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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Supplement 1. List of all SNPs assessed |  |  |  |  |  |  |  |  |
|  |  | **Chromosome** |  | **Major/Minor** | **OR (95% CL)** | **MAF** | **FDR HWE P** |
| **Gene** | **Alias** | **Location** | **dbSNP ID** | **Allele** | **Heterozygous** | **Homozygous Var** | **NHW** | **HISP/NA** | **NHW** | **HISP/NA** |
| *ACVR1*  | ACTRI, ACVR1A, ACVRLK2, ALK2, FOP, SKR1, TSRI  | 2q23-q24  | rs10497191  | C/T  | 1.08 (0.97, 1.20)  | 1.19 (0.87, 1.64)  | 0.13 | 0.14 | 0.98 | 0.98 |
|   |   |   | rs10497192  | T/C  | 1.04 (0.94, 1.14)  | 1.12 (0.94, 1.34)  | 0.26 | 0.27 | 1.00 | 0.94 |
|   |   |   | rs10497193  | A/G  | 1.06 (0.96, 1.18)  | 1.06 (0.79, 1.42)  | 0.17 | 0.14 | 1.00 | 0.59 |
|   |   |   | rs10933443  | T/C  | 1.01 (0.92, 1.11)  | 1.08 (0.90, 1.31)  | 0.25 | 0.25 | 0.96 | 0.64 |
|   |   |   | rs1146035  | G/T  | 1.08 (0.97, 1.20)  | 1.21 (0.89, 1.64)  | 0.18 | 0.13 | 0.96 | 0.74 |
|   |   |   | rs1220134  | T/A  | 0.99 (0.90, 1.09)  | 1.06 (0.87, 1.29)  | 0.29 | 0.20 | 0.96 | 0.81 |
|   |   |   | rs17182166  | G/T  | 1.01 (0.90, 1.13)  | 1.43 (0.99, 2.08)  | 0.17 | 0.07 | 0.86 | 0.68 |
|   |   |   | rs17798043  | C/T  | 1.02 (0.87, 1.18)  | 0.61 (0.28, 1.30)  | 0.08 | 0.04 | 0.97 | 0.00 |
|   |   |   | rs2033962  | G/T  | 1.09 (0.98, 1.21)  | 1.18 (0.87, 1.60)  | 0.17 | 0.14 | 0.96 | 0.68 |
|   |   |   | rs2165436  | C/T  | 1.00 (0.90, 1.12)  | 1.05 (0.77, 1.43)  | 0.15 | 0.14 | 0.96 | 0.76 |
|   |   |   | rs2883605  | G/T  | 1.01 (0.87, 1.16)  | 1.04 (0.54, 1.99)  | 0.09 | 0.05 | 0.96 | 0.87 |
|   |   |   | rs4233672  | G/A  | 1.10 (1.00, 1.22)  | 1.03 (0.79, 1.34)  | 0.17 | 0.18 | 0.96 | 0.92 |
|   |   |   | rs4380178  | G/A  | 1.12 (1.00, 1.24)  | 1.19 (0.85, 1.67)  | 0.14 | 0.13 | 1.00 | 0.63 |
|   |   |   | rs4664901  | T/C  | 1.00 (0.91, 1.10)  | 1.10 (0.90, 1.36)  | 0.23 | 0.22 | 0.96 | 0.97 |
|   |   |   | rs6437117  | A/T  | 1.02 (0.92, 1.14)  | 1.28 (0.89, 1.84)  | 0.15 | 0.12 | 0.89 | 0.49 |
|   |   |   | rs920522  | T/C  | 1.13 (1.00, 1.29)  | 1.07 (0.61, 1.86)  | 0.07 | 0.08 | 0.96 | 0.78 |
| *ACVR2A*  | ACTRII, ACVR2  | 2q22.3  | rs1014064  | A/G  | 0.94 (0.85, 1.03)  | 0.97 (0.84, 1.11)  | 0.31 | 0.44 | 0.96 | 0.95 |
|   |   |   | rs10497025  | C/G  | 1.00 (0.90, 1.10)  | 1.03 (0.83, 1.27)  | 0.25 | 0.20 | 0.96 | 0.57 |
|   |   |   | rs1424941  | G/A  | 0.94 (0.85, 1.05)  | 1.09 (0.81, 1.48)  | 0.21 | 0.10 | 0.98 | 0.81 |
|   |   |   | rs2161983  | C/T  | 0.93 (0.84, 1.03)  | 0.97 (0.84, 1.12)  | 0.31 | 0.44 | 0.96 | 0.81 |
|   |   |   | rs3768687  | G/A  | 0.93 (0.84, 1.03)  | 0.98 (0.85, 1.13)  | 0.31 | 0.44 | 0.96 | 0.83 |
|   |   |   | rs3768688  | C/T  | 0.95 (0.86, 1.05)  | 1.03 (0.90, 1.18)  | 0.42 | 0.40 | 0.62 | 0.59 |
| *ACVR2B*  | ACTRIIB, ActR-IIB, MGC116908  | 3p22  | rs2276541  | A/G  | 1.02 (0.92, 1.13)  | 1.02 (0.89, 1.16)  | 0.38 | 0.49 | 0.96 | 0.84 |
|   |   |   | rs503327  | G/A  | 0.92 (0.81, 1.06)  | 0.59 (0.33, 1.06)  | 0.11 | 0.05 | 0.91 | 0.94 |
|   |   |   | rs928813  | G/T  | 1.10 (0.99, 1.23)  | 1.05 (0.92, 1.21)  | 0.57 | 0.34 | 0.96 | 0.20 |
| *ACVRL1*  | ACVRLK1, ALK-1, ALK1, HHT, HHT2, ORW2, SKR3, TSR-I  | 12q11-q14  | rs11169953  | C/T  | 0.92 (0.83, 1.01)  | 0.89 (0.75, 1.06)  | 0.32 | 0.29 | 0.98 | 0.59 |
|   |   |   | rs2641534  | C/T  | 0.91 (0.82, 1.02)  | 1.14 (0.79, 1.63)  | 0.12 | 0.14 | 0.97 | 0.27 |
|   |   |   | rs706819  | G/A  | 0.91 (0.82, 1.01)  | 0.98 (0.86, 1.13)  | 0.26 | 0.50 | 1.00 | 0.86 |
|   |   |   | rs7956340  | T/G  | 0.93 (0.84, 1.04)  | 0.84 (0.66, 1.09)  | 0.08 | 0.24 | 0.96 | 0.68 |
| *BMP1*  | FLJ44432, PCOLC, PCP, TLD  | 8p21  | rs11775186  | T/G  | 1.04 (0.91, 1.19)  | 0.79 (0.38, 1.62)  | 0.10 | 0.05 | 0.96 | 0.23 |
|   |   |   | rs12114940  | T/G  | 1.07 (0.96, 1.18)  | 1.10 (0.97, 1.26)  | 0.41 | 0.48 | 0.96 | 0.88 |
|   |   |   | rs13257482  | G/A  | 1.11 (1.01, 1.22)  | 0.82 (0.67, 1.01)  | 0.22 | 0.24 | 0.98 | 0.06 |
|   |   |   | rs3857979  | C/T  | 0.89 (0.80, 0.99)  | 0.93 (0.81, 1.06)  | 0.53 | 0.40 | 0.89 | 0.30 |
|   |   |   | rs3924229  | T/C  | 1.02 (0.90, 1.15)  | 0.96 (0.61, 1.53)  | 0.11 | 0.07 | 0.91 | 0.75 |
|   |   |   | rs3924231  | T/C  | 1.06 (0.96, 1.18)  | 0.82 (0.63, 1.08)  | 0.17 | 0.17 | 0.86 | 0.43 |
|   |   |   | rs4075478  | T/C  | 0.96 (0.86, 1.07)  | 1.08 (0.95, 1.23)  | 0.36 | 0.54 | 0.62 | 0.52 |
|   |   |   | rs4872360  | T/C  | 1.00 (0.91, 1.10)  | 0.93 (0.77, 1.13)  | 0.27 | 0.23 | 0.96 | 0.91 |
|   |   |   | rs7592  | G/A  | 0.98 (0.89, 1.08)  | 0.98 (0.83, 1.15)  | 0.33 | 0.29 | 0.96 | 0.59 |
|   |   |   | rs7812993  | A/G  | 1.00 (0.91, 1.10)  | 1.05 (0.84, 1.31)  | 0.22 | 0.20 | 0.96 | 0.63 |
| *BMP2*  | BMP2A  | 20p12  | rs1005464  | G/A  | 1.03 (0.94, 1.14)  | 1.03 (0.83, 1.26)  | 0.23 | 0.22 | 1.00 | 0.61 |
|   |   |   | rs15705  | A/C  | 1.07 (0.97, 1.19)  | 1.01 (0.79, 1.29)  | 0.23 | 0.14 | 0.96 | 0.27 |
|   |   |   | rs1979855  | T/C  | 0.97 (0.87, 1.09)  | 0.93 (0.68, 1.29)  | 0.18 | 0.10 | 0.89 | 0.63 |
|   |   |   | rs235770  | C/T  | 1.01 (0.92, 1.11)  | 1.01 (0.87, 1.17)  | 0.36 | 0.31 | 0.96 | 0.95 |
|   |   |   | rs3178250  | T/C  | 1.04 (0.94, 1.16)  | 0.91 (0.69, 1.19)  | 0.21 | 0.13 | 0.96 | 0.45 |
|   |   |   | rs7270163  | A/G  | 0.94 (0.85, 1.05)  | 0.88 (0.64, 1.20)  | 0.11 | 0.17 | 0.99 | 0.85 |
| *BMP4*  | BMP2B, BMP2B1, ZYME  | 14q22-q23  | rs17563  | T/C  | 1.22 (1.09, 1.36)  | 1.07 (0.93, 1.23)  | 0.56 | 0.31 | 0.86 | 0.06 |
|   |   |   | rs2761887  | A/C  | 1.06 (0.96, 1.18)  | 1.11 (0.97, 1.26)  | 0.44 | 0.43 | 0.96 | 0.69 |
|   |   |   | rs4898820  | T/G  | 1.02 (0.91, 1.13)  | 0.96 (0.84, 1.09)  | 0.47 | 0.49 | 0.96 | 0.81 |
|   |   |   | rs762642  | T/G  | 0.99 (0.90, 1.10)  | 0.92 (0.81, 1.06)  | 0.41 | 0.42 | 0.98 | 0.76 |
| *BMP6*  | VGR, VGR1  | 6p24-p23  | rs10498671  | T/C  | 0.89 (0.80, 0.98)  | 0.88 (0.68, 1.15)  | 0.18 | 0.17 | 0.97 | 0.69 |
|   |   |   | rs1107495  | A/G  | 0.99 (0.89, 1.09)  | 0.84 (0.72, 0.98)  | 0.19 | 0.43 | 0.98 | 0.00 |
|   |   |   | rs11243204  | A/G  | 0.95 (0.86, 1.05)  | 0.93 (0.75, 1.14)  | 0.23 | 0.23 | 0.81 | 0.78 |
|   |   |   | rs11759532  | C/A  | 0.95 (0.86, 1.06)  | 0.91 (0.80, 1.04)  | 0.40 | 0.51 | 1.00 | 0.43 |
|   |   |   | rs11964227  | G/A  | 1.01 (0.91, 1.11)  | 1.09 (0.94, 1.27)  | 0.43 | 0.29 | 0.96 | 0.73 |
|   |   |   | rs12215656  | G/A  | 1.11 (0.98, 1.25)  | 1.30 (0.84, 2.01)  | 0.15 | 0.05 | 0.93 | 0.68 |
|   |   |   | rs1225929  | A/T  | 1.13 (1.01, 1.27)  | 1.17 (1.02, 1.34)  | 0.61 | 0.33 | 0.96 | 0.09 |
|   |   |   | rs13196371  | G/C  | 0.99 (0.89, 1.09)  | 0.92 (0.72, 1.17)  | 0.16 | 0.21 | 0.96 | 0.59 |
|   |   |   | rs199205  | C/G  | 0.97 (0.88, 1.07)  | 1.06 (0.84, 1.34)  | 0.20 | 0.19 | 0.96 | 0.58 |
|   |   |   | rs2068361  | G/A  | 0.96 (0.87, 1.06)  | 1.04 (0.89, 1.22)  | 0.25 | 0.36 | 0.97 | 0.62 |
|   |   |   | rs2326994  | A/G  | 1.04 (0.94, 1.15)  | 1.06 (0.85, 1.32)  | 0.29 | 0.14 | 0.98 | 0.07 |
|   |   |   | rs267190  | T/G  | 1.10 (0.99, 1.23)  | 1.09 (0.96, 1.25)  | 0.58 | 0.35 | 1.00 | 0.02 |
|   |   |   | rs267204  | A/G  | 1.00 (0.90, 1.11)  | 0.88 (0.68, 1.15)  | 0.22 | 0.13 | 0.96 | 0.40 |
|   |   |   | rs267205  | A/G  | 1.03 (0.92, 1.14)  | 0.90 (0.78, 1.03)  | 0.25 | 0.53 | 0.86 | 0.06 |
|   |   |   | rs267806  | C/T  | 0.97 (0.87, 1.08)  | 0.88 (0.76, 1.01)  | 0.28 | 0.58 | 0.97 | 0.01 |
|   |   |   | rs270398  | C/A  | 1.07 (0.97, 1.18)  | 0.98 (0.76, 1.26)  | 0.19 | 0.19 | 0.96 | 0.96 |
|   |   |   | rs270413  | T/C  | 1.07 (0.96, 1.19)  | 1.03 (0.90, 1.18)  | 0.50 | 0.38 | 0.96 | 0.77 |
|   |   |   | rs270417  | T/C  | 1.08 (0.98, 1.19)  | 1.19 (0.97, 1.45)  | 0.28 | 0.18 | 0.96 | 0.02 |
|   |   |   | rs3812163  | T/A  | 1.04 (0.94, 1.15)  | 1.06 (0.91, 1.23)  | 0.46 | 0.26 | 0.98 | 0.61 |
|   |   |   | rs6910759  | A/G  | 1.01 (0.91, 1.12)  | 1.12 (0.96, 1.30)  | 0.46 | 0.25 | 0.96 | 0.71 |
|   |   |   | rs911749  | G/A  | 0.96 (0.87, 1.06)  | 0.80 (0.67, 0.95)  | 0.23 | 0.33 | 1.00 | 0.01 |
|   |   |   | rs9505276  | A/G  | 0.95 (0.86, 1.05)  | 0.88 (0.67, 1.15)  | 0.18 | 0.19 | 0.52 | 0.68 |
|   |   |   | rs9505293  | G/T  | 0.96 (0.86, 1.08)  | 0.82 (0.55, 1.22)  | 0.12 | 0.13 | 0.82 | 0.74 |
| *BMP7*  | OP-1  | 20q13  | rs12438  | A/G  | 1.05 (0.94, 1.16)  | 0.96 (0.85, 1.10)  | 0.51 | 0.41 | 0.96 | 0.64 |
|   |   |   | rs12481628  | A/G  | 1.01 (0.91, 1.12)  | 1.09 (0.96, 1.25)  | 0.43 | 0.43 | 0.86 | 0.57 |
|   |   |   | rs13037653  | T/C  | 1.15 (0.98, 1.35)  | 0.88 (0.41, 1.93)  | 0.07 | 0.03 | 0.82 | 0.92 |
|   |   |   | rs1475000  | A/G  | 1.04 (0.94, 1.15)  | 1.08 (0.94, 1.23)  | 0.41 | 0.40 | 0.96 | 0.48 |
|   |   |   | rs162315  | G/A  | 1.05 (0.95, 1.16)  | 1.05 (0.89, 1.24)  | 0.22 | 0.33 | 0.86 | 0.78 |
|   |   |   | rs162317  | G/A  | 1.04 (0.94, 1.15)  | 1.06 (0.92, 1.21)  | 0.41 | 0.40 | 0.96 | 0.59 |
|   |   |   | rs172983  | G/A  | 0.99 (0.89, 1.10)  | 1.05 (0.83, 1.33)  | 0.10 | 0.25 | 0.89 | 0.82 |
|   |   |   | rs17404303  | C/T  | 0.94 (0.85, 1.03)  | 0.93 (0.81, 1.08)  | 0.43 | 0.29 | 0.96 | 0.63 |
|   |   |   | rs17480735  | G/A  | 1.08 (0.93, 1.24)  | 0.82 (0.40, 1.66)  | 0.08 | 0.04 | 0.96 | 0.90 |
|   |   |   | rs2180780  | C/G  | 1.02 (0.92, 1.13)  | 1.05 (0.92, 1.20)  | 0.44 | 0.42 | 0.96 | 0.78 |
|   |   |   | rs3787380  | T/C  | 1.01 (0.91, 1.13)  | 0.98 (0.86, 1.11)  | 0.39 | 0.52 | 1.00 | 0.29 |
|   |   |   | rs3787382  | C/T  | 1.00 (0.91, 1.10)  | 1.06 (0.85, 1.31)  | 0.19 | 0.23 | 0.96 | 0.83 |
|   |   |   | rs4811822  | T/C  | 1.01 (0.90, 1.12)  | 1.01 (0.89, 1.15)  | 0.50 | 0.46 | 0.86 | 0.26 |
|   |   |   | rs6014949  | G/A  | 1.04 (0.94, 1.16)  | 0.99 (0.87, 1.13)  | 0.51 | 0.42 | 0.96 | 0.60 |
|   |   |   | rs6014967  | G/A  | 1.02 (0.93, 1.13)  | 1.02 (0.85, 1.21)  | 0.21 | 0.31 | 0.96 | 0.95 |
|   |   |   | rs6025446  | A/G  | 1.07 (0.96, 1.19)  | 0.91 (0.80, 1.04)  | 0.41 | 0.51 | 0.96 | 0.01 |
|   |   |   | rs6025468  | A/G  | 0.95 (0.86, 1.05)  | 0.76 (0.59, 0.97)  | 0.20 | 0.20 | 0.86 | 0.38 |
|   |   |   | rs6064508  | T/C  | 1.02 (0.92, 1.12)  | 0.94 (0.80, 1.10)  | 0.36 | 0.30 | 0.98 | 0.62 |
|   |   |   | rs6070036  | G/T  | 1.07 (0.94, 1.22)  | 0.93 (0.57, 1.53)  | 0.11 | 0.06 | 0.68 | 0.71 |
|   |   |   | rs6123674  | A/G  | 1.06 (0.96, 1.17)  | 0.92 (0.80, 1.06)  | 0.41 | 0.35 | 0.91 | 0.38 |
|   |   |   | rs6127973  | G/A  | 1.00 (0.90, 1.12)  | 1.18 (0.87, 1.61)  | 0.13 | 0.15 | 0.97 | 0.98 |
|   |   |   | rs6127978  | A/G  | 0.98 (0.89, 1.09)  | 0.99 (0.81, 1.22)  | 0.14 | 0.28 | 0.62 | 0.51 |
|   |   |   | rs6127983  | T/C  | 0.94 (0.85, 1.04)  | 0.87 (0.76, 1.00)  | 0.34 | 0.48 | 0.96 | 0.52 |
|   |   |   | rs7273197  | C/T  | 0.92 (0.84, 1.02)  | 0.86 (0.72, 1.03)  | 0.33 | 0.24 | 0.96 | 0.89 |
| *BMPR1A*  | ACVRLK3, ALK3, CD292  | 10q22.3  | rs10887668  | A/C  | 1.00 (0.88, 1.13)  | 0.84 (0.53, 1.32)  | 0.11 | 0.08 | 0.86 | 0.68 |
|   |   |   | rs12415784  | T/C  | 1.01 (0.92, 1.12)  | 1.01 (0.83, 1.23)  | 0.16 | 0.28 | 1.00 | 0.35 |
|   |   |   | rs12765929  | G/T  | 1.06 (0.96, 1.16)  | 1.04 (0.89, 1.21)  | 0.27 | 0.37 | 0.96 | 0.46 |
|   |   |   | rs2168730  | A/G  | 0.94 (0.85, 1.03)  | 1.06 (0.90, 1.25)  | 0.24 | 0.35 | 0.96 | 0.57 |
|   |   |   | rs2883420  | T/C  | 0.96 (0.86, 1.06)  | 1.04 (0.91, 1.19)  | 0.38 | 0.45 | 0.96 | 0.69 |
|   |   |   | rs4934275  | T/C  | 0.99 (0.90, 1.10)  | 1.06 (0.87, 1.29)  | 0.13 | 0.30 | 0.96 | 0.92 |
|   |   |   | rs6586034  | T/G  | 1.00 (0.90, 1.11)  | 1.05 (0.92, 1.20)  | 0.42 | 0.49 | 0.96 | 0.71 |
|   |   |   | rs7088641  | T/C  | 1.00 (0.91, 1.10)  | 1.03 (0.89, 1.20)  | 0.30 | 0.37 | 0.97 | 0.74 |
|   |   |   | rs7895217  | T/A  | 0.91 (0.82, 1.00)  | 1.03 (0.90, 1.19)  | 0.36 | 0.43 | 0.96 | 0.50 |
| *BMPR1B*  | ALK-6, ALK6, CDw293  | 4q22-q24  | rs10049681  | T/C  | 1.04 (0.94, 1.16)  | 1.10 (0.96, 1.26)  | 0.27 | 0.53 | 0.96 | 0.71 |
|   |   |   | rs12508087  | T/A  | 0.96 (0.87, 1.06)  | 0.86 (0.68, 1.09)  | 0.24 | 0.19 | 0.96 | 0.98 |
|   |   |   | rs13134042  | G/A  | 0.95 (0.86, 1.04)  | 1.04 (0.85, 1.27)  | 0.21 | 0.25 | 0.93 | 0.85 |
|   |   |   | rs17022671  | G/A  | 1.03 (0.93, 1.14)  | 1.03 (0.81, 1.31)  | 0.25 | 0.15 | 0.96 | 0.57 |
|   |   |   | rs17616243  | C/T  | 1.08 (0.98, 1.20)  | 0.91 (0.74, 1.11)  | 0.15 | 0.28 | 0.93 | 0.06 |
|   |   |   | rs1863652  | C/T  | 1.03 (0.93, 1.13)  | 1.15 (1.00, 1.32)  | 0.34 | 0.40 | 0.96 | 0.59 |
|   |   |   | rs2120834  | G/C  | 0.99 (0.90, 1.09)  | 1.01 (0.87, 1.19)  | 0.37 | 0.28 | 0.98 | 0.19 |
|   |   |   | rs2214395  | A/G  | 1.02 (0.92, 1.14)  | 1.20 (0.86, 1.66)  | 0.16 | 0.11 | 0.96 | 0.96 |
|   |   |   | rs2719176  | C/G  | 1.10 (0.99, 1.21)  | 0.98 (0.85, 1.12)  | 0.39 | 0.43 | 0.93 | 0.83 |
|   |   |   | rs3796442  | C/A  | 0.98 (0.88, 1.09)  | 0.94 (0.70, 1.27)  | 0.09 | 0.18 | 0.66 | 0.44 |
|   |   |   | rs3821968  | C/T  | 1.07 (0.96, 1.18)  | 1.05 (0.85, 1.29)  | 0.11 | 0.28 | 1.00 | 0.10 |
|   |   |   | rs4145993  | C/T  | 0.95 (0.85, 1.05)  | 0.94 (0.72, 1.22)  | 0.20 | 0.15 | 0.96 | 0.10 |
|   |   |   | rs4490463  | A/G  | 0.99 (0.89, 1.09)  | 0.82 (0.71, 0.95)  | 0.42 | 0.30 | 0.93 | 0.12 |
|   |   |   | rs6849425  | C/T  | 0.94 (0.85, 1.04)  | 0.87 (0.69, 1.11)  | 0.22 | 0.19 | 0.97 | 0.72 |
|   |   |   | rs7661049  | G/A  | 1.07 (0.96, 1.19)  | 1.02 (0.89, 1.16)  | 0.53 | 0.39 | 0.96 | 0.38 |
|   |   |   | rs7694043  | C/T  | 0.98 (0.89, 1.08)  | 0.99 (0.84, 1.17)  | 0.36 | 0.25 | 0.96 | 0.89 |
|   |   |   | rs7698964  | G/A  | 1.02 (0.91, 1.16)  | 1.10 (0.64, 1.90)  | 0.12 | 0.07 | 0.97 | 0.45 |
|   |   |   | rs9307147  | A/G  | 0.99 (0.89, 1.09)  | 0.95 (0.83, 1.10)  | 0.45 | 0.29 | 0.89 | 0.36 |
| *BMPR2*  | BMPR-II, BMPR3, BMR2, BRK-3, PPH1, T-ALK, TRG10  | 2q33-q34  | rs1199496  | A/T  | 1.00 (0.91, 1.11)  | 0.92 (0.79, 1.08)  | 0.29 | 0.35 | 0.96 | 0.67 |
|   |   |   | rs12477602  | G/A  | 1.04 (0.94, 1.16)  | 1.01 (0.75, 1.37)  | 0.13 | 0.15 | 0.96 | 0.29 |
|   |   |   | rs12621870  | T/C  | 1.00 (0.91, 1.11)  | 0.95 (0.77, 1.17)  | 0.23 | 0.21 | 0.86 | 0.72 |
|   |   |   | rs17199235  | A/G  | 0.91 (0.80, 1.04)  | 0.83 (0.52, 1.31)  | 0.12 | 0.06 | 0.73 | 0.88 |
|   |   |   | rs1980153  | A/T  | 0.88 (0.79, 0.99)  | 1.04 (0.76, 1.43)  | 0.11 | 0.17 | 0.96 | 0.56 |
|   |   |   | rs4303700  | G/A  | 1.02 (0.92, 1.13)  | 0.92 (0.72, 1.19)  | 0.24 | 0.13 | 0.99 | 0.53 |
|   |   |   | rs4675278  | G/A  | 0.98 (0.89, 1.08)  | 1.06 (0.91, 1.24)  | 0.27 | 0.34 | 0.98 | 0.85 |
|   |   |   | rs6751210  | A/G  | 1.05 (0.95, 1.17)  | 1.06 (0.93, 1.20)  | 0.49 | 0.44 | 0.96 | 0.81 |
| *GDF10*  | BMP-3b, BMP3B  | 10q11.22  | rs11598444  | G/A  | 1.01 (0.90, 1.14)  | 1.25 (0.80, 1.95)  | 0.14 | 0.07 | 0.68 | 0.74 |
|   |   |   | rs1902724  | A/C  | 0.98 (0.89, 1.07)  | 1.12 (0.96, 1.32)  | 0.32 | 0.31 | 0.78 | 0.75 |
|   |   |   | rs1902725  | G/A  | 1.02 (0.93, 1.13)  | 1.15 (0.88, 1.51)  | 0.21 | 0.15 | 0.68 | 0.81 |
|   |   |   | rs2853838  | C/A  | 1.00 (0.90, 1.10)  | 1.09 (0.86, 1.36)  | 0.20 | 0.21 | 0.93 | 0.92 |
|   |   |   | rs7093975  | C/T  | 0.97 (0.88, 1.07)  | 1.23 (1.01, 1.49)  | 0.27 | 0.23 | 0.62 | 0.82 |
|   |   |   | rs762454  | A/G  | 1.13 (1.02, 1.24)  | 1.10 (0.92, 1.31)  | 0.32 | 0.23 | 0.96 | 0.08 |
| *MSTN*  | GDF8  | 2q32.2  | rs3791783  | T/C  | 1.01 (0.92, 1.12)  | 1.03 (0.83, 1.28)  | 0.21 | 0.23 | 0.86 | 0.94 |

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| Supplement 2. Number of independent SNPs from spectral decomposition |
|  |  | Native American Ancestry |  |
|  | Overall | 0 - 28% | 29 - 70% | 71 - 100% |  |
| *ACVR1* | 10 | 10 | 10 | 10 |  |
| *ACVR2A* | 3 | 3 | 3 | 3 |  |
| *ACVR2B* | 2.4943 | 2 | 2.5564 | 2.7154 |  |
| *ACVRL1* | 3.6534 | 3.5679 | 3.6396 | 3 |  |
| *BMP1* | 8 | 8.0363 | 8 | 8 |  |
| *BMP2* | 5 | 4 | 5 | 5 |  |
| *BMP4* | 2.8435 | 2.6654 | 2.9103 | 2.9633 |  |
| *BMP6* | 18.0397 | 18 | 18.0396 | 17.0512 |  |
| *BMP7* | 14.2678 | 14.3455 | 13.2063 | 13.1044 |  |
| *BMPR1A* | 5 | 6 | 5 | 4 |  |
| *BMPR1B* | 14 | 14 | 13 | 13 |  |
| *BMPR2* | 6 | 6 | 6 | 6 |  |
| *GDF10* | 4 | 4 | 4 | 4 |  |
| *MSTN* | 1 | 1 | 1 | 1 |  |