body Mass Index In Physically Active Individuals	0.005589	17.24	0.02933	10.68
Body Mass Index (Main Effects And Physical Activity Interaction)	0.007055	15.11	0.03597	9.36
Asthma (Bronchodilator Response)	0.007055	134.59	0.02571	84.22
Selective Iga Deficiency	0.007951	27.25	0.03300	16.97
Small Vessel Stroke	0.01072	89.72	0.03300	56.14
Select Biomarker Traits	0.01572	67.28	0.04079	42.10
Body Mass Index	0.03015	3.08	-	-
Total Cholesterol Levels	0.03043	6.55	0.01919	5.80
Atopic Dermatitis	0.03555	13.61	-	-
Male-Pattern Baldness	0.03990	5.95	0.02571	5.27
Triglyceride Levels In Hiv Infection	0.04175	12.18	-	-
Asthma Or Allergic Disease (Pleiotropy)	0.04175	7.58	-	-
Asthma And Hay Fever	0.04700	26.90	-	-
Response To Fenofibrate (Hdl Levels)	0.04700	26.90	-	-
Osteoarthritis (Hip)	0.04891	25.62	-	-
Shoulder Impingement Or Rotator Cuff Tear	-	-	0.04079	42.10

¹Multiple-testing adjusted *p*-value considering only genes annotated in ROH islands (99% threshold).

²Enrichment strength considering only genes annotated in ROH islands (99% threshold).

³Multiple-testing adjusted *p*-value considering genes annotated both in ROH islands (99% threshold) and in iHS regions.

⁴Enrichment strength considering genes annotated both in ROH islands (99% threshold) and in iHS regions.

Table S12. Functional gene enrichment analyses obtained using the Jensen DISEASE Database v. 2025 for the list of genes included in the ROH islands identified with the 99th percentile threshold alone and with a combined list that also merged the list of gene annotated in the 14 iHS signal regions.

Functional term	With genes in ROH islands		With genes in ROH islands + iHS signals	
	<i>p</i> -value ²	Odds ratio ³	<i>p</i> -value ³	Odds ratio ⁴
NUTRITION DISEASE	0.003280	18.09	0.02181	11.20
OBESITY	0.003280	18.09	0.02181	11.20
OVERNUTRITION	0.003280	18.09	0.02181	11.20
ACQUIRED METABOLIC DISEASE	0.003865	15.99	0.02535	9.90
BARDET-BIEDL SYNDROME	0.06706	24.45	0.1880	15.30
ARTHRITIS	0.06885	9.59	0.2149	5.97
BONE INFLAMMATION DISEASE	0.08188	8.49	0.2149	5.28

¹Multiple-testing adjusted *p*-value considering only genes annotated in ROH islands (99% threshold).

²Enrichment strength considering only genes annotated in ROH islands (99% threshold).

³Multiple-testing adjusted *p*-value considering genes annotated both in ROH islands (99% threshold) and in iHS regions.

⁴Enrichment strength considering genes annotated both in ROH islands (99% threshold) and in iHS regions.