**Supplemental Table 1: SNPs marginally statistically significantly associated (at genome-wide significance) with asparagus anosmia**

| SNP | A1 | A2 | Frequency A1 | Marginal Beta | Marginal SE | Marginal p-value |
|---|---|---|---|---|---|---|
| rs6689553 | T | C | 0.32 | 0.1376 | 0.0099 | 4.26E-44 |
| rs6678934 | A | C | 0.72 | -0.131 | 0.0094 | 5.20E-44 |
| rs6686797 | A | G | 0.28 | 0.1302 | 0.0094 | 5.59E-44 |
| rs6672079 | A | G | 0.68 | -0.1374 | 0.0099 | 5.64E-44 |
| rs6689570 | T | C | 0.28 | 0.1307 | 0.0094 | 5.89E-44 |
| rs4310471 | A | G | 0.28 | 0.1321 | 0.0095 | 6.70E-44 |
| rs10788778 | T | C | 0.26 | 0.1286 | 0.0093 | 1.25E-43 |
| rs4593862 | T | G | 0.74 | -0.1286 | 0.0093 | 1.32E-43 |
| rs9660769 | C | G | 0.74 | -0.1286 | 0.0093 | 1.35E-43 |
| rs6663817 | A | G | 0.26 | 0.1286 | 0.0093 | 1.35E-43 |
| rs10158431 | A | G | 0.26 | 0.128 | 0.0092 | 1.37E-43 |
| rs4481887 | A | G | 0.26 | 0.128 | 0.0092 | 1.41E-43 |
| rs4409693 | T | C | 0.74 | -0.1293 | 0.0093 | 1.42E-43 |
| rs4554750 | C | G | 0.26 | 0.128 | 0.0092 | 1.43E-43 |
| rs10749653 | C | G | 0.26 | 0.1279 | 0.0092 | 1.43E-43 |
| rs10788782 | A | C | 0.74 | -0.1279 | 0.0092 | 1.45E-43 |
| rs6697863 | A | G | 0.74 | -0.1279 | 0.0092 | 1.47E-43 |
| rs7553333 | C | G | 0.26 | 0.1284 | 0.0093 | 1.51E-43 |
| rs6681423 | A | C | 0.74 | -0.1278 | 0.0092 | 1.56E-43 |
| rs6671789 | A | G | 0.74 | -0.1278 | 0.0092 | 1.57E-43 |
| rs7545751 | T | C | 0.26 | 0.1288 | 0.0093 | 1.60E-43 |
| rs4309013 | T | C | 0.73 | -0.1268 | 0.0092 | 1.61E-43 |
| rs6587450 | A | T | 0.73 | -0.1268 | 0.0092 | 1.62E-43 |
| rs4427440 | A | T | 0.73 | -0.127 | 0.0092 | 1.63E-43 |
| rs10888362 | A | G | 0.74 | -0.1278 | 0.0092 | 1.64E-43 |
| rs10788781 | T | C | 0.74 | -0.1279 | 0.0092 | 1.65E-43 |
| rs10158180 | T | C | 0.73 | -0.1268 | 0.0092 | 1.66E-43 |
| rs4916087 | T | C | 0.27 | 0.1271 | 0.0092 | 1.67E-43 |
| rs12039929 | A | G | 0.73 | -0.1268 | 0.0092 | 1.68E-43 |
| rs12042602 | T | C | 0.73 | -0.1268 | 0.0092 | 1.68E-43 |
| rs12568122 | T | C | 0.74 | -0.1287 | 0.0093 | 1.69E-43 |
| rs12044126 | T | C | 0.27 | 0.1269 | 0.0092 | 1.70E-43 |
| rs6689556 | T | C | 0.27 | 0.1315 | 0.0095 | 1.72E-43 |
| rs4457616 | A | G | 0.26 | 0.1302 | 0.0094 | 1.74E-43 |
| rs7515080 | A | G | 0.26 | 0.1279 | 0.0092 | 1.75E-43 |
| rs6689193 | A | T | 0.73 | -0.1268 | 0.0092 | 1.77E-43 |
| rs6587452 | T | C | 0.74 | -0.1277 | 0.0092 | 1.84E-43 |
| rs4244187 | T | C | 0.27 | 0.1268 | 0.0092 | 1.84E-43 |
| rs4244186 | A | G | 0.27 | 0.1268 | 0.0092 | 1.86E-43 |
| rs9662041 | A | T | 0.27 | 0.1268 | 0.0092 | 1.90E-43 |
| rs4369256 | A | G | 0.74 | -0.1282 | 0.0093 | 1.92E-43 |
| rs4279879 | A | G | 0.27 | 0.1267 | 0.0092 | 1.94E-43 |
| rs4508046 | T | C | 0.26 | 0.1275 | 0.0092 | 1.95E-43 |
| rs7538645 | T | C | 0.73 | -0.1275 | 0.0092 | 1.95E-43 |

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|---|---|---|---|---|---|---|
| rs4244184 | T | G | 0.73 | -0.1267 | 0.0092 | 1.98E-43 |
| rs6587451 | T | C | 0.27 | 0.1267 | 0.0092 | 1.99E-43 |
| rs11204632 | A | G | 0.73 | -0.1275 | 0.0092 | 2.04E-43 |
| rs11204631 | A | G | 0.27 | 0.1275 | 0.0092 | 2.04E-43 |
| rs10888360 | A | G | 0.74 | -0.1284 | 0.0093 | 2.05E-43 |
| rs11204636 | T | G | 0.74 | -0.1275 | 0.0092 | 2.07E-43 |
| rs4551626 | T | G | 0.73 | -0.1266 | 0.0092 | 2.13E-43 |
| rs6681336 | T | C | 0.73 | -0.1267 | 0.0092 | 2.15E-43 |
| rs4350233 | A | G | 0.73 | -0.1266 | 0.0092 | 2.16E-43 |
| rs6681339 | C | G | 0.27 | 0.1267 | 0.0092 | 2.17E-43 |
| rs6671702 | A | G | 0.73 | -0.1267 | 0.0092 | 2.17E-43 |
| rs4405158 | A | C | 0.27 | 0.1268 | 0.0092 | 2.19E-43 |
| rs6686911 | T | C | 0.26 | 0.1295 | 0.0094 | 2.20E-43 |
| rs6683717 | A | G | 0.26 | 0.1295 | 0.0094 | 2.20E-43 |
| rs4537598 | A | T | 0.73 | -0.1266 | 0.0092 | 2.21E-43 |
| rs10788780 | A | G | 0.73 | -0.1267 | 0.0092 | 2.22E-43 |
| rs12042598 | T | C | 0.73 | -0.1268 | 0.0092 | 2.22E-43 |
| rs11204637 | A | G | 0.73 | -0.1266 | 0.0092 | 2.23E-43 |
| rs4534422 | A | G | 0.27 | 0.1273 | 0.0092 | 2.26E-43 |
| rs6702113 | T | C | 0.27 | 0.1266 | 0.0092 | 2.30E-43 |
| rs5009868 | A | G | 0.26 | 0.1313 | 0.0095 | 2.30E-43 |
| rs12744455 | A | G | 0.27 | 0.127 | 0.0092 | 2.32E-43 |
| rs10788779 | C | G | 0.27 | 0.1268 | 0.0092 | 2.35E-43 |
| rs4244185 | A | G | 0.27 | 0.1266 | 0.0092 | 2.36E-43 |
| rs7555424 | A | G | 0.27 | 0.1267 | 0.0092 | 2.50E-43 |
| rs10157089 | A | G | 0.27 | 0.1265 | 0.0092 | 2.52E-43 |
| rs10888364 | T | G | 0.27 | 0.1266 | 0.0092 | 2.57E-43 |
| rs7555310 | A | G | 0.27 | 0.1266 | 0.0092 | 2.62E-43 |
| rs10788776 | T | C | 0.27 | 0.1273 | 0.0092 | 2.62E-43 |
| rs4409694 | T | C | 0.73 | -0.1272 | 0.0092 | 2.65E-43 |
| rs4244179 | A | T | 0.74 | -0.1326 | 0.0096 | 2.67E-43 |
| rs6686474 | A | C | 0.27 | 0.1285 | 0.0093 | 2.76E-43 |
| rs4558008 | T | C | 0.73 | -0.1275 | 0.0092 | 2.82E-43 |
| rs4448547 | C | G | 0.73 | -0.1272 | 0.0092 | 2.83E-43 |
| rs4282853 | A | G | 0.27 | 0.129 | 0.0094 | 2.87E-43 |
| rs4457614 | A | G | 0.27 | 0.129 | 0.0094 | 2.87E-43 |
| rs4540687 | C | G | 0.27 | 0.1287 | 0.0093 | 2.95E-43 |
| rs4341391 | A | G | 0.27 | 0.1287 | 0.0093 | 2.97E-43 |
| rs4423045 | T | C | 0.27 | 0.1273 | 0.0092 | 2.97E-43 |
| rs4307598 | T | C | 0.27 | 0.1295 | 0.0094 | 2.99E-43 |
| rs4244181 | A | G | 0.26 | 0.132 | 0.0096 | 3.08E-43 |
| rs4244182 | A | G | 0.26 | 0.1319 | 0.0096 | 3.09E-43 |
| rs4244180 | A | G | 0.26 | 0.1321 | 0.0096 | 3.09E-43 |
| rs4489592 | A | T | 0.26 | 0.1322 | 0.0096 | 3.15E-43 |
| rs4603165 | A | T | 0.73 | -0.1297 | 0.0094 | 3.16E-43 |
| rs10888358 | A | C | 0.74 | -0.1317 | 0.0096 | 3.17E-43 |
| rs4433430 | A | G | 0.73 | -0.1274 | 0.0092 | 3.35E-43 |
| rs4916130 | A | C | 0.71 | -0.1309 | 0.0095 | 3.37E-43 |
| rs6669290 | A | G | 0.73 | -0.1281 | 0.0093 | 3.39E-43 |

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|---|---|---|---|---|---|---|
| rs4336885 | A | C | 0.27 | 0.13 | 0.0094 | 3.40E-43 |
| rs4297335 | T | C | 0.73 | -0.13 | 0.0094 | 3.44E-43 |
| rs4275482 | T | C | 0.27 | 0.1299 | 0.0094 | 3.45E-43 |
| rs6678798 | T | C | 0.73 | -0.1281 | 0.0093 | 3.45E-43 |
| rs7524700 | A | G | 0.27 | 0.1301 | 0.0094 | 3.46E-43 |
| rs4472780 | A | G | 0.73 | -0.1292 | 0.0094 | 3.50E-43 |
| rs4589143 | A | G | 0.26 | 0.1341 | 0.0097 | 3.58E-43 |
| rs4453081 | C | G | 0.27 | 0.1287 | 0.0093 | 3.66E-43 |
| rs4534423 | C | G | 0.73 | -0.1289 | 0.0094 | 3.68E-43 |
| rs4427438 | C | G | 0.73 | -0.1287 | 0.0093 | 3.72E-43 |
| rs4581306 | A | C | 0.73 | -0.1285 | 0.0093 | 3.77E-43 |
| rs10127803 | A | T | 0.27 | 0.1283 | 0.0093 | 3.78E-43 |
| rs4376768 | A | G | 0.73 | -0.1283 | 0.0093 | 3.81E-43 |
| rs10788775 | C | G | 0.26 | 0.1315 | 0.0095 | 3.82E-43 |
| rs10788774 | T | C | 0.26 | 0.1315 | 0.0095 | 3.86E-43 |
| rs4472779 | A | G | 0.73 | -0.1294 | 0.0094 | 3.90E-43 |
| rs28524655 | T | C | 0.73 | -0.1295 | 0.0094 | 3.94E-43 |
| rs4453080 | T | C | 0.27 | 0.1294 | 0.0094 | 3.95E-43 |
| rs12731721 | A | G | 0.73 | -0.1295 | 0.0094 | 3.95E-43 |
| rs4244183 | A | G | 0.74 | -0.1317 | 0.0096 | 4.00E-43 |
| rs4345830 | C | G | 0.73 | -0.1295 | 0.0094 | 4.03E-43 |
| rs4575112 | A | G | 0.27 | 0.13 | 0.0094 | 4.11E-43 |
| rs4292985 | A | T | 0.73 | -0.1298 | 0.0094 | 4.30E-43 |
| rs4564179 | T | C | 0.27 | 0.1301 | 0.0095 | 4.31E-43 |
| rs10749651 | T | C | 0.27 | 0.1299 | 0.0094 | 4.37E-43 |
| rs4523548 | T | G | 0.73 | -0.13 | 0.0094 | 4.39E-43 |
| rs4390209 | A | T | 0.27 | 0.1299 | 0.0094 | 4.42E-43 |
| rs4644528 | A | T | 0.73 | -0.1299 | 0.0094 | 4.47E-43 |
| rs7519334 | T | C | 0.73 | -0.1301 | 0.0095 | 4.49E-43 |
| rs4576683 | T | C | 0.27 | 0.1302 | 0.0095 | 4.64E-43 |
| rs4390208 | T | C | 0.73 | -0.1306 | 0.0095 | 5.07E-43 |
| rs4474293 | T | C | 0.27 | 0.1336 | 0.0097 | 5.22E-43 |
| rs4347240 | C | G | 0.27 | 0.1287 | 0.0094 | 9.61E-43 |
| rs10788784 | A | G | 0.26 | 0.1357 | 0.01 | 5.78E-42 |
| rs28795130 | A | C | 0.70 | -0.1437 | 0.0106 | 6.88E-42 |
| rs6662913 | A | G | 0.32 | 0.1493 | 0.011 | 7.53E-42 |
| rs10888370 | A | G | 0.74 | -0.1368 | 0.0101 | 8.74E-42 |
| rs6699764 | C | G | 0.74 | -0.138 | 0.0102 | 1.25E-41 |
| rs71538191 | C | G | 0.59 | -0.1633 | 0.0121 | 1.86E-41 |
| rs7415807 | T | G | 0.68 | -0.1422 | 0.0106 | 3.74E-41 |
| rs10218489 | T | G | 0.71 | -0.1421 | 0.0106 | 1.18E-40 |
| rs6676064 | C | G | 0.72 | -0.1333 | 0.01 | 2.23E-40 |
| rs10888345 | A | G | 0.29 | 0.1363 | 0.0102 | 2.27E-40 |
| rs6676061 | C | G | 0.72 | -0.1333 | 0.01 | 2.39E-40 |
| rs10888349 | T | C | 0.27 | 0.1331 | 0.01 | 3.03E-40 |
| rs4497248 | T | C | 0.27 | 0.1328 | 0.01 | 3.03E-40 |
| rs4278391 | T | C | 0.73 | -0.1328 | 0.01 | 3.09E-40 |
| rs6697456 | T | C | 0.63 | -0.1524 | 0.0115 | 3.21E-40 |
| rs10888343 | A | G | 0.27 | 0.1326 | 0.01 | 3.32E-40 |

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|---|---|---|---|---|---|---|
| rs10888348 | C | G | 0.27 | 0.1326 | 0.01 | 3.41E-40 |
| rs4486480 | T | C | 0.74 | -0.1355 | 0.0102 | 3.50E-40 |
| rs6685871 | T | C | 0.70 | -0.1386 | 0.0105 | 3.64E-40 |
| rs10888347 | T | C | 0.27 | 0.1326 | 0.01 | 3.67E-40 |
| rs7543507 | T | C | 0.72 | -0.1331 | 0.01 | 3.82E-40 |
| rs9651176 | A | G | 0.27 | 0.1321 | 0.01 | 3.99E-40 |
| rs4916127 | A | G | 0.26 | 0.1331 | 0.01 | 4.51E-40 |
| rs10888344 | T | C | 0.27 | 0.1317 | 0.0099 | 4.72E-40 |
| rs9651175 | T | G | 0.73 | -0.1317 | 0.0099 | 4.82E-40 |
| rs4512685 | T | C | 0.73 | -0.1316 | 0.0099 | 5.03E-40 |
| rs6666903 | A | T | 0.73 | -0.1322 | 0.01 | 5.44E-40 |
| rs6587445 | A | G | 0.27 | 0.1311 | 0.0099 | 5.53E-40 |
| rs6699797 | T | C | 0.27 | 0.1315 | 0.0099 | 5.77E-40 |
| rs10888340 | T | C | 0.73 | -0.1311 | 0.0099 | 6.20E-40 |
| rs9651177 | T | C | 0.27 | 0.1311 | 0.0099 | 6.41E-40 |
| rs10788765 | T | C | 0.73 | -0.1309 | 0.0099 | 6.81E-40 |
| rs6587444 | T | C | 0.27 | 0.1309 | 0.0099 | 7.01E-40 |
| rs10888341 | T | C | 0.27 | 0.1311 | 0.0099 | 7.87E-40 |
| rs11204623 | A | G | 0.28 | 0.1361 | 0.0103 | 8.08E-40 |
| rs11204626 | A | T | 0.74 | -0.1326 | 0.01 | 8.48E-40 |
| rs7547808 | A | T | 0.28 | 0.1353 | 0.0103 | 8.98E-40 |
| rs4586010 | A | G | 0.73 | -0.1305 | 0.0099 | 9.04E-40 |
| rs6687975 | C | G | 0.62 | -0.156 | 0.0118 | 9.41E-40 |
| rs10788768 | A | G | 0.73 | -0.1326 | 0.01 | 9.66E-40 |
| rs7513161 | A | T | 0.27 | 0.1325 | 0.01 | 9.85E-40 |
| rs4916123 | T | G | 0.27 | 0.134 | 0.0102 | 9.92E-40 |
| rs4244172 | T | C | 0.26 | 0.1324 | 0.01 | 1.01E-39 |
| rs4525076 | T | G | 0.26 | 0.1327 | 0.0101 | 1.02E-39 |
| rs10888355 | A | G | 0.73 | -0.1326 | 0.0101 | 1.03E-39 |
| rs4381224 | A | T | 0.26 | 0.1327 | 0.0101 | 1.04E-39 |
| rs10736378 | T | G | 0.27 | 0.1323 | 0.01 | 1.05E-39 |
| rs10788770 | T | G | 0.26 | 0.1327 | 0.0101 | 1.05E-39 |
| rs12037921 | T | G | 0.27 | 0.1323 | 0.01 | 1.05E-39 |
| rs6685754 | A | C | 0.72 | -0.1339 | 0.0102 | 1.06E-39 |
| rs10788769 | T | C | 0.73 | -0.1326 | 0.0101 | 1.06E-39 |
| rs10888352 | A | G | 0.74 | -0.1332 | 0.0101 | 1.06E-39 |
| rs10736379 | A | T | 0.27 | 0.1323 | 0.01 | 1.06E-39 |
| rs6697735 | C | G | 0.74 | -0.1322 | 0.01 | 1.09E-39 |
| rs71538180 | T | G | 0.28 | 0.1342 | 0.0102 | 1.09E-39 |
| rs10888356 | A | G | 0.26 | 0.1322 | 0.01 | 1.10E-39 |
| rs4372295 | T | G | 0.74 | -0.1322 | 0.01 | 1.10E-39 |
| rs4916125 | A | T | 0.26 | 0.1323 | 0.01 | 1.10E-39 |
| rs4916126 | A | G | 0.74 | -0.1323 | 0.01 | 1.11E-39 |
| rs7517319 | A | C | 0.74 | -0.1323 | 0.01 | 1.11E-39 |
| rs4916128 | A | G | 0.74 | -0.1323 | 0.01 | 1.11E-39 |
| rs4360553 | A | G | 0.26 | 0.1323 | 0.01 | 1.11E-39 |
| rs6659039 | T | C | 0.74 | -0.1323 | 0.01 | 1.12E-39 |
| rs4344359 | A | G | 0.72 | -0.1394 | 0.0106 | 1.12E-39 |
| rs6663952 | A | G | 0.26 | 0.1323 | 0.01 | 1.12E-39 |

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|---|---|---|---|---|---|---|
| rs6666690 | T | C | 0.27 | 0.1323 | 0.01 | 1.14E-39 |
| rs6656551 | A | T | 0.26 | 0.1322 | 0.01 | 1.14E-39 |
| rs77950189 | A | C | 0.31 | 0.1396 | 0.0106 | 1.16E-39 |
| rs80260298 | A | G | 0.69 | -0.1396 | 0.0106 | 1.17E-39 |
| rs4430369 | A | G | 0.26 | 0.1324 | 0.01 | 1.20E-39 |
| rs4579792 | T | C | 0.26 | 0.1323 | 0.01 | 1.21E-39 |
| rs10888351 | A | G | 0.73 | -0.1322 | 0.01 | 1.23E-39 |
| rs4244178 | A | G | 0.26 | 0.1338 | 0.0102 | 1.30E-39 |
| rs4543835 | A | T | 0.27 | 0.1354 | 0.0103 | 1.35E-39 |
| rs4244173 | C | G | 0.73 | -0.1337 | 0.0102 | 1.38E-39 |
| rs4306162 | T | C | 0.74 | -0.1334 | 0.0101 | 1.53E-39 |
| rs4244176 | A | G | 0.74 | -0.1333 | 0.0101 | 1.56E-39 |
| rs4514268 | T | G | 0.28 | 0.1302 | 0.0099 | 1.59E-39 |
| rs7521689 | T | G | 0.74 | -0.1305 | 0.0099 | 1.76E-39 |
| rs4244174 | A | G | 0.26 | 0.1328 | 0.0101 | 1.78E-39 |
| rs7525344 | A | G | 0.26 | 0.1331 | 0.0101 | 1.83E-39 |
| rs7511706 | A | G | 0.74 | -0.1327 | 0.0101 | 1.88E-39 |
| rs10888353 | A | T | 0.28 | 0.1348 | 0.0103 | 1.90E-39 |
| rs4244177 | T | C | 0.74 | -0.1333 | 0.0101 | 1.96E-39 |
| rs4285735 | T | C | 0.67 | -0.1412 | 0.0107 | 1.98E-39 |
| rs4360555 | T | G | 0.74 | -0.1344 | 0.0102 | 1.98E-39 |
| rs10749648 | A | T | 0.30 | 0.1347 | 0.0103 | 2.08E-39 |
| rs7534188 | T | C | 0.27 | 0.129 | 0.0098 | 2.08E-39 |
| rs4244175 | A | G | 0.74 | -0.1333 | 0.0101 | 2.11E-39 |
| rs7527822 | T | C | 0.26 | 0.1322 | 0.0101 | 2.12E-39 |
| rs4453079 | A | T | 0.73 | -0.1353 | 0.0103 | 2.16E-39 |
| rs4578248 | A | G | 0.73 | -0.1291 | 0.0098 | 2.16E-39 |
| rs4298770 | A | G | 0.73 | -0.1289 | 0.0098 | 2.64E-39 |
| rs10888342 | A | G | 0.28 | 0.1294 | 0.0099 | 2.99E-39 |
| rs4916121 | T | C | 0.73 | -0.1288 | 0.0098 | 3.59E-39 |
| 1:248436616 | A | G | 0.33 | 0.1389 | 0.0106 | 3.59E-39 |
| rs4460676 | A | G | 0.73 | -0.1288 | 0.0098 | 3.61E-39 |
| rs4517383 | T | C | 0.73 | -0.1278 | 0.0098 | 3.70E-39 |
| rs4295906 | T | C | 0.73 | -0.1278 | 0.0098 | 4.30E-39 |
| rs4916124 | T | C | 0.28 | 0.133 | 0.0102 | 4.80E-39 |
| 1:248436611 | A | G | 0.62 | -0.1483 | 0.0113 | 4.91E-39 |
| rs78811906 | A | C | 0.28 | 0.1278 | 0.0098 | 5.10E-39 |
| rs10749646 | T | C | 0.73 | -0.128 | 0.0098 | 5.42E-39 |
| rs12046632 | A | G | 0.21 | 0.1455 | 0.0111 | 5.60E-39 |
| rs7412034 | C | G | 0.72 | -0.1275 | 0.0098 | 6.64E-39 |
| rs10749647 | T | C | 0.68 | -0.1368 | 0.0105 | 9.99E-39 |
| rs7528645 | A | T | 0.72 | -0.1262 | 0.0097 | 1.05E-38 |
| rs10888337 | A | G | 0.72 | -0.1262 | 0.0097 | 1.12E-38 |
| rs6667171 | A | C | 0.73 | -0.131 | 0.0101 | 1.37E-38 |
| rs10788763 | A | T | 0.72 | -0.1259 | 0.0097 | 2.12E-38 |
| rs9662385 | T | C | 0.66 | -0.1433 | 0.0111 | 3.01E-38 |
| rs6674940 | A | G | 0.33 | 0.1403 | 0.0109 | 4.10E-38 |
| rs10159227 | C | G | 0.72 | -0.1307 | 0.0101 | 4.45E-38 |
| rs7515408 | T | C | 0.73 | -0.1265 | 0.0098 | 5.71E-38 |

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|---|---|---|---|---|---|---|
| rs6698503 | A | G | 0.74 | -0.1287 | 0.01 | 6.03E-38 |
| rs6695468 | A | G | 0.74 | -0.1278 | 0.0099 | 8.63E-38 |
| rs28399248 | T | G | 0.28 | 0.1428 | 0.0111 | 1.14E-37 |
| rs4466692 | C | G | 0.28 | 0.1227 | 0.0097 | 6.47E-37 |
| rs4526647 | C | G | 0.28 | 0.123 | 0.0097 | 6.56E-37 |
| rs6686045 | C | G | 0.72 | -0.1207 | 0.0096 | 5.92E-36 |
| rs6703399 | T | C | 0.27 | 0.1204 | 0.0096 | 5.96E-36 |
| rs79235483 | A | C | 0.31 | 0.123 | 0.0098 | 7.34E-36 |
| rs10749644 | A | C | 0.28 | 0.1143 | 0.0092 | 1.07E-35 |
| rs6587440 | A | G | 0.28 | 0.1142 | 0.0092 | 1.09E-35 |
| rs7555217 | T | G | 0.28 | 0.1198 | 0.0096 | 1.25E-35 |
| rs7546964 | A | G | 0.27 | 0.1145 | 0.0092 | 1.30E-35 |
| rs6700515 | A | G | 0.29 | 0.1188 | 0.0095 | 1.34E-35 |
| rs7414420 | T | G | 0.29 | 0.1512 | 0.0121 | 1.43E-35 |
| rs4526648 | A | T | 0.72 | -0.1192 | 0.0096 | 1.67E-35 |
| rs4382760 | T | G | 0.72 | -0.1194 | 0.0096 | 1.89E-35 |
| rs139259149 | T | C | 0.67 | -0.1252 | 0.0101 | 2.86E-35 |
| rs10788762 | T | C | 0.70 | -0.1236 | 0.01 | 3.97E-35 |
| rs7414419 | T | G | 0.29 | 0.1502 | 0.0122 | 4.55E-35 |
| rs141962587 | A | G | 0.32 | 0.1251 | 0.0101 | 6.18E-35 |
| rs4559544 | T | G | 0.27 | 0.1152 | 0.0093 | 6.50E-35 |
| rs140795021 | A | C | 0.66 | -0.1284 | 0.0104 | 8.82E-35 |
| rs4453078 | A | G | 0.72 | -0.1135 | 0.0093 | 2.40E-34 |
| rs6659585 | A | T | 0.69 | -0.1273 | 0.0104 | 2.52E-34 |
| rs10458557 | A | C | 0.44 | 0.1504 | 0.0124 | 7.81E-34 |
| rs4430368 | A | G | 0.24 | 0.1056 | 0.0097 | 1.46E-27 |
| rs11204613 | A | G | 0.71 | -0.0958 | 0.009 | 3.01E-26 |
| rs10888328 | A | G | 0.74 | -0.0966 | 0.0092 | 1.01E-25 |
| rs6695316 | C | G | 0.74 | -0.0966 | 0.0093 | 2.38E-25 |
| rs6697831 | T | C | 0.74 | -0.0965 | 0.0093 | 2.46E-25 |
| rs4916117 | C | G | 0.74 | -0.0962 | 0.0093 | 2.72E-25 |
| rs4916115 | T | G | 0.27 | 0.0952 | 0.0092 | 2.80E-25 |
| rs28795805 | A | T | 0.49 | 0.1706 | 0.0164 | 2.91E-25 |
| rs9662722 | T | G | 0.26 | 0.0961 | 0.0093 | 2.92E-25 |
| rs28749168 | A | G | 0.66 | -0.1404 | 0.0135 | 2.94E-25 |
| rs71538192 | A | G | 0.49 | 0.1715 | 0.0165 | 3.18E-25 |
| rs4390207 | T | C | 0.74 | -0.0963 | 0.0093 | 3.46E-25 |
| rs4474292 | A | G | 0.73 | -0.0952 | 0.0092 | 3.74E-25 |
| rs4309012 | T | C | 0.73 | -0.0949 | 0.0092 | 4.00E-25 |
| rs4347239 | A | G | 0.27 | 0.095 | 0.0092 | 4.43E-25 |
| rs6666148 | T | C | 0.73 | -0.095 | 0.0092 | 4.79E-25 |
| rs7349159 | T | C | 0.73 | -0.0945 | 0.0092 | 5.34E-25 |
| rs28819159 | T | G | 0.27 | 0.1245 | 0.0121 | 6.20E-25 |
| rs28883135 | C | G | 0.48 | 0.1681 | 0.0164 | 9.22E-25 |
| rs4537599 | A | G | 0.74 | -0.1182 | 0.0115 | 1.06E-24 |
| rs10888329 | T | C | 0.27 | 0.0945 | 0.0092 | 1.25E-24 |
| rs4412629 | T | G | 0.73 | -0.0953 | 0.0093 | 1.32E-24 |
| rs4397683 | T | C | 0.74 | -0.0951 | 0.0094 | 3.81E-24 |
| rs6672981 | A | G | 0.74 | -0.0949 | 0.0094 | 4.50E-24 |

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|---|---|---|---|---|---|---|
| rs28781382 | C | G | 0.33 | 0.1288 | 0.0128 | 6.04E-24 |
| rs28803252 | A | G | 0.68 | -0.1508 | 0.015 | 7.33E-24 |
| rs10788761 | T | C | 0.74 | -0.0944 | 0.0094 | 7.76E-24 |
| rs12757057 | A | T | 0.42 | 0.1489 | 0.0148 | 8.50E-24 |
| rs6694598 | A | G | 0.27 | 0.0933 | 0.0093 | 9.70E-24 |
| rs4428922 | T | C | 0.73 | -0.0932 | 0.0093 | 1.03E-23 |
| rs6689894 | T | C | 0.73 | -0.0928 | 0.0093 | 1.25E-23 |
| rs28787378 | T | C | 0.73 | -0.115 | 0.0115 | 1.47E-23 |
| rs10888330 | A | T | 0.27 | 0.0929 | 0.0093 | 1.51E-23 |
| rs4642918 | T | G | 0.73 | -0.0923 | 0.0092 | 1.62E-23 |
| rs28579823 | T | C | 0.74 | -0.1145 | 0.0115 | 1.62E-23 |
| rs28581861 | T | G | 0.27 | 0.1145 | 0.0115 | 1.63E-23 |
| rs1934544 | A | G | 0.73 | -0.1146 | 0.0115 | 1.63E-23 |
| rs1934543 | C | G | 0.27 | 0.1145 | 0.0115 | 1.66E-23 |
| rs1339989 | C | G | 0.26 | 0.1135 | 0.0114 | 1.71E-23 |
| rs1339991 | T | C | 0.74 | -0.1134 | 0.0114 | 1.75E-23 |
| rs28451623 | A | G | 0.74 | -0.1134 | 0.0114 | 1.75E-23 |
| rs1339990 | T | C | 0.26 | 0.1134 | 0.0114 | 1.75E-23 |
| rs1339992 | A | G | 0.74 | -0.1134 | 0.0114 | 1.75E-23 |
| rs28782809 | T | C | 0.65 | -0.1318 | 0.0133 | 3.30E-23 |
| rs28883970 | A | T | 0.61 | -0.1344 | 0.0136 | 3.88E-23 |
| rs150452781 | A | G | 0.47 | 0.1516 | 0.0154 | 6.97E-23 |
| rs6587439 | T | C | 0.75 | -0.0937 | 0.0095 | 8.01E-23 |
| rs4916113 | T | C | 0.75 | -0.0926 | 0.0094 | 9.16E-23 |
| rs4508045 | A | G | 0.75 | -0.0938 | 0.0096 | 9.62E-23 |
| rs6691024 | A | G | 0.25 | 0.0928 | 0.0095 | 1.06E-22 |
| rs146140038 | A | T | 0.43 | 0.1518 | 0.0155 | 1.18E-22 |
| rs7521717 | A | T | 0.75 | -0.094 | 0.0096 | 1.18E-22 |
| rs4328104 | A | G | 0.25 | 0.0936 | 0.0096 | 1.22E-22 |
| rs192799404 | T | C | 0.54 | 0.178 | 0.0182 | 1.33E-22 |
| rs4916082 | T | C | 0.75 | -0.0937 | 0.0096 | 1.74E-22 |
| rs4453077 | T | C | 0.75 | -0.0946 | 0.0097 | 1.84E-22 |
| rs7533755 | A | G | 0.25 | 0.0936 | 0.0096 | 2.41E-22 |
| rs6587431 | T | C | 0.25 | 0.0936 | 0.0096 | 2.47E-22 |
| rs7529247 | T | C | 0.75 | -0.0935 | 0.0096 | 2.47E-22 |
| rs4576682 | A | T | 0.25 | 0.0935 | 0.0096 | 2.51E-22 |
| rs4390205 | A | C | 0.75 | -0.0935 | 0.0096 | 2.51E-22 |
| rs7548525 | A | G | 0.25 | 0.0935 | 0.0096 | 2.55E-22 |
| rs183802903 | A | G | 0.52 | -0.1487 | 0.0153 | 2.56E-22 |
| rs4271247 | T | C | 0.25 | 0.0936 | 0.0096 | 2.62E-22 |
| rs4546956 | A | G | 0.75 | -0.0934 | 0.0096 | 2.72E-22 |
| rs7529953 | A | T | 0.75 | -0.0934 | 0.0096 | 2.78E-22 |
| rs7522945 | A | C | 0.75 | -0.0934 | 0.0096 | 2.79E-22 |
| rs11204607 | A | G | 0.75 | -0.0934 | 0.0096 | 2.79E-22 |
| rs7544149 | T | C | 0.75 | -0.0942 | 0.0097 | 2.80E-22 |
| rs6587434 | A | G | 0.75 | -0.0936 | 0.0096 | 2.80E-22 |
| rs6587437 | T | G | 0.25 | 0.0934 | 0.0096 | 2.80E-22 |
| rs6587438 | C | G | 0.75 | -0.0934 | 0.0096 | 2.81E-22 |
| rs6587433 | A | G | 0.75 | -0.0934 | 0.0096 | 2.83E-22 |

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|---|---|---|---|---|---|---|
| rs12025218 | A | G | 0.25 | 0.0934 | 0.0096 | 2.84E-22 |
| rs11204611 | T | C | 0.25 | 0.0933 | 0.0096 | 2.84E-22 |
| rs12117067 | A | G | 0.25 | 0.0933 | 0.0096 | 2.85E-22 |
| rs7541625 | C | G | 0.75 | -0.0933 | 0.0096 | 2.89E-22 |
| rs7512756 | T | C | 0.25 | 0.0933 | 0.0096 | 2.90E-22 |
| rs7550630 | T | C | 0.75 | -0.0933 | 0.0096 | 2.90E-22 |
| rs11204610 | T | C | 0.75 | -0.0933 | 0.0096 | 2.91E-22 |
| rs6587432 | T | C | 0.75 | -0.0935 | 0.0096 | 2.92E-22 |
| rs4916107 | A | G | 0.75 | -0.0933 | 0.0096 | 3.07E-22 |
| rs140803038 | C | G | 0.46 | 0.1462 | 0.0151 | 3.21E-22 |
| rs10888323 | T | C | 0.75 | -0.0932 | 0.0096 | 3.26E-22 |
| rs4916109 | A | G | 0.75 | -0.0932 | 0.0096 | 3.27E-22 |
| rs11204608 | T | C | 0.75 | -0.0932 | 0.0096 | 3.28E-22 |
| rs4916108 | A | G | 0.75 | -0.0932 | 0.0096 | 3.28E-22 |
| rs10888324 | A | G | 0.75 | -0.0932 | 0.0096 | 3.83E-22 |
| rs4916110 | T | C | 0.25 | 0.0931 | 0.0096 | 4.37E-22 |
| rs7530153 | T | C | 0.28 | 0.0959 | 0.01 | 6.84E-22 |
| rs6587430 | T | G | 0.28 | 0.0976 | 0.0102 | 1.06E-21 |
| rs7516704 | A | T | 0.72 | -0.0967 | 0.0101 | 1.17E-21 |
| rs6587436 | A | G | 0.28 | 0.0955 | 0.01 | 1.17E-21 |
| rs7518603 | A | T | 0.25 | 0.0927 | 0.0097 | 1.34E-21 |
| rs10788783 | A | C | 0.58 | -0.0819 | 0.0086 | 2.01E-21 |
| rs4364913 | A | C | 0.69 | -0.1056 | 0.0111 | 2.57E-21 |
| rs4916106 | A | G | 0.75 | -0.0911 | 0.0096 | 2.58E-21 |
| rs6677282 | A | T | 0.58 | -0.0854 | 0.009 | 3.25E-21 |
| rs4415607 | T | C | 0.42 | 0.0836 | 0.0089 | 4.70E-21 |
| rs4415610 | T | C | 0.56 | -0.0825 | 0.0088 | 4.72E-21 |
| rs11204639 | T | C | 0.58 | -0.0836 | 0.0089 | 4.72E-21 |
| rs4589144 | T | C | 0.42 | 0.0839 | 0.0089 | 5.79E-21 |
| rs4477316 | T | C | 0.42 | 0.0841 | 0.009 | 6.68E-21 |
| rs28857255 | T | C | 0.49 | 0.1 | 0.0107 | 6.95E-21 |
| rs11485478 | T | C | 0.22 | 0.1509 | 0.0161 | 8.80E-21 |
| rs28590733 | T | C | 0.32 | 0.1029 | 0.0111 | 1.49E-20 |
| rs10888367 | A | G | 0.42 | 0.0846 | 0.0091 | 1.52E-20 |
| rs28680862 | T | C | 0.32 | 0.1024 | 0.0111 | 1.97E-20 |
| rs4639798 | A | G | 0.32 | 0.1023 | 0.011 | 2.03E-20 |
| rs6665904 | T | C | 0.47 | 0.0939 | 0.0102 | 2.29E-20 |
| rs1538703 | T | G | 0.31 | 0.1019 | 0.011 | 2.73E-20 |
| rs10888371 | T | G | 0.58 | -0.0848 | 0.0092 | 2.74E-20 |
| rs28706835 | A | G | 0.31 | 0.1028 | 0.0111 | 2.86E-20 |
| rs11204641 | A | G | 0.41 | 0.0858 | 0.0093 | 3.13E-20 |
| rs28572435 | A | G | 0.44 | 0.1304 | 0.0142 | 3.17E-20 |
| rs6665424 | T | G | 0.42 | 0.0856 | 0.0093 | 3.23E-20 |
| rs28607212 | T | C | 0.31 | 0.1018 | 0.0111 | 3.34E-20 |
| rs6657694 | T | C | 0.58 | -0.0858 | 0.0093 | 3.37E-20 |
| rs10888368 | T | C | 0.56 | -0.0846 | 0.0092 | 3.74E-20 |
| rs10749656 | T | C | 0.58 | -0.0843 | 0.0092 | 4.17E-20 |
| rs6680993 | T | C | 0.42 | 0.0842 | 0.0092 | 4.39E-20 |
| rs28565101 | T | C | 0.69 | -0.1015 | 0.0111 | 6.94E-20 |

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|---|---|---|---|---|---|---|
| rs11204642 | A | G | 0.57 | -0.0862 | 0.0094 | 6.97E-20 |
| rs28444488 | A | C | 0.70 | -0.1004 | 0.011 | 8.49E-20 |
| rs28616194 | A | T | 0.70 | -0.1004 | 0.011 | 8.50E-20 |
| rs6587458 | A | T | 0.70 | -0.1004 | 0.011 | 8.50E-20 |
| rs6688853 | A | G | 0.69 | -0.1007 | 0.0111 | 8.58E-20 |
| rs6682953 | T | C | 0.30 | 0.1004 | 0.011 | 8.66E-20 |
| rs6682957 | T | G | 0.30 | 0.1004 | 0.011 | 8.67E-20 |
| rs6587462 | A | G | 0.30 | 0.1005 | 0.011 | 8.91E-20 |
| rs6674078 | A | G | 0.70 | -0.1007 | 0.0111 | 9.11E-20 |
| rs6696691 | T | C | 0.30 | 0.1004 | 0.011 | 9.30E-20 |
| rs6681758 | A | T | 0.70 | -0.1004 | 0.011 | 9.36E-20 |
| rs7540715 | T | C | 0.70 | -0.1006 | 0.0111 | 9.57E-20 |
| rs6587463 | C | G | 0.70 | -0.1006 | 0.0111 | 9.63E-20 |
| rs6421453 | A | G | 0.31 | 0.1012 | 0.0111 | 9.69E-20 |
| rs1361413 | C | G | 0.30 | 0.0999 | 0.011 | 1.25E-19 |
| rs6691314 | A | G | 0.69 | -0.0995 | 0.011 | 1.41E-19 |
| rs7519867 | T | C | 0.50 | -0.0854 | 0.0095 | 1.72E-19 |
| rs11488133 | T | C | 0.31 | 0.0992 | 0.011 | 1.79E-19 |
| rs28546934 | A | G | 0.30 | 0.1 | 0.0111 | 1.82E-19 |
| rs946761 | T | C | 0.30 | 0.0993 | 0.011 | 1.87E-19 |
| rs11488132 | A | G | 0.19 | 0.1208 | 0.0134 | 2.14E-19 |
| rs946764 | A | C | 0.30 | 0.0989 | 0.011 | 2.18E-19 |
| rs28719164 | T | G | 0.32 | 0.0999 | 0.0111 | 2.40E-19 |
| rs1538704 | A | G | 0.70 | -0.0983 | 0.011 | 3.49E-19 |
| rs12749362 | A | G | 0.51 | -0.0837 | 0.0094 | 3.81E-19 |
| rs1544177 | C | G | 0.30 | 0.0982 | 0.011 | 3.92E-19 |
| rs7524978 | A | T | 0.30 | 0.0981 | 0.011 | 4.31E-19 |
| rs7520659 | A | C | 0.70 | -0.0981 | 0.011 | 4.37E-19 |
| rs7527991 | A | T | 0.70 | -0.098 | 0.011 | 4.39E-19 |
| rs7511986 | A | G | 0.70 | -0.098 | 0.011 | 4.41E-19 |
| rs28421649 | C | G | 0.68 | -0.0983 | 0.011 | 4.64E-19 |
| rs141353932 | A | G | 0.41 | -0.1598 | 0.0179 | 5.08E-19 |
| rs55741505 | A | G | 0.69 | -0.0989 | 0.0111 | 5.76E-19 |
| rs7417519 | A | G | 0.30 | 0.0974 | 0.011 | 6.32E-19 |
| rs6587467 | T | G | 0.31 | 0.0974 | 0.011 | 6.53E-19 |
| rs4360554 | T | C | 0.69 | -0.0973 | 0.011 | 7.52E-19 |
| rs28818253 | A | G | 0.46 | -0.0951 | 0.0107 | 7.82E-19 |
| rs28684663 | T | C | 0.31 | 0.0972 | 0.011 | 8.00E-19 |
| rs11204634 | C | G | 0.48 | 0.078 | 0.0088 | 9.73E-19 |
| rs6587471 | A | G | 0.69 | -0.0968 | 0.011 | 1.02E-18 |
| rs4297336 | A | G | 0.52 | -0.081 | 0.0092 | 1.24E-18 |
| rs28869306 | C | G | 0.41 | 0.1104 | 0.0126 | 1.66E-18 |
| rs4916129 | T | C | 0.50 | -0.0802 | 0.0091 | 1.70E-18 |
| rs138556316 | A | G | 0.69 | -0.0965 | 0.011 | 1.71E-18 |
| rs28468416 | T | G | 0.69 | -0.0971 | 0.0111 | 2.09E-18 |
| rs4559542 | T | C | 0.53 | -0.0762 | 0.0087 | 2.16E-18 |
| rs28858103 | T | G | 0.51 | -0.0849 | 0.0097 | 2.30E-18 |
| rs28763387 | T | C | 0.30 | 0.0956 | 0.011 | 2.96E-18 |
| rs11488135 | A | G | 0.69 | -0.0966 | 0.0111 | 4.36E-18 |

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|---|---|---|---|---|---|---|
| rs28729425 | T | C | 0.30 | 0.0956 | 0.0111 | 5.72E-18 |
| rs28589987 | T | C | 0.31 | 0.0955 | 0.0111 | 6.79E-18 |
| rs34542972 | T | C | 0.52 | -0.0816 | 0.0095 | 6.96E-18 |
| rs75349579 | A | C | 0.37 | 0.1038 | 0.0121 | 7.92E-18 |
| rs141135906 | T | C | 0.52 | -0.0829 | 0.0097 | 9.52E-18 |
| rs11485458 | A | G | 0.31 | 0.0954 | 0.0111 | 1.12E-17 |
| rs7411614 | T | C | 0.47 | 0.0759 | 0.0092 | 1.26E-16 |
| rs28769405 | A | G | 0.24 | 0.1671 | 0.0203 | 2.10E-16 |
| rs1538702 | A | T | 0.41 | 0.0926 | 0.0113 | 2.62E-16 |
| rs10888339 | T | C | 0.46 | 0.075 | 0.0092 | 3.64E-16 |
| rs11204620 | T | C | 0.46 | 0.0741 | 0.0091 | 3.90E-16 |
| rs10788764 | A | G | 0.47 | 0.0744 | 0.0092 | 6.01E-16 |
| rs12034050 | T | C | 0.50 | -0.0796 | 0.0099 | 6.80E-16 |
| rs6695780 | A | G | 0.79 | -0.1056 | 0.0132 | 1.14E-15 |
| rs6656862 | T | C | 0.45 | 0.0722 | 0.0091 | 2.16E-15 |
| rs75983624 | T | C | 0.07 | 0.2533 | 0.032 | 2.37E-15 |
| rs12723512 | A | G | 0.48 | 0.0736 | 0.0093 | 2.41E-15 |
| 1:248458571 | A | T | 0.52 | -0.0729 | 0.0093 | 4.09E-15 |
| rs77795510 | T | C | 0.62 | 0.132 | 0.0169 | 5.99E-15 |
| rs28642279 | C | G | 0.21 | 0.0961 | 0.013 | 1.39E-13 |
| rs56162116 | A | G | 0.38 | -0.1183 | 0.0162 | 3.11E-13 |
| rs28515652 | A | G | 0.63 | -0.1107 | 0.0154 | 5.97E-13 |
| rs28813072 | A | G | 0.48 | -0.092 | 0.0129 | 9.54E-13 |
| rs7414182 | A | G | 0.58 | -0.0745 | 0.0104 | 9.58E-13 |
| rs111453957 | A | G | 0.92 | -0.1282 | 0.0181 | 1.36E-12 |
| rs6657960 | A | G | 0.52 | -0.0797 | 0.0113 | 1.44E-12 |
| rs6668460 | C | G | 0.46 | 0.0793 | 0.0112 | 1.70E-12 |
| rs28571812 | C | G | 0.52 | -0.0792 | 0.0113 | 2.06E-12 |
| rs28465434 | C | G | 0.48 | 0.0789 | 0.0112 | 2.06E-12 |
| rs6662468 | A | G | 0.55 | 0.0925 | 0.0132 | 2.15E-12 |
| rs6667849 | T | C | 0.55 | -0.0753 | 0.0107 | 2.17E-12 |
| rs6667858 | T | C | 0.56 | -0.0747 | 0.0106 | 2.32E-12 |
| rs1538710 | T | G | 0.43 | 0.0726 | 0.0104 | 2.49E-12 |
| rs28769991 | T | C | 0.44 | 0.0721 | 0.0103 | 2.86E-12 |
| rs4354569 | A | G | 0.57 | -0.0724 | 0.0104 | 2.89E-12 |
| rs28576448 | T | C | 0.56 | -0.0716 | 0.0103 | 3.14E-12 |
| rs28790302 | A | G | 0.44 | 0.0721 | 0.0103 | 3.22E-12 |
| rs3949391 | A | G | 0.43 | 0.0722 | 0.0104 | 3.26E-12 |
| rs28873533 | T | G | 0.44 | 0.0718 | 0.0103 | 3.30E-12 |
| rs1934545 | A | G | 0.56 | -0.0717 | 0.0103 | 3.31E-12 |
| rs28754930 | A | T | 0.44 | 0.0717 | 0.0103 | 3.32E-12 |
| rs28816758 | T | C | 0.55 | -0.0727 | 0.0104 | 3.36E-12 |
| rs4916131 | A | G | 0.44 | 0.0716 | 0.0103 | 3.36E-12 |
| rs28631494 | A | C | 0.43 | 0.0719 | 0.0103 | 3.37E-12 |
| rs28431379 | A | T | 0.45 | 0.0723 | 0.0104 | 3.38E-12 |
| rs28704053 | C | G | 0.44 | 0.072 | 0.0103 | 3.41E-12 |
| rs28469841 | T | C | 0.43 | 0.071 | 0.0102 | 3.43E-12 |
| rs28607995 | A | G | 0.57 | -0.0717 | 0.0103 | 3.47E-12 |
| rs4576685 | T | G | 0.56 | -0.0711 | 0.0102 | 3.48E-12 |

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|---|---|---|---|---|---|---|
| rs4336886 | T | C | 0.44 | 0.0711 | 0.0102 | 3.48E-12 |
| rs28396562 | T | C | 0.44 | 0.0717 | 0.0103 | 3.51E-12 |
| rs28712553 | C | G | 0.57 | -0.0718 | 0.0103 | 3.51E-12 |
| rs28728105 | T | C | 0.57 | -0.0711 | 0.0102 | 3.53E-12 |
| rs28545014 | T | G | 0.57 | -0.0717 | 0.0103 | 3.53E-12 |
| rs28377739 | A | G | 0.57 | -0.0717 | 0.0103 | 3.54E-12 |
| rs28372410 | T | G | 0.43 | 0.0711 | 0.0102 | 3.54E-12 |
| rs28419186 | T | G | 0.57 | -0.0711 | 0.0102 | 3.54E-12 |
| rs28657383 | A | T | 0.43 | 0.0717 | 0.0103 | 3.55E-12 |
| rs28481429 | C | G | 0.57 | -0.0717 | 0.0103 | 3.55E-12 |
| rs28609049 | T | C | 0.43 | 0.0717 | 0.0103 | 3.55E-12 |
| rs2039824 | T | C | 0.57 | -0.0717 | 0.0103 | 3.55E-12 |
| rs28680702 | A | G | 0.57 | -0.0717 | 0.0103 | 3.57E-12 |
| rs1339988 | A | G | 0.57 | -0.0708 | 0.0102 | 3.64E-12 |
| rs28430581 | A | T | 0.56 | -0.0713 | 0.0103 | 3.68E-12 |
| rs28693517 | T | C | 0.56 | -0.0723 | 0.0104 | 4.04E-12 |
| rs28539363 | A | C | 0.56 | -0.0723 | 0.0104 | 4.07E-12 |
| rs28589611 | A | G | 0.44 | 0.0723 | 0.0104 | 4.09E-12 |
| rs12354081 | A | G | 0.55 | -0.061 | 0.0088 | 4.76E-12 |
| rs4509607 | A | C | 0.55 | -0.0609 | 0.0088 | 5.32E-12 |
| rs11204614 | A | C | 0.55 | -0.061 | 0.0089 | 5.82E-12 |
| rs6660381 | T | C | 0.61 | -0.0594 | 0.0086 | 6.29E-12 |
| rs56344892 | A | G | 0.63 | 0.1087 | 0.0158 | 6.41E-12 |
| rs71538193 | A | G | 0.37 | -0.1088 | 0.0159 | 6.99E-12 |
| rs10888322 | A | G | 0.61 | -0.0591 | 0.0086 | 7.42E-12 |
| rs7522840 | C | G | 0.39 | 0.0591 | 0.0086 | 7.76E-12 |
| rs61832942 | A | C | 0.30 | -0.1366 | 0.0201 | 1.00E-11 |
| rs10888375 | A | G | 0.29 | -0.1356 | 0.02 | 1.09E-11 |
| rs12133646 | A | G | 0.51 | -0.0646 | 0.0095 | 1.09E-11 |
| rs11204612 | A | G | 0.40 | 0.06 | 0.0088 | 1.10E-11 |
| rs7514239 | T | C | 0.60 | -0.0597 | 0.0088 | 1.30E-11 |
| rs3927687 | T | C | 0.48 | 0.0696 | 0.0103 | 1.32E-11 |
| rs4626922 | T | C | 0.42 | 0.0607 | 0.009 | 1.45E-11 |
| rs4494168 | T | C | 0.58 | -0.0607 | 0.009 | 1.45E-11 |
| rs7516127 | A | G | 0.48 | 0.0693 | 0.0103 | 1.58E-11 |
| rs7513570 | A | G | 0.45 | 0.0688 | 0.0102 | 1.58E-11 |
| rs28701914 | T | C | 0.48 | 0.0688 | 0.0103 | 1.95E-11 |
| rs35489390 | T | G | 0.52 | -0.0688 | 0.0103 | 1.96E-11 |
| rs12063997 | A | C | 0.39 | 0.0587 | 0.0088 | 2.02E-11 |
| rs6688371 | C | G | 0.51 | -0.0691 | 0.0103 | 2.03E-11 |
| rs34850199 | A | G | 0.51 | -0.069 | 0.0103 | 2.07E-11 |
| rs1538701 | A | G | 0.52 | -0.0687 | 0.0103 | 2.09E-11 |
| rs28574687 | T | G | 0.49 | 0.0691 | 0.0103 | 2.10E-11 |
| rs61832889 | A | G | 0.39 | -0.1013 | 0.0151 | 2.12E-11 |
| rs4326658 | A | C | 0.60 | -0.0579 | 0.0087 | 2.17E-11 |
| rs6702640 | A | G | 0.49 | 0.0689 | 0.0103 | 2.21E-11 |
| rs6697835 | T | C | 0.51 | -0.0689 | 0.0103 | 2.22E-11 |
| rs6702777 | A | G | 0.49 | 0.0687 | 0.0103 | 2.24E-11 |
| rs28547518 | T | G | 0.47 | 0.0685 | 0.0102 | 2.24E-11 |

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|---|---|---|---|---|---|---|
| rs28496519 | A | C | 0.46 | 0.0687 | 0.0103 | 2.26E-11 |
| rs6702450 | A | G | 0.49 | 0.0687 | 0.0103 | 2.27E-11 |
| rs6688663 | T | G | 0.51 | -0.0688 | 0.0103 | 2.29E-11 |
| rs6698060 | T | C | 0.51 | -0.0691 | 0.0103 | 2.29E-11 |
| rs28692768 | A | G | 0.52 | -0.069 | 0.0103 | 2.31E-11 |
| rs28683073 | A | C | 0.54 | -0.0687 | 0.0103 | 2.35E-11 |
| rs28590551 | A | G | 0.49 | 0.0687 | 0.0103 | 2.40E-11 |
| rs7544362 | A | G | 0.50 | -0.0728 | 0.0109 | 2.40E-11 |
| rs6673454 | A | G | 0.06 | 0.1629 | 0.0244 | 2.41E-11 |
| rs11488124 | A | C | 0.59 | -0.059 | 0.0088 | 2.41E-11 |
| rs1934542 | T | C | 0.49 | 0.0689 | 0.0103 | 2.42E-11 |
| rs35274032 | A | G | 0.48 | 0.0689 | 0.0103 | 2.42E-11 |
| rs28708457 | T | C | 0.51 | -0.0687 | 0.0103 | 2.43E-11 |
| rs34389617 | T | G | 0.51 | -0.0689 | 0.0103 | 2.44E-11 |
| rs1544176 | A | G | 0.54 | -0.068 | 0.0102 | 2.45E-11 |
| rs7515376 | T | C | 0.50 | 0.0728 | 0.0109 | 2.47E-11 |
| rs1538709 | T | C | 0.51 | -0.0688 | 0.0103 | 2.48E-11 |
| rs1934541 | T | C | 0.49 | 0.0687 | 0.0103 | 2.51E-11 |
| rs28819183 | T | C | 0.45 | 0.0772 | 0.0116 | 2.52E-11 |
| rs4366353 | T | C | 0.51 | -0.0691 | 0.0104 | 2.52E-11 |
| rs1544175 | A | G | 0.54 | -0.0682 | 0.0102 | 2.54E-11 |
| rs28582047 | A | G | 0.51 | -0.0691 | 0.0104 | 2.57E-11 |
| rs28408294 | T | G | 0.46 | 0.0679 | 0.0102 | 2.58E-11 |
| rs28545558 | A | G | 0.54 | -0.0678 | 0.0102 | 2.58E-11 |
| rs28583925 | A | G | 0.49 | 0.0688 | 0.0103 | 2.60E-11 |
| rs4916111 | A | G | 0.40 | 0.0581 | 0.0087 | 2.60E-11 |
| rs7520424 | T | C | 0.54 | -0.0679 | 0.0102 | 2.61E-11 |
| rs4916112 | A | G | 0.60 | -0.0582 | 0.0087 | 2.63E-11 |
| rs28525318 | A | G | 0.51 | -0.0686 | 0.0103 | 2.69E-11 |
| rs10888325 | A | G | 0.40 | 0.0579 | 0.0087 | 2.74E-11 |
| rs6587460 | T | C | 0.45 | 0.068 | 0.0102 | 2.84E-11 |
| rs12022706 | T | C | 0.58 | -0.0594 | 0.0089 | 2.93E-11 |
| rs7550643 | T | C | 0.60 | -0.0578 | 0.0087 | 2.99E-11 |
| rs28627313 | T | C | 0.45 | 0.068 | 0.0102 | 3.04E-11 |
| rs7523228 | C | G | 0.45 | 0.068 | 0.0102 | 3.09E-11 |
| rs6587457 | A | G | 0.55 | -0.0676 | 0.0102 | 3.10E-11 |
| rs6696565 | A | G | 0.55 | -0.0677 | 0.0102 | 3.12E-11 |
| rs4412631 | T | G | 0.61 | -0.0568 | 0.0086 | 3.14E-11 |
| rs4412630 | T | G | 0.61 | -0.0568 | 0.0086 | 3.15E-11 |
| rs12022705 | T | C | 0.58 | -0.0595 | 0.009 | 3.23E-11 |
| rs61832688 | T | G | 0.59 | -0.0586 | 0.0088 | 3.35E-11 |
| rs1339987 | T | C | 0.55 | -0.0676 | 0.0102 | 3.60E-11 |
| rs6678999 | A | G | 0.45 | 0.0677 | 0.0102 | 3.60E-11 |
| rs28555620 | T | C | 0.54 | -0.0676 | 0.0102 | 3.72E-11 |
| rs28514998 | T | G | 0.46 | 0.0676 | 0.0102 | 3.74E-11 |
| rs28738670 | T | C | 0.54 | -0.0676 | 0.0102 | 3.76E-11 |
| rs10788757 | A | G | 0.61 | -0.0563 | 0.0085 | 3.93E-11 |
| rs12088869 | C | G | 0.61 | -0.0562 | 0.0085 | 4.10E-11 |
| rs28523425 | A | T | 0.44 | 0.0697 | 0.0106 | 4.88E-11 |

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|---|---|---|---|---|---|---|
| rs28729893 | A | G | 0.45 | 0.0674 | 0.0102 | 4.97E-11 |
| rs11204598 | A | T | 0.40 | 0.056 | 0.0085 | 5.08E-11 |
| rs12049453 | T | C | 0.60 | -0.0561 | 0.0085 | 5.19E-11 |
| rs7520734 | T | C | 0.36 | 0.0562 | 0.0086 | 5.40E-11 |
| rs28390128 | A | G | 0.49 | 0.0686 | 0.0105 | 5.40E-11 |
| rs4615870 | T | C | 0.64 | -0.0562 | 0.0086 | 5.42E-11 |
| rs884544 | T | C | 0.53 | -0.0668 | 0.0102 | 5.46E-11 |
| rs946762 | T | C | 0.47 | 0.0668 | 0.0102 | 5.59E-11 |
| rs4475789 | T | G | 0.36 | 0.0562 | 0.0086 | 6.16E-11 |
| rs7515550 | A | G | 0.35 | 0.056 | 0.0086 | 6.20E-11 |
| rs147267541 | T | C | 0.08 | 0.1265 | 0.0194 | 6.55E-11 |
| rs2153388 | T | C | 0.48 | 0.066 | 0.0101 | 7.25E-11 |
| rs12022610 | T | C | 0.60 | -0.0566 | 0.0087 | 7.33E-11 |
| rs946766 | T | C | 0.52 | -0.066 | 0.0101 | 7.52E-11 |
| rs946767 | A | T | 0.48 | 0.0659 | 0.0101 | 7.69E-11 |
| rs28719833 | A | T | 0.52 | -0.0658 | 0.0101 | 7.78E-11 |
| rs946765 | T | C | 0.52 | -0.066 | 0.0102 | 7.85E-11 |
| rs946763 | A | G | 0.48 | 0.066 | 0.0101 | 7.88E-11 |
| rs1556967 | T | C | 0.52 | -0.0658 | 0.0101 | 8.04E-11 |
| rs1339986 | A | G | 0.54 | -0.0663 | 0.0102 | 8.40E-11 |
| rs28893010 | A | T | 0.54 | -0.0666 | 0.0103 | 8.42E-11 |
| rs7364694 | A | G | 0.24 | 0.1038 | 0.016 | 8.57E-11 |
| rs10888320 | A | T | 0.36 | 0.0565 | 0.0087 | 9.25E-11 |
| rs28523915 | A | G | 0.46 | 0.0669 | 0.0104 | 1.07E-10 |
| rs7551888 | T | C | 0.64 | -0.0554 | 0.0086 | 1.14E-10 |
| rs10888318 | C | G | 0.64 | -0.0552 | 0.0086 | 1.17E-10 |
| rs9435920 | T | C | 0.36 | 0.0553 | 0.0086 | 1.26E-10 |
| rs28503806 | A | G | 0.67 | -0.1172 | 0.0182 | 1.29E-10 |
| rs28599722 | A | G | 0.45 | 0.0679 | 0.0106 | 1.31E-10 |
| rs6587429 | A | T | 0.64 | -0.0551 | 0.0086 | 1.31E-10 |
| rs4916181 | A | G | 0.90 | -0.1341 | 0.0209 | 1.32E-10 |
| rs11204604 | A | G | 0.64 | -0.0567 | 0.0088 | 1.45E-10 |
| rs12048030 | A | G | 0.55 | -0.0604 | 0.0094 | 1.46E-10 |
| rs12024915 | T | C | 0.45 | 0.0603 | 0.0094 | 1.46E-10 |
| rs28404051 | A | T | 0.23 | 0.1015 | 0.0159 | 1.59E-10 |
| rs11485460 | A | G | 0.25 | 0.1045 | 0.0163 | 1.60E-10 |
| rs11204605 | A | G | 0.55 | -0.0598 | 0.0094 | 1.84E-10 |
| rs2185358 | A | T | 0.78 | -0.0916 | 0.0144 | 1.89E-10 |
| rs12044201 | A | G | 0.64 | -0.0552 | 0.0087 | 1.91E-10 |
| rs4417104 | T | C | 0.58 | -0.057 | 0.009 | 1.92E-10 |
| rs2095952 | A | G | 0.24 | 0.091 | 0.0143 | 1.98E-10 |
| rs4504921 | T | C | 0.23 | 0.0889 | 0.014 | 2.02E-10 |
| rs4475788 | A | G | 0.36 | 0.0544 | 0.0086 | 2.05E-10 |
| rs4309011 | A | C | 0.36 | 0.0544 | 0.0086 | 2.07E-10 |
| rs10788759 | A | G | 0.36 | 0.0542 | 0.0085 | 2.11E-10 |
| rs10788758 | A | G | 0.64 | -0.0542 | 0.0085 | 2.12E-10 |
| rs113871675 | A | G | 0.93 | -0.1208 | 0.0191 | 2.40E-10 |
| rs4309010 | A | G | 0.64 | -0.0542 | 0.0086 | 2.40E-10 |
| rs28534600 | A | T | 0.54 | -0.0655 | 0.0104 | 2.45E-10 |

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|---|---|---|---|---|---|---|
| rs10888316 | A | C | 0.36 | 0.0544 | 0.0086 | 2.46E-10 |
| rs10888319 | C | G | 0.36 | 0.054 | 0.0085 | 2.66E-10 |
| rs4244171 | C | G | 0.42 | 0.0589 | 0.0093 | 2.71E-10 |
| rs6700218 | T | C | 0.36 | 0.0539 | 0.0085 | 2.76E-10 |
| rs6692295 | T | C | 0.64 | -0.0539 | 0.0085 | 2.78E-10 |
| rs6692096 | C | G | 0.36 | 0.0539 | 0.0085 | 2.82E-10 |
| rs12094919 | A | G | 0.36 | 0.0539 | 0.0085 | 2.83E-10 |
| rs7518270 | T | C | 0.36 | 0.0538 | 0.0085 | 2.84E-10 |
| rs7513567 | T | C | 0.64 | -0.0538 | 0.0085 | 2.88E-10 |
| rs7521431 | T | G | 0.36 | 0.0538 | 0.0085 | 3.02E-10 |
| rs116660969 | T | G | 0.05 | 0.1228 | 0.0195 | 3.05E-10 |
| rs146005063 | C | G | 0.95 | -0.1228 | 0.0195 | 3.05E-10 |
| rs28444499 | A | C | 0.78 | -0.1045 | 0.0166 | 3.08E-10 |
| rs6697190 | A | G | 0.36 | 0.054 | 0.0086 | 3.09E-10 |
| rs28661952 | A | G | 0.46 | 0.065 | 0.0103 | 3.15E-10 |
| rs72763235 | T | G | 0.06 | 0.1187 | 0.0189 | 3.23E-10 |
| rs6587475 | T | C | 0.77 | -0.0759 | 0.0121 | 3.24E-10 |
| rs56965727 | A | G | 0.94 | -0.1212 | 0.0193 | 3.44E-10 |
| rs72763236 | T | C | 0.06 | 0.1171 | 0.0187 | 3.74E-10 |
| rs4436422 | T | G | 0.64 | -0.0535 | 0.0085 | 3.83E-10 |
| rs4592280 | A | G | 0.46 | 0.0648 | 0.0104 | 3.92E-10 |
| rs72763234 | C | G | 0.94 | -0.1163 | 0.0186 | 3.98E-10 |
| rs13373863 | A | G | 0.07 | 0.1165 | 0.0186 | 4.11E-10 |
| rs72763233 | A | G | 0.94 | -0.1155 | 0.0185 | 4.32E-10 |
| rs4571999 | A | C | 0.36 | 0.0533 | 0.0085 | 4.34E-10 |
| rs78865120 | A | G | 0.94 | -0.1211 | 0.0194 | 4.34E-10 |
| rs7417968 | T | C | 0.64 | -0.0533 | 0.0085 | 4.34E-10 |
| rs12756779 | A | T | 0.36 | 0.0533 | 0.0085 | 4.35E-10 |
| rs72763220 | C | G | 0.93 | -0.1238 | 0.0198 | 4.39E-10 |
| rs3001305 | T | C | 0.36 | 0.0533 | 0.0085 | 4.41E-10 |
| rs4430367 | A | G | 0.64 | -0.0533 | 0.0085 | 4.41E-10 |
| rs7549018 | C | G | 0.36 | 0.0533 | 0.0085 | 4.42E-10 |
| rs4430366 | A | G | 0.64 | -0.0533 | 0.0085 | 4.44E-10 |
| rs3010202 | C | G | 0.36 | 0.0533 | 0.0085 | 4.45E-10 |
| rs72763229 | T | C | 0.06 | 0.1178 | 0.0189 | 4.54E-10 |
| rs1538705 | A | T | 0.47 | 0.0644 | 0.0103 | 4.54E-10 |
| rs12733732 | T | C | 0.43 | 0.0553 | 0.0089 | 4.56E-10 |
| rs9435892 | A | T | 0.64 | -0.0532 | 0.0085 | 4.60E-10 |
| rs9435921 | T | G | 0.36 | 0.0532 | 0.0085 | 4.62E-10 |
| rs9435891 | T | C | 0.36 | 0.0533 | 0.0085 | 4.63E-10 |
| rs4916105 | T | C | 0.64 | -0.0533 | 0.0086 | 4.65E-10 |
| rs10788753 | A | T | 0.94 | -0.1145 | 0.0184 | 4.75E-10 |
| rs4628537 | T | C | 0.64 | -0.0532 | 0.0085 | 4.76E-10 |
| rs72763237 | A | G | 0.06 | 0.1164 | 0.0187 | 4.86E-10 |
| rs61832672 | T | G | 0.45 | 0.0616 | 0.0099 | 4.87E-10 |
| rs7512072 | T | C | 0.94 | -0.1146 | 0.0184 | 4.88E-10 |
| rs6657389 | T | G | 0.05 | 0.1175 | 0.0189 | 4.93E-10 |
| rs10888317 | A | G | 0.37 | 0.0532 | 0.0086 | 5.00E-10 |
| rs72763240 | A | G | 0.94 | -0.1168 | 0.0188 | 5.07E-10 |

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|---|---|---|---|---|---|---|
| rs7553421 | A | T | 0.36 | 0.0532 | 0.0086 | 5.16E-10 |
| rs72763239 | T | G | 0.94 | -0.1166 | 0.0188 | 5.18E-10 |
| rs79752829 | T | G | 0.94 | -0.1166 | 0.0188 | 5.50E-10 |
| rs4916104 | T | C | 0.42 | 0.0581 | 0.0094 | 5.69E-10 |
| rs28667896 | A | G | 0.46 | 0.0644 | 0.0104 | 5.80E-10 |
| rs72763243 | T | C | 0.06 | 0.1163 | 0.0188 | 5.97E-10 |
| rs6685509 | T | C | 0.05 | 0.1149 | 0.0186 | 6.22E-10 |
| rs10888312 | A | C | 0.06 | 0.1141 | 0.0184 | 6.24E-10 |
| rs7532628 | T | G | 0.05 | 0.1149 | 0.0186 | 6.29E-10 |
| rs4424545 | A | G | 0.64 | -0.0527 | 0.0085 | 6.31E-10 |
| rs72763230 | A | T | 0.94 | -0.1168 | 0.0189 | 6.51E-10 |
| rs6701653 | T | C | 0.95 | -0.1147 | 0.0186 | 6.53E-10 |
| rs6692201 | T | C | 0.05 | 0.1147 | 0.0186 | 6.55E-10 |
| rs11204600 | T | C | 0.36 | 0.0526 | 0.0085 | 6.65E-10 |
| rs4415609 | A | G | 0.36 | 0.0527 | 0.0085 | 6.69E-10 |
| rs4559543 | T | C | 0.64 | -0.0527 | 0.0085 | 6.72E-10 |
| rs5015666 | C | G | 0.95 | -0.1146 | 0.0186 | 6.72E-10 |
| rs72763224 | T | C | 0.06 | 0.1205 | 0.0195 | 6.77E-10 |
| rs5015664 | T | C | 0.05 | 0.1146 | 0.0186 | 6.78E-10 |
| rs5015668 | T | C | 0.95 | -0.1146 | 0.0186 | 6.81E-10 |
| rs115276215 | T | G | 0.05 | 0.1148 | 0.0186 | 6.82E-10 |
| rs11204601 | A | G | 0.36 | 0.0526 | 0.0085 | 6.82E-10 |
| rs4313428 | A | G | 0.05 | 0.1145 | 0.0186 | 6.85E-10 |
| rs5015665 | C | G | 0.05 | 0.1146 | 0.0186 | 6.90E-10 |
| rs10888315 | A | G | 0.64 | -0.0526 | 0.0085 | 6.90E-10 |
| rs11204602 | T | C | 0.36 | 0.0526 | 0.0085 | 7.10E-10 |
| rs12756781 | A | G | 0.37 | 0.0529 | 0.0086 | 7.20E-10 |
| rs6587420 | T | C | 0.05 | 0.1146 | 0.0186 | 7.24E-10 |
| rs7544991 | T | C | 0.95 | -0.1145 | 0.0186 | 7.25E-10 |
| rs12037329 | T | C | 0.05 | 0.114 | 0.0185 | 7.36E-10 |
| rs73145287 | T | C | 0.05 | 0.1142 | 0.0186 | 7.38E-10 |
| rs4916114 | A | G | 0.57 | -0.0543 | 0.0088 | 7.39E-10 |
| rs11204597 | T | G | 0.36 | 0.0572 | 0.0093 | 7.56E-10 |
| rs112229130 | A | G | 0.06 | 0.1202 | 0.0196 | 7.86E-10 |
| rs35675628 | T | C | 0.41 | 0.0687 | 0.0112 | 7.90E-10 |
| rs12034548 | A | T | 0.05 | 0.114 | 0.0186 | 8.13E-10 |
| rs12037761 | T | C | 0.95 | -0.1155 | 0.0188 | 8.57E-10 |
| rs72763222 | A | C | 0.06 | 0.1207 | 0.0197 | 8.61E-10 |
| rs12033551 | C | G | 0.05 | 0.114 | 0.0186 | 8.63E-10 |
| rs9435919 | T | C | 0.62 | -0.0545 | 0.0089 | 8.72E-10 |
| rs112526160 | T | C | 0.95 | -0.1157 | 0.0189 | 8.78E-10 |
| rs72763248 | T | C | 0.95 | -0.115 | 0.0188 | 8.81E-10 |
| rs12029827 | A | C | 0.05 | 0.1141 | 0.0186 | 8.87E-10 |
| rs6665846 | A | G | 0.95 | -0.1326 | 0.0216 | 8.89E-10 |
| rs4471301 | A | G | 0.95 | -0.1174 | 0.0192 | 8.89E-10 |
| rs111755774 | C | G | 0.05 | 0.1144 | 0.0187 | 8.91E-10 |
| rs144861534 | A | C | 0.05 | 0.1144 | 0.0187 | 8.91E-10 |
| rs6658256 | T | C | 0.12 | 0.0867 | 0.0141 | 8.97E-10 |
| rs140264447 | A | C | 0.05 | 0.1144 | 0.0187 | 9.14E-10 |

| | | | | | | |
|---|---|---|---|---|---|---|
| rs4636501 | C | G | 0.95 | -0.1143 | 0.0187 | 9.25E-10 |
| rs12028988 | A | G | 0.05 | 0.1142 | 0.0186 | 9.28E-10 |
| rs12028959 | T | G | 0.05 | 0.1141 | 0.0186 | 9.31E-10 |
| rs12036678 | T | C | 0.95 | -0.1143 | 0.0187 | 9.63E-10 |
| rs12034675 | A | G | 0.95 | -0.1143 | 0.0187 | 9.66E-10 |
| rs6682718 | T | C | 0.95 | -0.1142 | 0.0187 | 9.80E-10 |
| rs192107511 | A | T | 0.05 | 0.1141 | 0.0187 | 9.83E-10 |
| rs61216800 | A | G | 0.05 | 0.1142 | 0.0187 | 9.84E-10 |
| rs72763219 | C | G | 0.07 | 0.1236 | 0.0202 | 9.87E-10 |
| rs12033903 | T | G | 0.05 | 0.1142 | 0.0187 | 9.89E-10 |
| rs73129409 | T | C | 0.95 | -0.1142 | 0.0187 | 9.93E-10 |
| rs73145245 | T | G | 0.95 | -0.1157 | 0.0189 | 9.93E-10 |
| rs6682869 | C | G | 0.05 | 0.114 | 0.0187 | 9.94E-10 |
| rs140784417 | A | T | 0.95 | -0.1143 | 0.0187 | 9.95E-10 |
| rs73147262 | T | C | 0.05 | 0.114 | 0.0187 | 9.97E-10 |
| rs73147263 | A | T | 0.05 | 0.114 | 0.0187 | 9.97E-10 |
| rs147639902 | T | C | 0.05 | 0.114 | 0.0187 | 1.00E-09 |
| rs12038708 | A | G | 0.95 | -0.1141 | 0.0187 | 1.01E-09 |
| rs12022488 | T | G | 0.94 | -0.115 | 0.0188 | 1.01E-09 |
| rs6691972 | T | C | 0.05 | 0.114 | 0.0187 | 1.01E-09 |
| rs12032973 | A | G | 0.95 | -0.1138 | 0.0186 | 1.02E-09 |
| rs61273564 | A | G | 0.05 | 0.1138 | 0.0186 | 1.02E-09 |
| rs12035965 | T | G | 0.95 | -0.1139 | 0.0187 | 1.03E-09 |
| rs73141294 | T | C | 0.06 | 0.1287 | 0.0211 | 1.03E-09 |
| rs7520873 | A | G | 0.94 | -0.1285 | 0.0211 | 1.04E-09 |
| rs73145260 | A | C | 0.05 | 0.1153 | 0.0189 | 1.05E-09 |
| rs138789716 | A | G | 0.95 | -0.1143 | 0.0187 | 1.08E-09 |
| rs6692816 | A | G | 0.06 | 0.1263 | 0.0207 | 1.08E-09 |
| rs60425460 | A | G | 0.94 | -0.121 | 0.0199 | 1.10E-09 |
| rs73141301 | A | G | 0.06 | 0.1334 | 0.0219 | 1.20E-09 |
| rs11204589 | A | G | 0.15 | 0.0726 | 0.0119 | 1.22E-09 |
| rs73141297 | C | G | 0.94 | -0.1331 | 0.0219 | 1.24E-09 |
| rs12026307 | T | C | 0.05 | 0.114 | 0.0188 | 1.27E-09 |
| rs7535770 | A | C | 0.05 | 0.1135 | 0.0188 | 1.47E-09 |
| rs4474291 | A | G | 0.05 | 0.1134 | 0.0188 | 1.47E-09 |
| rs12028480 | A | G | 0.94 | -0.1178 | 0.0195 | 1.49E-09 |
| rs73141286 | T | C | 0.95 | -0.124 | 0.0205 | 1.53E-09 |
| rs12033940 | T | C | 0.95 | -0.1132 | 0.0187 | 1.54E-09 |
| rs57237504 | A | C | 0.06 | 0.1244 | 0.0206 | 1.58E-09 |
| rs73141283 | A | G | 0.95 | -0.1236 | 0.0205 | 1.60E-09 |
| rs73129418 | A | G | 0.06 | 0.1115 | 0.0185 | 1.65E-09 |
| rs12026297 | A | T | 0.06 | 0.1172 | 0.0194 | 1.66E-09 |
| rs6587419 | T | G | 0.14 | 0.0717 | 0.0119 | 1.71E-09 |
| rs73141281 | T | C | 0.05 | 0.1231 | 0.0204 | 1.72E-09 |
| rs10788751 | A | G | 0.16 | 0.0727 | 0.0121 | 1.77E-09 |
| rs11204588 | A | T | 0.86 | -0.0716 | 0.0119 | 1.78E-09 |
| rs12043363 | A | G | 0.06 | 0.1163 | 0.0193 | 1.78E-09 |
| rs11204587 | A | C | 0.14 | 0.0716 | 0.0119 | 1.79E-09 |
| rs10788752 | C | G | 0.16 | 0.0726 | 0.0121 | 1.80E-09 |

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|---|---|---|---|---|---|---|
| rs12047499 | A | G | 0.06 | 0.116 | 0.0193 | 1.84E-09 |
| rs74798649 | T | C | 0.05 | 0.1225 | 0.0204 | 1.86E-09 |
| rs73141272 | C | G | 0.95 | -0.122 | 0.0203 | 1.91E-09 |
| rs10888311 | C | G | 0.14 | 0.0716 | 0.0119 | 1.99E-09 |
| rs57684757 | T | C | 0.14 | 0.0724 | 0.0121 | 2.07E-09 |
| rs75149475 | A | G | 0.95 | -0.1232 | 0.0206 | 2.08E-09 |
| rs41295946 | A | G | 0.06 | 0.1151 | 0.0192 | 2.13E-09 |
| rs10788750 | T | C | 0.86 | -0.0707 | 0.0118 | 2.26E-09 |
| rs7527770 | A | C | 0.14 | 0.0702 | 0.0118 | 2.33E-09 |
| rs73141225 | T | C | 0.06 | 0.1138 | 0.0191 | 2.49E-09 |
| rs55937620 | A | G | 0.85 | -0.0729 | 0.0122 | 2.60E-09 |
| rs76530775 | A | T | 0.05 | 0.1136 | 0.0191 | 2.67E-09 |
| rs12042804 | A | C | 0.05 | 0.1134 | 0.0191 | 2.69E-09 |
| rs12562434 | A | G | 0.86 | -0.0723 | 0.0121 | 2.69E-09 |
| rs61856413 | T | C | 0.86 | -0.0717 | 0.0121 | 2.77E-09 |
| rs11204586 | C | G | 0.84 | -0.0713 | 0.012 | 2.81E-09 |
| rs73145253 | T | C | 0.14 | 0.0721 | 0.0121 | 2.85E-09 |
| rs6658227 | T | C | 0.14 | 0.0717 | 0.0121 | 2.94E-09 |
| rs12035071 | T | G | 0.05 | 0.1125 | 0.019 | 2.95E-09 |
| rs59385443 | A | G | 0.86 | -0.0718 | 0.0121 | 2.96E-09 |
| rs74824567 | A | G | 0.95 | -0.127 | 0.0214 | 2.98E-09 |
| rs12035070 | A | G | 0.05 | 0.1123 | 0.0189 | 3.06E-09 |
| rs12040091 | T | C | 0.95 | -0.1123 | 0.0189 | 3.06E-09 |
| rs111538251 | C | G | 0.05 | 0.1122 | 0.0189 | 3.10E-09 |
| rs78951761 | A | T | 0.05 | 0.1267 | 0.0214 | 3.12E-09 |
| rs10888313 | C | G | 0.95 | -0.1121 | 0.0189 | 3.16E-09 |
| rs6666048 | T | C | 0.86 | -0.0716 | 0.0121 | 3.25E-09 |
| rs12032193 | T | C | 0.05 | 0.1102 | 0.0186 | 3.35E-09 |
| rs28687288 | A | G | 0.53 | -0.0618 | 0.0105 | 3.47E-09 |
| rs76289694 | A | T | 0.86 | -0.0715 | 0.0121 | 3.77E-09 |
| rs6703679 | T | C | 0.94 | -0.1076 | 0.0183 | 3.87E-09 |
| rs12029352 | T | G | 0.05 | 0.1102 | 0.0187 | 4.00E-09 |
| rs12034735 | T | C | 0.05 | 0.1153 | 0.0196 | 4.02E-09 |
| rs55893924 | T | C | 0.85 | -0.0701 | 0.0119 | 4.28E-09 |
| rs4146708 | A | T | 0.05 | 0.1099 | 0.0188 | 4.68E-09 |
| rs28376879 | A | T | 0.53 | -0.0609 | 0.0104 | 5.42E-09 |
| rs4511156 | T | C | 0.15 | 0.0696 | 0.012 | 6.09E-09 |
| rs149316915 | A | G | 0.86 | -0.0749 | 0.0129 | 6.96E-09 |
| rs115484985 | T | C | 0.04 | 0.1316 | 0.0228 | 7.70E-09 |
| rs4614295 | T | C | 0.15 | 0.069 | 0.012 | 8.76E-09 |
| rs188697725 | T | C | 0.05 | 0.1173 | 0.0204 | 9.06E-09 |
| rs193191589 | A | C | 0.95 | -0.1173 | 0.0204 | 9.08E-09 |
| rs72763221 | A | G | 0.95 | -0.1262 | 0.022 | 9.39E-09 |
| rs4517381 | A | T | 0.88 | -0.079 | 0.0138 | 1.11E-08 |
| rs4501866 | T | C | 0.08 | 0.0893 | 0.0157 | 1.15E-08 |
| rs6669478 | A | G | 0.08 | 0.0893 | 0.0157 | 1.15E-08 |
| rs140976623 | A | C | 0.95 | -0.1201 | 0.0211 | 1.23E-08 |
| rs9435910 | T | C | 0.12 | 0.0791 | 0.0139 | 1.28E-08 |
| rs6587415 | T | C | 0.86 | -0.0702 | 0.0123 | 1.30E-08 |

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|---|---|---|---|---|---|---|
| rs7553764 | A | C | 0.88 | -0.0789 | 0.0139 | 1.31E-08 |
| rs145052285 | T | C | 0.05 | 0.12 | 0.0211 | 1.31E-08 |
| rs12041993 | T | G | 0.92 | -0.0891 | 0.0157 | 1.39E-08 |
| rs73141280 | T | C | 0.12 | 0.0789 | 0.0139 | 1.39E-08 |
| rs58722933 | T | C | 0.08 | 0.0889 | 0.0157 | 1.41E-08 |
| rs6675835 | A | C | 0.92 | -0.0888 | 0.0157 | 1.47E-08 |
| rs28749860 | A | G | 0.12 | 0.0791 | 0.014 | 1.49E-08 |
| rs3010199 | T | C | 0.09 | 0.0888 | 0.0157 | 1.50E-08 |
| rs41295944 | T | C | 0.08 | 0.0881 | 0.0156 | 1.65E-08 |
| rs10788756 | A | G | 0.85 | -0.0683 | 0.0121 | 1.72E-08 |
| rs7545169 | A | T | 0.08 | 0.0886 | 0.0157 | 1.80E-08 |
| rs28837817 | A | T | 0.88 | -0.0787 | 0.014 | 1.80E-08 |
| rs7553029 | A | T | 0.91 | -0.0892 | 0.0158 | 1.82E-08 |
| rs3001301 | A | G | 0.85 | -0.0681 | 0.0121 | 1.83E-08 |
| rs12040974 | A | C | 0.08 | 0.0893 | 0.0159 | 1.85E-08 |
| rs12042271 | A | T | 0.92 | -0.0893 | 0.0159 | 1.86E-08 |
| rs12038290 | A | G | 0.08 | 0.0893 | 0.0159 | 1.88E-08 |
| rs12093163 | A | G | 0.86 | -0.0694 | 0.0123 | 1.90E-08 |
| rs116291302 | T | C | 0.92 | -0.089 | 0.0159 | 2.03E-08 |
| rs12037196 | T | G | 0.08 | 0.0893 | 0.0159 | 2.05E-08 |
| rs6699753 | C | G | 0.85 | -0.0683 | 0.0122 | 2.05E-08 |
| rs9435907 | A | G | 0.15 | 0.0685 | 0.0122 | 2.05E-08 |
| rs9435899 | T | G | 0.15 | 0.0676 | 0.0121 | 2.17E-08 |
| rs12040557 | A | G | 0.92 | -0.0889 | 0.0159 | 2.36E-08 |
| rs12023592 | T | C | 0.95 | -0.1336 | 0.0239 | 2.43E-08 |
| rs59447628 | A | G | 0.08 | 0.089 | 0.016 | 2.56E-08 |
| rs142728151 | A | G | 0.02 | 0.1854 | 0.0334 | 2.92E-08 |
| rs10749643 | T | C | 0.82 | -0.0683 | 0.0123 | 3.03E-08 |
| rs61856398 | T | C | 0.87 | -0.0688 | 0.0124 | 3.14E-08 |
| rs6587416 | A | G | 0.87 | -0.0687 | 0.0124 | 3.15E-08 |
| rs61856399 | A | G | 0.13 | 0.0686 | 0.0124 | 3.41E-08 |
| rs9435877 | T | C | 0.85 | -0.0698 | 0.0126 | 3.47E-08 |
| rs6684616 | A | T | 0.15 | 0.0693 | 0.0126 | 3.52E-08 |
| rs6659253 | T | C | 0.85 | -0.0698 | 0.0127 | 4.18E-08 |
| rs9435912 | T | G | 0.85 | -0.0694 | 0.0127 | 4.50E-08 |
| rs6699713 | T | C | 0.15 | 0.0694 | 0.0127 | 4.74E-08 |
| rs6655937 | A | C | 0.85 | -0.0694 | 0.0127 | 4.78E-08 |
| rs9435884 | C | G | 0.15 | 0.0704 | 0.0129 | 4.79E-08 |
| rs11804999 | A | C | 0.14 | 0.0693 | 0.0127 | 4.80E-08 |
| rs61856443 | T | C | 0.85 | -0.0693 | 0.0127 | 4.90E-08 |
| rs61856444 | T | G | 0.85 | -0.0693 | 0.0127 | 4.91E-08 |
| rs61856445 | T | G | 0.85 | -0.0693 | 0.0127 | 4.91E-08 |
| rs9435883 | T | C | 0.15 | 0.0693 | 0.0127 | 4.96E-08 |

**Supplemental Table 2**. Results of stepwise conditional analysis: SNPs that remain independently statistically significantly associated with asparagus anosmia after mutual adjustment

| SNP | Locus | Reference Allele | Alt Allele | Frequency of Reference Allele | Marginal Beta | Marginal SE | Conditional Beta | Conditional SE | Number of SNPs in LD group** | Heterogeneity chi-square*** | Heterogeneity p-value*** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| rs13373863 | 247994384 | A | G | 0.07 | 0.12 | 0.02 | 0.14 | 0.02 | 63 | 0.85 | 0.36 |
| rs71538191 | 248306916 | C | G | 0.60 | -0.16 | 0.01 | -0.10 | 0.01 | 0 | 5.928 | 0.01 |
| rs6689553 | 248313953 | T | C | 0.32 | 0.14 | 0.01 | 0.10 | 0.01 | 9 | 3.642 | 0.06 |

LD = linkage disequilibrium
*OR = Odds Ratio
**SNPs with $r^2$ >0.8
***Cochran's Q for heterogeneity

**Supplemental Table 3**. Percentages of those who can and cannot smell the odor across genotypes for each of the three independent variants.

| SNP | Genotype | Anosmic | Can Smell |
|---|---|---|---|
| rs13373863 | AA | 0.17 | 0.36 |
| | AG | 9.09 | 13.65 |
| | GG | 90.75 | 85.98 |
| rs71538191 | CC | 53.39 | 38.62 |
| | CG | 41.01 | 50.56 |
| | GG | 5.60 | 10.81 |
| rs6689553 | TT | 5.31 | 8.30 |
| | TC | 35.05 | 45.90 |
| | CC | 59.64 | 43.61 |

**Supplemental Table 4**. Missense SNPs associated with asparagus anosmia at genome-wide significance ($p<5x10^{-8}$)

| SNP | Gene | Possible impact | Polyphen score | Reference Allele | Alt Allele | Marginal Beta | Marginal SE | Marginal p-value | Lead SNP and $r^2$ |
|---|---|---|---|---|---|---|---|---|---|
| rs6658227 | *OR2L3* | Probably damaging | 0.97 | T | C | 0.07 | 0.01 | 2.94e-9 | rs13373863 $r^2 = 0.29$ |
| rs28545014 | *OR14C36* | Probably damaging | 1 | T | G | -0.07 | 0.01 | 3.53e-12 | rs71538191 $r^2 = 0.25$ |
| rs7555310 | *OR2M7* | Probably damaging | 0.97 | A | G | 0.13 | 0.009 | 2.62 e-43 | rs6689553 $r^2 = 0.80$ |
| rs7555424 | *OR2M7* | Possibly damaging | 0.85 | A | G | 0.13 | 0.009 | 2.50 e-43 | rs6689553 $r^2 = 0.80$ |

**Supplemental Table 5**: Genome-wide significant missense SNPs, VEP and Polyphen scores, and LD with the three lead SNPs identified in conditional analyses

| SNP | A1 | A2 | b | se | p | VEP Score | Polyphen Score | LD rs13373863 ($r^2$) | LD rs71538191 ($r^2$) | LD rs6689553 ($r^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| rs28377739 | A | G | -0.0717 | 0.0103 | 3.54E-12 | benign(0) | 0.002 | 0.0002 | 0.25 | 0.31 |
| rs28545014 | T | G | -0.0717 | 0.0103 | 3.53E-12 | probably_damaging(0.95) | 1.00 | 0.0002 | 0.25 | 0.31 |
| rs28599722 | A | G | 0.0679 | 0.0106 | 1.31E-10 | benign(0.001) | 0 | 0.006 | 0.15 | 0.19 |
| rs4244171 | C | G | 0.0589 | 0.0093 | 2.71E-10 | benign(0.06) | 0 | 0.04 | 0.08 | 0.08 |
| rs4916104 | T | C | 0.0581 | 0.0094 | 5.69E-10 | benign(0) | 0 | 0.003 | 0.08 | 0.08 |
| rs4916129 | T | C | -0.0802 | 0.0091 | 1.70E-18 | benign(0.232) | 0.041 | 0.007 | 0.23 | 0.29 |
| rs4916130 | A | C | -0.1309 | 0.0095 | 3.37E-43 | benign(0) | 0 | 0.01 | 0.44 | 0.7 |
| rs55937620 | A | G | -0.0729 | 0.0122 | 2.60E-09 | benign(0) | 0 | 0.26 | 0.008 | 0.001 |
| rs56834114 | A | G | -0.0815 | 0.015 | 5.50E-08 | benign(0.001) | ---- | 0.17 | 0.01 | 0.006 |
| rs6587467 | T | G | 0.0974 | 0.011 | 6.53E-19 | benign(0) | 0 | 0.0003 | 0.26 | 0.38 |
| rs6658227 | T | C | 0.0717 | 0.0121 | 2.94E-09 | probably_damaging(0.928) | 0.969 | 0.29 | 0.007 | 0.0005 |
| rs6658256 | T | C | 0.0867 | 0.0141 | 8.97E-10 | benign(0) | 0 | 0.25 | 0.004 | 0.0006 |
| rs6666048 | T | C | -0.0716 | 0.0121 | 3.25E-09 | benign(0.001) | 0 | 0.29 | 0.007 | 0.0003 |
| rs6667171 | A | C | -0.131 | 0.0101 | 1.37E-38 | benign(0.092) | 0.01 | 0.009 | 0.54 | 0.74 |
| rs73141283 | A | G | -0.1236 | 0.0205 | 1.60E-09 | benign(0.077) | ---- | 0.77 | 6.95E-05 | 0.005 |
| rs7555310 | A | G | 0.1266 | 0.0092 | 2.62E-43 | possibly_damaging(0.566) | 0.969 | 0.01 | 0.53 | 0.8 |
| rs7555424 | A | G | 0.1267 | 0.0092 | 2.50E-43 | possibly_damaging(0.481) | 0.85 | 0.01 | 0.52 | 0.8 |