|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Table S1  Description of *GBA* SNPs and allele frequency. | | | | | | | | | |
|  |  |  |  |  |  | Population Alt allele frequency | | | |
| SNP ID | Position | Role | Minor/ Major Allele | MAF | HWE (*p*-value) | Alt Allele | Ref Allele | ALFA EAS | ALFA Total |
| rs75822236 | 155235002 | Missense Variant | T/C | 0% | - | T | C | 0.000 | 0.00038 |
| rs747506979 | 155235003 | Missense Variant | A/G | 0% | - | A | G | 0.00 | 0.00000 |
| rs121908301 | 155235057 | Missense Variant | T/C | 0% | - | - | - | - | - |
| rs80356772 | 155235195 | Missense Variant | A, T/C | 0% | - | A, T | C | A=0.00  T=0.00 | A=0.00000  T=0.00000 |
| Affx-52112486 | 155235196 | None | A/G | 0% | - | - | - | - | - |
| rs878853317 | 155235241 | Missense Variant | T/C | 0.047% | χ2=0.0002 (p=0.9877) | - | - | - | - |
| rs75671029 | 155235256 | Missense Variant | T/C | 0% | - | T | C | 0.0000 | 0.000385 |
| Affx-92042223 | 155235703 | None | C/A | 0% | - | - | - | - | - |
| Affx-92042224 | 155235706 | None | C/T | 0% | - | - | - | - | - |
| rs121908295 | 155235708 | Missense Variant | C/G | 0% | - | - | - | - | - |
| Affx-92042225 | 155235711 | None | C/T | 0% | - | - | - | - | - |
| Affx-92042226 | 155235715 | None | G/T | 0% | - | - | - | - | - |
| Affx-92042227 | 155235718 | None | G/A | 0% | - | - | - | - | - |
| Affx-92044762 | 155235721 | None | T/A | 0% | - | - | - | - | - |
| rs77369218 | 155235726 | Missense Variant | A/T | 0% | - | - | - | - | - |
| Affx-92044763 | 155235726 | None | C/T | 0% | - | - | - | - | - |
| Affx-92044764 | 155235738 | None | A/T | 0% | - | - | - | - | - |
| rs74598136 | 155235750 | Missense Variant | A/G | 0% | - | A | G | 0.000 | 0.0000 |
| rs80356768 | 155235750-155235806 | Frameshift Variant | Indel a | 0% | - | - | - | - | - |
| rs121908310 | 155235760 | Missense Variant | A/C | 0% | - | A | C | 0 | 0.000 |
| Affx-92044765 | 155235769 | None | A/G | 0% | - | - | - | - | - |
| rs80356769 | 155235772 | Missense Variant | A/C | 0% | - | A | C | 0.000 | 0.00009 |
| Affx-92042229 | 155235775 | None | T/A | 0.047% | χ2=0.0002 (p=0.9877) | - | - | - | - |
| Affx-92042230 | 155235784 | None | T/C | 0% | - | - | - | - | - |
| Affx-92042231 | 155235786 | None | T/C | 0% | - | - | - | - | - |
| rs149171124 | 155235790 | Stop Gained | A, T/C | 0% | - | A, T | C | A=0.0000  T=0.0000 | A=0.000000  T=0.000287 |
| rs994723035 c | 155235792 | Missense Variant | A/G | 0% | - | A | G | 0.00 | 0.00000 |
| rs772548282 | 155235798 | Missense Variant | G/A | 0% | - | G | A | 0.00 | 0.00000 |
| Affx-92042233 | 155235804 | None | C/A | 0.047% | χ2=0.0002 (p=0.9877) | - | - | - | - |
| rs187143994 | 155235805 | Missense Variant | T/G | 0% | - | T | G | 0.00 | 0.00000 |
| Affx-92042234 | 155235806 | None | T/G | 0 | - | - | - | - | - |
| Affx-92042235 | 155235814 | None | G/C | 0% | - | - | - | - | - |
| rs121908311 | 155235823 | Missense Variant | T/C | 0% | - | T | C | 0.00 | 0.00003 |
| rs398123528 | 155235829 | Missense Variant | G/C | 0% | - | G | C | 0.00 | 0.00000 |
| rs121908314 | 155235841 | Missense Variant | C/G | 0% | - | - | - | - | - |
| Affx-52112489 | 155235843 | None | C/T | 0% | - | - | - | - | - |
| rs75548401 | 155236246 | Missense Variant | A/G | 0% | - | A | G | 0.0000 | 0.008203 |
| rs121908307 | 155236261 | Missense Variant | G/C | 0% | - | - | - | - | - |
| rs878853319 | 155236272 | Synonymous Variant | A/C | 0% | - | - | - | - | - |
| rs121908309 | 155236277 | Stop Gained | A/G | 0% | - | A | G | 0.00 | 0.00000 |
| rs760307559 | 155236285 | Missense Variant | C/G | 0% | - | C | G | 0.000 | 0.00000 |
| rs878853315 | 155236292 | Missense Variant | C/G | 0% | - | - | - | - | - |
| rs121908308 | 155236295 | Missense Variant | A/G | 0% | - | A | G | 0.00 | 0.00000 |
| rs398123527 | 155236298 | Missense Variant | G/C | 0% | - | - | - | - | - |
| rs121908306 | 155236328 | Missense Variant | C/A | 0% | - | C | A | 0 | 0.000 |
| rs374306700 | 155236367 | Missense Variant | A/G | 0.047% | χ2=0.0002 (p=0.9877) | A | G | 0.00 | 0.22470 |
| rs2230288 | 155236376 | Missense Variant | T/C | 0% | - | T | C | 0.000 | 0.01235 |
| rs76539814 | 155236384 | Missense Variant | A/G | 0.094% | χ2=0.0009 (p=0.9754) | A | G | 0.000 | 0.00003 |
| Affx-92042237 | 155236409 | None | G/C | 0% | - | - | - | - | - |
| rs121908304 | 155236416 | Missense Variant | A/C | 0% | - | A | C | 0 | 0.000 |
| rs78198234 | 155236420 | Missense Variant | C/T | 0% | - | C | T | 0.000 | 0.00000 |
| Affx-79397658 | 155236426 | None | A/G | 0% | - | - | - | - | - |
| rs181720335 | 155236436 | Missense Variant | A/G | 0% | - | A | G | 0 | 0.00000 |
| Affx-92042238 | 155236439 | None | G/C | 0% | - | - | - | - | - |
| Affx-92042239 | 155236466 | None | A/G | 0% | - | - | - | - | - |
| rs9628662 | 155236550 | Intron Variant | T/G | 31.108% | χ2=0.7899 (p=0.3741) | G | T | 0.718 | 0.310468 |
| rs765633380 | 155237370 | Missense Variant | A/G | 0% | - | A | G | 0.00 | 0.00000 |
| Affx-92042241 | 155237426 | None | A/G | 0% | - | - | - | - | - |
| rs770796008 | 155237427 | Missense Variant | C/G | 0% | - | - | - | - | - |
| rs794727908 | 155237444 | Missense Variant | G/A | 0% | - | - | - | - | - |
| Affx-92042242 | 155237446 | None | T/G | 0% | - | - | - | - | - |
| rs78973108 | 155237453 | Missense Variant | T/C | 0% | - | T | C | 0.000 | 0.00004 |
| rs367968666 | 155237458 | Missense Variant | C/A | 0% | - | C | A | 0.000 | 0.00022 |
| rs121908313 | 155237470 | Missense Variant | A/G | 0% | - | A | G | 0.00 | 0.00000 |
| rs878853321 | 155237474 | Missense Variant | A/C | 0% | - | - | - | - | - |
| rs74500255 | 155237576 | Missense Variant | T/A | 0% | - | T | A | 0.00 | 0.00000 |
| rs121908303 | 155237577 | Missense Variant | C/A | 0% | - | C | A | 0 | 0.000 |
| rs121908300 | 155238144 | Missense Variant | G/A | 0% | - | G | A | 0 | 0.000 |
| rs409652 | 155238174 | Missense Variant | T/C | 0% | - | T | C | 0.000 | 0.00005 |
| rs1064644 | 155238192 | Missense Variant | G/A | 0% | - | G | A | 0 | 0.00005 |
| rs786200979 | 155238214-155238215 | Missense Variant | CC/AT b | 0% | - | - | - | - | - |
| rs364897 | 155238215 | Missense Variant | C/T | 0% | - | C | T | 0.000 | 0.00006 |
| rs61748906 | 155238228 | Missense Variant | G/A | 0% | - | G | A | 0.00 | 0.00000 |
| rs398123532 | 155238270 | Missense Variant | A/G | 0% | - | A | G | 0.00 | 0.00000 |
| rs121908297 | 155238519 | Missense Variant | G/T | 0% | - | - | - | - | - |
| rs147138516 | 155238570 | Missense Variant | G, T/C | 0% | - | G, T | C | G=0.00  T=0.00 | G=0.00000  T=0.00000 |
| rs397518434 | 155238572-155238575 | Frameshift Variant | Indel d | 0% | - | - | - | - | - |
| rs781152868 | 155238584 | Missense Variant | C/T | 0% | - | C | T | 0.00 | 0.00000 |
| Affx-79397684 | 155238596 | None | A/C | 0% | - | - | - | - | - |
| rs398123530 | 155238597 | Missense Variant | A/G | 0% | - | - | - | - | - |
| rs398123529 | 155238618-155238619 | Frameshift Variant | Indel e | 0% | - | - | - | - | - |
| rs121908299 | 155238624 | Missense Variant | A/G | 0.047% | χ2=0.0002 (p=0.9877) | A | G | 0 | 0.000 |
| Affx-92042243 | 155239622 | None | T/C | 0.047% | χ2=0.0002 (p=0.9877) | - | - | - | - |
| Affx-92042244 | 155239628 | None | C/A | 0% | - | - | - | - | - |
| Affx-89024241 | 155239633 | None | A/G | 0% | - | - | - | - | - |
| rs878853314 | 155239655 | Missense Variant | A/C | 0% | - | A | C | 0.00 | 0.00000 |
| rs878853316 | 155239663 | Missense Variant | A/G | 0% | - | - | - | - | - |
| Affx-92042247 | 155239685 | None | T/C | 0% | - | - | - | - | - |
| rs121908312 | 155239716 | Missense Variant | G/C | 0% | - | - | - | - | - |
| Affx-92042248 | 155239720 | None | G/A | 0% | - | - | - | - | - |
| rs779619231 | 155239740 | Frameshift Variant | Deletion f | 0% | - | - | - | - | - |
| Affx-92042249 | 155239756 | None | G/A | 0% | - | - | - | - | - |
| Affx-80213863 | 155239934 | None | A/G | 0% | - | - | - | - | - |
| rs77829017 | 155239939 | Missense Variant | T/C | 0% | - | T | C | 0.000 | 0.00000 |
| rs151093421 | 155239977 | Synonymous Variant | A/G | 0% | - | A | G | 0.00 | 0.00000 |
| rs878853318 | 155240026 | Missense Variant | C/A | 0% | - | - | - | - | - |
| rs121908302 | 155240033 | Missense Variant | A/C | 0% | - | A | C | 0 | 0.000 |
| rs760930573 | 155240048 | Missense Variant | T/C | 0% | - | T | C | 0.00 | 0.00007 |
| rs185884197 | 155240049 | Synonymous Variant | A/G | 0% | - | A | G | 0.00 | 0.00003 |
| Affx-79516118 | 155240629 | None | A/C | 0% | - | - | - | - | - |
| rs80356760 | 155240651-155240652 | Frameshift Variant | Insertion g | 0% | - | - | - | - | - |
| rs387906315 | 155240661 | Frameshift Variant | Indel h | 0% | - | CC | C | 0.000 | 0.00013 |
| rs397518433 | 155240672-155240673 | Frameshift Variant | Indel i | 0% | - | - | - | - | - |
| rs143187997 | 155240687 | Missense Variant | C/T | 0% | - | C | T | 0.0056 | 0.000103 |
| rs139626710 | 155240696 | Missense Variant | C/T | 0% | - | C | T | 0.00 | 0.00000 |
| Affx-52112498 | 155240707 | None | C/T | 0% | - | - | - | - | - |
| rs80356759 | 155241085 | Splice Donor Variant | T/C | 0% | - | T | C | 0 | 0.000 |
| rs118125215 | 155243200 | Intron Variant | A/G | 3.504% | χ2=0.0728 (p=0.7873) | A | G | 0.07 | 0.00089 |
| a Alleles: delACTGTCGACAAAGTTACGCACCCAATTGGG(TCC)2TTC(G)4TTCAGGGCAAGG; b Multiple Nucleotide Variation; c rs994723035 has merged into rs1057519357; d Alleles: delG; e Alleles: delC; f Alleles: delT; g Alleles: insC; h Alleles: dupC; i Alleles: delG  Abbreviations: SNP = single nucleotide polymorphism, MAF = minor allele frequency, HWE = Hardy-Weinberg Equilibrium, ALFA = Allele frequency aggregator, EAS = East Asians, Indel = Insertion and Deletion. | | | | | | | | | |