Table 2. Putative candidate genes in proximity of the significantly different markers between the Alpago sheep and the meat breeds and allele frequencies at each marker (\*)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| OAR | marker | position on OARv3.1 | Freq in Alpago | Freq in meat sheep | Fst | χ2 | P χ2 | Gene symbol |
| 1 | OAR1\_182821609.1 | 169588616 | 0.77 | 0.21 | 0.23 | 54.79 | 1.34E-13 | LOC101110901 |
| 1 | OAR1\_196572894.1 | 182207815 | 0.56 | 0.97 | 0.26 | 61.39 | 4.66E-15 | IGSF11 |
| 1 | s71677.1 | 187513941 | 0.35 | 0.03 | 0.21 | 47.98 | 4.31E-12 | ITGB5 |
| 1 | OAR1\_204473797.1 | 189618485 | 0.37 | 0 | 0.32 | 75.56 | 0 | SENP5 |
| 2 | OAR2\_26696117.1 | 25850068 | 0.87 | 0.33 | 0.19 | 45.34 | 1.66E-11 | SYK, AUH |
| 2 | OAR2\_33265994.1 | 32081592 | 0.66 | 0.99 | 0.27 | 60.28 | 8.22E-15 | DAPK1 |
| 2 | OAR2\_72534353\_X | 67927937 | 0.50 | 0.06 | 0.23 | 55.58 | 8.96E-14 | PGM5, FOXD4L1 |
| 2 | OAR2\_162435425.1 | 153167948 | 0.85 | 0.29 | 0.21 | 49.18 | 2.33E-12 | KCNJ3 |
| 3 | s76002.1 | 1059264 | 0.58 | 0.95 | 0.20 | 47.66 | 9.01E-12 | PPP1R26, OLFM1 |
| 3 | OAR3\_8971665.1 | 8636297 | 0.56 | 0.11 | 0.20 | 47.30 | 6.09E-12 | RPL12, ZNF79, GLUT8 |
| 3 | OAR3\_9056052.1 | 8719585 | 0.60 | 0.11 | 0.22 | 52.85 | 3.61E-13 | GARNL3 |
| 3 | OAR3\_112264725.1 | 105585637 | 0.39 | 0.04 | 0.20 | 46.53 | 9.01E-12 | ANAPC1 |
| 3 | OAR3\_149747723.1 | 139960392 | 0.56 | 0.97 | 0.25 | 57.91 | 2.74E-14 | SLC38A2, SLC38A1 |
| 3 | OAR3\_203054874.1 | 188590895 | 0.62 | 0.97 | 0.21 | 48.69 | 2.99E-12 | SSPN, BHLHE41 |
| 4 | s42939.1 | 9953142 | 0.70 | 0.99 | 0.20 | 47.27 | 6.20E-12 | CDK6 |
| 5 | s42939.1 | 32903045 | 0.44 | 0.05 | 0.21 | 48.89 | 2.71E-12 | - |
| 5 | OAR5\_84387193.1 | 76768166 | 0.43 | 0.05 | 0.21 | 48.89 | 0 | TENM2 |
| 6 | s34009.1 | 27601709 | 0.39 | 0.03 | 0.23 | 52.85 | 3.59E-13 | - |
| 6 | OAR6\_38042211.1 | 33989769 | 0.35 | 0.90 | 0.30 | 69.49 | 1.11E-16 | FAM190A |
| 6 | OAR6\_42528741.1 | 38255467 | 0.52 | 0.92 | 0.20 | 46.76 | 8.04E-12 | - |
| 6 | OAR6\_55628478.1 | 50334519 | 0.45 | 0.95 | 0.31 | 70.50 | 0 | LOC101109016, LOC101109273 |
| 6 | OAR6\_85047841.1 | 77889198 | 0.62 | 0.98 | 0.26 | 60.15 | 8.77E-15 | LOC101119476 |
| 9 | OAR9\_38185109.1 | 36246426 | 0.56 | 0.94 | 0.20 | 46.27 | 1.03E-11 | CHCHD7, SDR16C5 |
| 10 | OAR10\_24413196.1 | 24561101 | 0.27 | 0.77 | 0.19 | 45.03 | 1.94E-11 | POSTN, TRPC4 |
| 10 | OAR10\_24438051.1 | 24582181 | 0.33 | 0.02 | 0.20 | 47.46 | 5.60E-12 | POSTN, TRPC4 |
| 10 | s60968.1 | 33668510 | 0.45 | 0.06 | 0.19 | 45.26 | 1.73E-11 | ATP8A2 |
| 10 | OAR10\_69619704.1 | 67476593 | 0.63 | 0.96 | 0.19 | 45.51 | 1.52E-11 | GPC5 |
| 10 | DU455689\_544.1 | 86268830 | 0.52 | 0.05 | 0.27 | 62.48 | 2.66E-15 | RASA3 |
| 10 | OAR10\_93987978.1 | 86278436 | 0.48 | 0.06 | 0.21 | 49.09 | 2.44E-12 | RASA3 |
| 11 | OAR11\_52263542.1 | 49193942 | 0.18 | 0.74 | 0.22 | 51.56 | 1.38E-12 | TBCD |
| 11 | s02321.1 | 56879263 | 0.68 | 0.98 | 0.21 | 50.22 | 6.93E-13 | SDK2 |
| 12 | OAR12\_41603863.1 | 37251694 | 0.39 | 0.04 | 0.20 | 46.53 | 9.01E-12 | MYOC |
| 13 | OAR13\_16352990.1 | 12507130 | 0.5 | 0.93 | 0.23 | 53.02 | 3.30E-13 | - |
| 13 | s66925.1 | 78327043 | 0.66 | 0.16 | 0.21 | 50.04 | 1.51E-12 | BCAS4 |
| 14 | OAR14\_19577331.1 | 19158080 | 0.35 | 0.84 | 0.21 | 49.64 | 1.85E-12 | SALL1 |
| 15 | s53013.1 | 41659490 | 0.66 | 0.17 | 0.20 | 46.98 | 7.18E-12 | LYVE1 |
| 16 | OAR16\_20139006\_X.1 | 18358563 | 0.62 | 0.97 | 0.24 | 55.97 | 7.35E-14 | NDUFAF2 |
| 16 | OAR16\_59754765.1 | 54870002 | 0.16 | 0.70 | 0.20 | 45.73 | 1.36E-11 | - |
| 17 | OAR17\_19892737.1 | 17854558 | 0.52 | 0.05 | 0.28 | 65.44 | 5.55E-16 | SETD7 |
| 19 | OAR19\_2917094.1 | 2769667 | 0.58 | 0.09 | 0.24 | 57.19 | 3.95E-14 | ZCWPW2 |
| 19 | OAR19\_27057016.1 | 25618976 | 0.56 | 0.11 | 0.19 | 45.48 | 1.54E-11 | - |
| 19 | s35737.1 | 30792252 | 0.64 | 0.09 | 0.30 | 69.48 | 1.11E-16 | FOXP1 |
| 19 | OAR19\_33278780.1 | 31599394 | 0.08 | 0.79 | 0.36 | 83.32 | 0 | MITF |
| 21 | s51077.1 | 30010675 | 0.39 | 0.89 | 0.25 | 58.97 | 1.60E-14 | - |
| 22 | OAR22\_1443093.1 | 952918 | 0.04 | 0.65 | 0.25 | 57.98 | 2.64E-14 | - |
| 22 | s27865.1 | 43220669 | 0.27 | 0 | 0.23 | 53.34 | 4.78E-12 | METTL10 |
| 23 | OAR23\_65343161.1 | 61257201 | 0.52 | 0.07 | 0.23 | 54.54 | 1.53E-13 | SERPINB7, SERPINB2 |
| 26 | OAR26\_30335417.1 | 26245096 | 0.70 | 0.19 | 0.21 | 48.23 | 3.80E-12 | NRG1 |
| X | OARX\_49416451.1 | 42751645 | 0.58 | 0.09 | 0.24 | 57.19 | 3.95E-14 | LOC101103790 |
| X | OARX\_49519450.1 | 42834020 | 0.83 | 0.29 | 0.20 | 46.80 | 7.82E-12 | LOC101103790 |
| X | OARX\_49564109.1 | 42876169 | 0.22 | 0.77 | 0.22 | 52.01 | 5.51E-13 | LOC101103790 |
| X | OARX\_49585624.1 | 42898188 | 0.79 | 0.24 | 0.21 | 49.14 | 2.39E-12 | LOC101103790 |
| X | OARX\_71592298.1 | 73893601 | 0.52 | 0.09 | 0.20 | 47.78 | 4.78E-12 | CHM |
| X | OARX\_72164491.1 | 74388397 | 0.5 | 0.95 | 0.27 | 64.24 | 1.11E-15 | DACH2 |
| X | OARX\_72236232.1 | 74464263 | 0.56 | 0.04 | 0.33 | 77.47 | 0 | DACH2 |
| X | OARX\_72263548.1 | 74498463 | 0.43 | 0.95 | 0.33 | 77.47 | 0 | DACH2 |
| X | OARX\_72351736.1 | 74590448 | 0.47 | 0.93 | 0.24 | 57.04 | 4.27E-14 | DACH2 |

(\*) frequency refers to A allele for A/G SNPs and to C allele for C/T SNPs.