

Genomic differentiation between swamp and river buffalo using a cattle high-density single nucleotide polymorphism panel

Lucia Pérez-Pardal, Shanyuan Chen, Vânia Costa, Xuehong Liu, Julio Carneiro, Albano Beja-Pereira

Supplementary Material

Table S2. List of SNPs classified in high, moderate and low impact effect, according with the classification of SNPEff program. Modifier category is not included. Third column specify the coding effect, indicating only synonymous and non_synonymous changes with the exception of SNP BovineHD1100013785.

SNP NAME	EFFECT IMPACT	EFFECT
Hapmap52897-rs29012790	LOW	SYNONYMOUS CODING
BovineHD0100016063	LOW	SYNONYMOUS CODING
BovineHD0100018867	LOW	SYNONYMOUS CODING
BovineHD0100023435	LOW	SYNONYMOUS CODING
BovineHD0100030372	LOW	SYNONYMOUS CODING
BovineHD0100033170	LOW	
BovineHD0100033729	LOW	SYNONYMOUS CODING
BovineHD0100033833	LOW	
BovineHD0100041531	LOW	SYNONYMOUS CODING
BovineHD0100042083	LOW	SYNONYMOUS CODING
BovineHD0100042697	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-74920	LOW	SYNONYMOUS CODING
BovineHD0200001374	LOW	SYNONYMOUS CODING
BovineHD0200005171	LOW	SYNONYMOUS CODING
BovineHD0200005233	LOW	SYNONYMOUS CODING
Hapmap34168-BES3_Contig310_1112	LOW	SYNONYMOUS CODING
BovineHD0200012904	LOW	
BovineHD0200013276	LOW	SYNONYMOUS CODING
ARS-USMARC-Parent-DQ422949-rs29011466	LOW	SYNONYMOUS CODING
BovineHD0200030724	LOW	SYNONYMOUS CODING
BovineHD4100001558	LOW	SYNONYMOUS CODING
BovineHD0200034501	LOW	SYNONYMOUS CODING
BovineHD0200035778	LOW	SYNONYMOUS CODING
BovineHD0200036613	LOW	SYNONYMOUS CODING
BovineHD0200037011	LOW	
BovineHD0300004636	LOW	
BovineHD0300006545	LOW	SYNONYMOUS CODING
BovineHD0300008568	LOW	SYNONYMOUS CODING
BovineHD0300024102	LOW	
Hapmap57748-ss46526142	MODERATE	NON SYNONYMOUS CODING
BovineHD0300026844	LOW	SYNONYMOUS CODING
BovineHD0400001534	LOW	
BovineHD0400002955	LOW	SYNONYMOUS CODING
UA-IFASA-7669	MODERATE	NON SYNONYMOUS CODING
BovineHD0400010603	LOW	SYNONYMOUS CODING
BTB-00186089	MODERATE	NON SYNONYMOUS CODING

BovineHD4100002929	LOW	SYNONYMOUS CODING
BovineHD0400036202	LOW	SYNONYMOUS CODING
BovineHD0400030422	LOW	
BovineHD0400032575	LOW	SYNONYMOUS CODING
BovineHD0400033050	LOW	
BovineHD0400033120	LOW	
BovineHD0400033185	LOW	SYNONYMOUS CODING
BovineHD0400033478	LOW	SYNONYMOUS CODING
BovineHD0500002797	MODERATE	NON SYNONYMOUS CODING
ARS-BFGL-NGS-42778	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-53461	LOW	
BovineHD0500012023	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-58429	LOW	SYNONYMOUS CODING
BovineHD0500017974	LOW	
BTA-74078-no-rs	LOW	
BovineHD4100003887	LOW	SYNONYMOUS CODING
BTB-01267042	LOW	SYNONYMOUS CODING
BovineHD0500028061	LOW	SYNONYMOUS CODING
BovineHD0500028649	LOW	SYNONYMOUS CODING
BovineHD0500028705	LOW	SYNONYMOUS CODING
BovineHD0500029081	MODERATE	NON SYNONYMOUS CODING
ARS-BFGL-NGS-26124	LOW	SYNONYMOUS CODING
BovineHD0500029309	LOW	SYNONYMOUS CODING
BovineHD0500030597	LOW	
BovineHD0500030689	LOW	SYNONYMOUS CODING
BovineHD0500030769	LOW	SYNONYMOUS CODING
BovineHD0500031731	LOW	SYNONYMOUS CODING
BovineHD0500032088	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-35689	MODERATE	NON SYNONYMOUS CODING
BovineHD0500032174	LOW	SYNONYMOUS CODING
BovineHD0500033635	LOW	SYNONYMOUS CODING
BovineHD0600001619	LOW	SYNONYMOUS CODING
BovineHD0600002837	LOW	SYNONYMOUS CODING
BovineHD0600025548	LOW	SYNONYMOUS CODING
BovineHD0600026814	LOW	
BovineHD0600029006	LOW	SYNONYMOUS CODING
BovineHD0600029135	LOW	SYNONYMOUS CODING
BovineHD0600029548	LOW	SYNONYMOUS CODING
BovineHD0700000810	LOW	SYNONYMOUS CODING
BTB-01568825	LOW	SYNONYMOUS CODING
BovineHD0700003341	LOW	SYNONYMOUS CODING
BovineHD0700003993	LOW	SYNONYMOUS CODING
BovineHD0700005781	MODERATE	NON SYNONYMOUS CODING
BovineHD0700008584	LOW	SYNONYMOUS CODING
BovineHD0700012106	LOW	SYNONYMOUS CODING
BovineHD0700012270	LOW	SYNONYMOUS CODING
BovineHD0700012334	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-23938	MODERATE	NON SYNONYMOUS CODING
BovineHD0700012787	LOW	SYNONYMOUS CODING
BovineHD0700012883	LOW	
BovineHD0700015427	LOW	SYNONYMOUS CODING
BovineHD0700015744	LOW	

BovineHD0700017651	LOW	
BovineHD0700033101	LOW	SYNONYMOUS CODING
BovineHD0700019144	LOW	SYNONYMOUS CODING
BovineHD0700027062	LOW	SYNONYMOUS CODING
BovineHD0700027071	LOW	SYNONYMOUS CODING
BovineHD0700028431	LOW	
BovineHD0700028802	LOW	SYNONYMOUS CODING
BovineHD0800002737	LOW	
BovineHD0800006860	LOW	SYNONYMOUS CODING
BovineHD0800007480	LOW	SYNONYMOUS CODING
BovineHD0800007542	MODERATE	NON SYNONYMOUS CODING
BovineHD0800015317	LOW	SYNONYMOUS CODING
BovineHD0800015332	LOW	SYNONYMOUS CODING
BovineHD0800016415	LOW	SYNONYMOUS CODING
BovineHD0800019280	LOW	
BovineHD0800021126	LOW	SYNONYMOUS CODING
BovineHD0800022726	LOW	SYNONYMOUS CODING
BovineHD0800023090	LOW	
BovineHD0800024101	LOW	SYNONYMOUS CODING
BovineHD0800025649	LOW	SYNONYMOUS CODING
BovineHD0800027263	LOW	
BovineHD0800029666	LOW	SYNONYMOUS CODING
BovineHD0800030186	LOW	SYNONYMOUS CODING
BovineHD0800030316	LOW	SYNONYMOUS CODING
BovineHD0800031285	LOW	SYNONYMOUS CODING
BovineHD0900001806	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-100620	MODERATE	NON SYNONYMOUS CODING
BovineHD0900006532	LOW	SYNONYMOUS CODING
BovineHD4100007318	LOW	SYNONYMOUS CODING
BovineHD0900011464	LOW	SYNONYMOUS CODING
BovineHD0900018946	MODERATE	NON SYNONYMOUS CODING
BovineHD0900021048	LOW	SYNONYMOUS CODING
BovineHD1000000317	LOW	SYNONYMOUS CODING
BovineHD1000003938	LOW	SYNONYMOUS CODING
BovineHD1000005286	LOW	SYNONYMOUS CODING
BovineHD1000006193	LOW	SYNONYMOUS CODING
BovineHD1000009107	LOW	SYNONYMOUS CODING
BovineHD1000009477	LOW	SYNONYMOUS CODING
BTB-00419760	LOW	SYNONYMOUS CODING
BovineHD1000014241	LOW	
BovineHD1000017191	LOW	SYNONYMOUS CODING
BovineHD1100001226	LOW	SYNONYMOUS CODING
BovineHD1100004448	LOW	SYNONYMOUS CODING
BovineHD1100009169	LOW	SYNONYMOUS CODING
ARS-BFGL-BAC-13600	LOW	SYNONYMOUS CODING
BovineHD1100013025	LOW	SYNONYMOUS CODING
BovineHD1100013785	HIGH	SPLICE SITE DONOR
BovineHD1100014523	LOW	
BovineHD1100014536	LOW	SYNONYMOUS CODING
BovineHD1100024999	LOW	
BovineHD1100030208	LOW	
BovineHD1100030801	LOW	SYNONYMOUS CODING

BovineHD1200005547	LOW	SYNONYMOUS CODING
BovineHD1200010613	LOW	SYNONYMOUS CODING
BovineHD1200014486	LOW	
BovineHD1200014487	LOW	SYNONYMOUS CODING
BovineHD1200022733	LOW	SYNONYMOUS CODING
BovineHD1200025704	LOW	SYNONYMOUS CODING
BovineHD1300002669	LOW	SYNONYMOUS CODING
BovineHD1300004648	LOW	
BovineHD1300006353	LOW	SYNONYMOUS CODING
BovineHD1300024552	LOW	SYNONYMOUS CODING
BovineHD1300012810	LOW	SYNONYMOUS CODING
BovineHD1300015441	LOW	SYNONYMOUS CODING
BovineHD1300015746	LOW	SYNONYMOUS CODING
BovineHD1300017428	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-56157	MODERATE	
BovineHD1300021001	LOW	
BovineHD1300021517	LOW	
BovineHD1300021783	LOW	
UA-IFASA-4736	MODERATE	NON SYNONYMOUS CODING
BovineHD1300023651	LOW	SYNONYMOUS CODING
BovineHD1400000174	LOW	SYNONYMOUS CODING
BovineHD1400000194	LOW	
BovineHD1400001488	LOW	
BovineHD1400002850	LOW	SYNONYMOUS CODING
BovineHD1400002851	LOW	SYNONYMOUS CODING
BovineHD1400006533	LOW	SYNONYMOUS CODING
BovineHD1400006837	LOW	
BovineHD1400006973	LOW	SYNONYMOUS CODING
BovineHD1400009522	LOW	SYNONYMOUS CODING
BovineHD1400024475	LOW	SYNONYMOUS CODING
BovineHD1400013847	LOW	SYNONYMOUS CODING
BovineHD1400015265	LOW	SYNONYMOUS CODING
BovineHD1400020128	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-59070	MODERATE	NON SYNONYMOUS CODING
BovineHD1400021536	LOW	
BovineHD1500009759	LOW	SYNONYMOUS CODING
BovineHD1500011223	LOW	
BovineHD1500014577	LOW	SYNONYMOUS CODING
BovineHD1500015481	LOW	SYNONYMOUS CODING
BovineHD1500015686	LOW	
BovineHD1500017725	LOW	SYNONYMOUS CODING
BovineHD1500017934	MODERATE	NON SYNONYMOUS CODING
BovineHD1500018849	LOW	SYNONYMOUS CODING
BovineHD1500023585	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-16343	MODERATE	NON SYNONYMOUS CODING
BovineHD1500024529	LOW	
Hapmap35728-SCAFFOLD265480 4249	LOW	SYNONYMOUS CODING
BovineHD1600005374	LOW	SYNONYMOUS CODING
BovineHD1600012275	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-62674	LOW	SYNONYMOUS CODING
BovineHD1600014461	LOW	
BovineHD1600016770	LOW	SYNONYMOUS CODING

BovineHD1600021607	LOW	
BovineHD1600021668	LOW	SYNONYMOUS CODING
BovineHD1600022515	LOW	SYNONYMOUS CODING
BovineHD1600022628	LOW	SYNONYMOUS CODING
BovineHD1700011348	MODERATE	NON SYNONYMOUS CODING
BovineHD1700018158	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-32760	LOW	
BovineHD1700018306	LOW	SYNONYMOUS CODING
BovineHD1700019273	LOW	SYNONYMOUS CODING
BovineHD4100013292	LOW	SYNONYMOUS CODING
BovineHD1700021147	LOW	SYNONYMOUS CODING
BovineHD1800000501	LOW	SYNONYMOUS CODING
BovineHD1800004657	LOW	SYNONYMOUS CODING
BovineHD1800004909	LOW	SYNONYMOUS CODING
BovineHD4100013487	MODERATE	NON SYNONYMOUS CODING
BovineHD1800011861	LOW	SYNONYMOUS CODING
BovineHD1800014022	MODERATE	NON SYNONYMOUS CODING
BovineHD1800014139	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-54290	LOW	SYNONYMOUS CODING
BovineHD1800017095	LOW	SYNONYMOUS CODING
BovineHD1800018028	LOW	SYNONYMOUS CODING
BovineHD4100013812	LOW	SYNONYMOUS CODING
BovineHD1800018734	LOW	SYNONYMOUS CODING
BovineHD1900007088	LOW	SYNONYMOUS CODING
BovineHD1900008137	LOW	SYNONYMOUS CODING
BovineHD1900009136	LOW	SYNONYMOUS CODING
BovineHD1900009168	LOW	SYNONYMOUS CODING
BovineHD1900009193	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-39378	LOW	SYNONYMOUS CODING
BovineHD1900009403	LOW	
BovineHD1900011302	LOW	
BovineHD1900012085	LOW	SYNONYMOUS CODING
BovineHD1900015241	LOW	SYNONYMOUS CODING
BovineHD4100014405	LOW	SYNONYMOUS CODING
BovineHD2000009191	LOW	SYNONYMOUS CODING
BovineHD2000016660	LOW	SYNONYMOUS CODING
BovineHD2000016716	LOW	SYNONYMOUS CODING
BovineHD2000021105	MODERATE	NON SYNONYMOUS CODING
BTA-98320-no-rs	LOW	SYNONYMOUS CODING
BovineHD2100017169	LOW	SYNONYMOUS CODING
BovineHD2100020436	LOW	SYNONYMOUS CODING
BovineHD2200010496	LOW	SYNONYMOUS CODING
BovineHD2200014640	LOW	
BovineHD2200014740	LOW	SYNONYMOUS CODING
BovineHD2200015307	LOW	
BovineHD2200017399	LOW	SYNONYMOUS CODING
BovineHD2300002752	LOW	SYNONYMOUS CODING
BovineHD4100015987	LOW	SYNONYMOUS CODING
BovineHD2300004375	MODERATE	NON SYNONYMOUS CODING
BovineHD2300005217	LOW	SYNONYMOUS CODING
BovineHD2300007491	LOW	
BovineHD2300007593	LOW	SYNONYMOUS CODING

BovineHD2300007856	MODERATE	NON SYNONYMOUS CODING
ARS-BFGL-NGS-110774	LOW	SYNONYMOUS CODING
BovineHD2300008759	MODERATE	NON SYNONYMOUS CODING
BovineHD2300011759	LOW	SYNONYMOUS CODING
BovineHD2300014052	LOW	SYNONYMOUS CODING
BovineHD2300014195	LOW	SYNONYMOUS CODING
BovineHD2400001165	LOW	
BovineHD2400008243	LOW	SYNONYMOUS CODING
BovineHD2400009070	LOW	SYNONYMOUS CODING
BovineHD2400009109	MODERATE	NON SYNONYMOUS CODING
BovineHD2400009892	LOW	SYNONYMOUS CODING
UA-IFASA-5838	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-42149	LOW	SYNONYMOUS CODING
BovineHD2400012149	LOW	SYNONYMOUS CODING
BovineHD2500000264	LOW	
BovineHD2500000353	LOW	SYNONYMOUS CODING
BovineHD2500004142	LOW	SYNONYMOUS CODING
BovineHD2500005337	LOW	SYNONYMOUS CODING
BovineHD2500005603	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-57864	LOW	
BovineHD2500007710	LOW	SYNONYMOUS CODING
BovineHD2500008165	LOW	SYNONYMOUS CODING
BovineHD2500009137	LOW	SYNONYMOUS CODING
BovineHD2500010824	LOW	
BovineHD2600001107	LOW	SYNONYMOUS CODING
BovineHD26000009368	LOW	SYNONYMOUS CODING
BovineHD26000009517	LOW	SYNONYMOUS CODING
BovineHD2700002110	LOW	SYNONYMOUS CODING
BovineHD27000003913	LOW	SYNONYMOUS CODING
BovineHD2700004235	LOW	SYNONYMOUS CODING
BovineHD27000005507	LOW	SYNONYMOUS CODING
BovineHD2700012107	LOW	SYNONYMOUS CODING
BovineHD2800002451	LOW	
BovineHD2800002527	LOW	
BovineHD28000006634	LOW	
UA-IFASA-5633	LOW	SYNONYMOUS CODING
BovineHD2800011925	LOW	SYNONYMOUS CODING
BovineHD2800012699	LOW	
BovineHD2900001450	LOW	SYNONYMOUS CODING
BovineHD2900001645	LOW	SYNONYMOUS CODING
BovineHD29000005362	LOW	SYNONYMOUS CODING
BovineHD2900007930	MODERATE	NON SYNONYMOUS CODING
BovineHD2900008303	LOW	SYNONYMOUS CODING
BovineHD29000009778	LOW	
BovineHD2900012006	LOW	SYNONYMOUS CODING
ARS-BFGL-NGS-5958	MODERATE	NON SYNONYMOUS CODING