

Table S2

| ASSAY CODE | ASSAY_ID   | SNP_NAME        | ALLELE | ASP1_NAME | ASP2_NAME | SNP_SEQ   | ASP1_SEQ                         | ASP2_SEQ                         | LSP_SEQ                           |
|------------|------------|-----------------|--------|-----------|-----------|---|----------------------------------|----------------------------------|-----------------------------------|
| 1          | GTA0335201 | VIT_1_10587347  | CA     | C         | A         | AAGGAGAGCAATTGGTTCTCTCC[C/A]ATTATGGATTGATGGAGCTTTCATTGGG              | AAGGAGAGCAATTGGTTCTCTTCC         | GAAGGAGAGCAATTGGTTCTCTTCA        | CCCAATGAAGCTCCATCAAAATCCATAAT     |
| 2          | GTA0335202 | VIT_1_22859684  | TG     | T         | G         | ATCTTCTACTCATCGTTTCCCTCCAA[T/G]TTCCTTCCCTCATTTTCTCTACTATTATTATATA     | ATCTTCTACTCATCGTTTCCCTCCAA       | CTTCTACTCATCGTTTCCCTCCAC         | TATATAAAATAGTAAGAAAAATGAGGGAAGGAA |
| 3          | GTA0335178 | VIT_1_729514    | AG     | A         | G         | GCTGAAGGTTTCTGAAAAAGTACTGAT[A/G]AATTCCTTTGCTGTGCCAACTGTG              | GCTGAAGGTTTCTGAAAAAGTACTGAT      | CTGAAGGTTTCTGAAAAAGTACTGAC       | CACAGGTTGGACAAGCAAAAGGGAATT       |
| 4          | GTA0335188 | VIT_10_11783207 | AT     | A         | T         | TTCTGGCCTTTGAACCGCCCTA[A/T]TTGACAATTGAGGCTTTTCTCTCCTACT               | TTCTGGCCTTTGAACCGCCCTA           | TTCTGGCCTTTGAACCGCCCTT           | AGTAGGAGAGAAAAAGCTCAATTGTCAA      |
| 5          | GTA0335215 | VIT_11_16594893 | CT     | C         | T         | GATAAGTCCAGGATCCAGAGCC[C/T]TAGGAGTAACATGGCCAATCCCCATA                 | GATAAGTCCAGGATCCAGAGCC           | AAAGATAAGTCCAGGATCCAGAGCT        | TATGGGAGTGGCCATGTTACTCTCTA        |
| 6          | GTA0335216 | VIT_11_19390306 | GA     | G         | A         | GTTCAAGCTGGGGGAGAAATATATA[C/G/A]TAAACGGCGATACATGGACTCCGAC             | GTTCAAGCTGGGGGAGAAATATATAC       | GGTTCAAGCTGGGGGAGAAATATAT        | GTCCGGAGTCCATGTATCCGCCGTTA        |
| 7          | GTA0335218 | VIT_12_19886382 | TC     | T         | C         | AAAAATCTCCAGGGCCTTTTCATCACA[T/C]TAGTAAGTGACAGCTGCCAAATCAG             | AAAAATCTCCAGGGCCTTTTCATCACA      | ATCTCCAGGGCCTTTTCATCACG          | CTGATTTGGCAGGCTGCATCTACTA         |
| 8          | GTA0335189 | VIT_12_22228357 | AC     | A         | C         | CAACTTCACGGTGACCGAATTCATA[A/C]AAACCTGTGGCTGCCGTCGACC                  | CAACTTCACGGTGACCGAATTCATA        | AACTTCACGGTGACCGAATTCATC         | GGTCGACGGCAGCCACAGGTTT            |
| 9          | GTA0335217 | VIT_12_739916   | CT     | C         | T         | GCTGAACACACCTTTTCCAAGTTCCG[C/T]JAATTAGATCTTTGTCCCTCCCAAAACC           | GCTGAACACACCTTTTCCAAGTTCCG       | AAGCTGAACACACCTTTTCCAAGTTC       | GGTTTGGGAGGGGACAAAGATCTAATT       |
| 10         | GTA0335190 | VIT_13_15071171 | AT     | A         | T         | AGGTGGTTGTGCTGAGATGGCA[A/T]ATAGACCATCTGCCTTGATTTCTCACT                | AGGTGGTTGTGCTGAGATGGCA           | AGGTGGTTGTGCTGAGATGGCT           | AGTGGAATAATCAAGGCAGATGGTCTAT      |
| 11         | GTA0335219 | VIT_13_16003753 | AG     | A         | G         | ACTAAAACTCCCACAGCTTCTCTCA[A/G]TAGTAATTTATGTGGCTCGTAATCATGACC          | ACTAAAACTCCCACAGCTTCTCTCA        | TAAAACTCCCACAGCTTCTCTCG          | GGTCATGATTACGAGCCACATAAAATCTACTA  |
| 12         | GTA0335192 | VIT_14_26212859 | GA     | G         | A         | GACTGAATTAGGGGGGTTTGGG[G/A]TAGCTTCCAATAACATGGGATGACCCAG               | GACTGAATTAGGGGGGTTTGGG           | CGACTGAATTAGGGGGGTTTGG           | CGTGGTCATCCATGTTATTGGAAAGCTA      |
| 13         | GTA0335193 | VIT_14_27971842 | AG     | A         | G         | TGTTATTGAACAATCAGTGAGTTGGG[A/G]AAGCATAAAAAAATGGTACTTGTTCGACCAT        | TGTTATTGAACAATCAGTGAGTTGGGT      | GTTATTGAACAATCAGTGAGTTGGGC       | ATGGTGCAACCAAGTACCATTTTTTTTATGCTT |
| 14         | GTA0335191 | VIT_14_4947068  | TG     | T         | G         | TATTCCTACCTGCGTTTCGTGCA[T/G]AAGCCCTCCCGGGCCACAG                       | TATTCCTACCTGCGTTTCGTGCA          | ATTCTACCTGCGTTTCGTGCG            | CTGTGGCCCGTGGGGGCTT               |
| 15         | GTA0335194 | VIT_15_18127737 | TG     | T         | G         | GGATGTGATGTAGGGGTCCTTGT[T/G]TTGGGTTTTAGTCTAGAAAAAGGTGATATG            | GGATGTGATGTAGGGGTCCTTGT          | GATGTGATGTAGGGGTCCTTGG           | CATATCACCTTTTTCTAGGCATAAAACCCAA   |
| 16         | GTA0335195 | VIT_15_18567587 | TG     | T         | G         | CTGATTTAAAGCTCTTGGGTGAAAAAATC[T/G]JAATCTTGAGCGTATTTTGCCCAACAAT        | CTGATTTAAAGCTCTTGGGTGAAAAAATC    | TGTTATTAAGCTCTTGGGTGAAAAAAG      | ATGTTGGGCAACCAATCGCTCAAGATT       |
| 17         | GTA0335196 | VIT_16_11542284 | AG     | A         | G         | GTTCAACCAAGCTTCAACATAGATCAT[A/G]TATACTTGCTTCGTCTGAAATTAACGAG          | GTTCAACCAAGCTTCAACATAGATCAT      | TTCAACCAAGCTTCAACATAGATCAC       | GGTTTGAGGTGAGGATTTGTAACCTTTTTT    |
| 18         | GTA0335197 | VIT_16_16198599 | AG     | A         | G         | GCACAACAATTTCCAGCTTCGT[T/A/G]AACTTAACACCTACGTGAGTCCATTTCT             | GCACAACAATTTCCAGCTTCGT           | CACAACAATTTCTCCAGCTTCGTC         | AGAAATGGACTCAGTAGTGTGTTAAGTT      |
| 19         | GTA0335198 | VIT_16_17950801 | AG     | A         | G         | TCTGCTTGAAGGGGAGTGACAA[A/G]TATGAATCAAGTGAGGATGTTTCCACTA               | TCTGCTTGAAGGGGAGTGACAA           | CTGCTTGAAGGGGAGTGACAG            | TAGTGGAAACATCTCCCACTTGATTCATA     |
| 20         | GTA0335220 | VIT_16_21202286 | AG     | A         | G         | ACCCAATGGGAATCGATCCAATGTGCA[A/G]TATACCTTGCTTCGTCTGAAATTAACGAG         | ACCCAATGGGAATCGATCCAATGTCA       | CCAATGGGAATCGATCCAATGTGCG        | CTGTTTAATTTCAGACGAAGCCAAAGTATA    |
| 21         | GTA0335199 | VIT_17_8729316  | TA     | T         | A         | CCAATTTTGGACTTTGGGTTTAACTTTGT[T/A]TTTATTTGATGCTGCTCTTTATCATCTCTA      | CCAATTTTGGACTTTGGGTTTAACTTTGT    | CCAATTTTGGACTTTGGGTTTAACTTTGTA   | TAGGATGATAAAGAGGACAGCATCAATAAAAA  |
| 22         | GTA0335200 | VIT_18_11138668 | AG     | A         | G         | GACATGTTTCCATACTGATCTCCTCA[A/G]ATCATCATCATGTTGAAAAATGTCAG             | GACATGTTTCCATACTGATCTCCTCA       | ACATGTTTCCATACTGATCTCTCTG        | CTGGACAATTTCAACATGATGATGATGAT     |
| 23         | GTA0335221 | VIT_18_1143527  | AT     | A         | T         | ACCATTCTGCCAAATGCGCAAAACATA[A/G]TTGTTCTGTAATAAAGTAAACACGAGTTG         | ACCATTCTGCCAAATGCGCAAAACATA      | ACCAATGCGTCCAAATGCCAAAAAATCT     | CAACTCGTGTCAAATGCGCAAAAGTATA      |
| 24         | GTA0335222 | VIT_19_4551426  | AG     | A         | G         | CAATGTGATTACTTCAGTTTGAACCTCAA[A/G]TAAGTCCCTTGTCTGGAATCTTTTGACAG       | CAATGTGATTACTTCAGTTTGAACCTCAA    | AATGTGATTACTTCAGTTTGAACCTCAG     | CTGTCAAAAAGATTCCAGACAAGGACTTA     |
| 25         | GTA0335223 | VIT_19_7217380  | AT     | A         | T         | GGTCTTCATCCAAGATATGTATCTCATTT[A/T]AATCGCCGCATCCATTTAATCGTATG          | GGTCTTCATCCAAGATATGTATCTCAT      | GGTCTTCATCCAAGATATGTATCTCATA     | CATACGATTAATGGATGCGGGCAGTT        |
| 26         | GTA0335206 | VIT_2_17198115  | GC     | G         | C         | TCCTCCGCTTCTCCGCC[C/G]ATCTCGACTACGCCGCAAGATTTT                        | TCCTCCGCTTCTCCGCC                | TCCTCCGCTTCTCCGCCG               | AAAATCTTCGGCGGTAGTCGAGAT          |
| 27         | GTA0335203 | VIT_2_2329515   | AG     | A         | G         | GTCCAGTTGTGGATTCTCAGCAA[A/G]AACAAGAGAGGGGAAGAAGAGCCCTT                | GTCCAGTTGTGGATTCTCAGCAA          | TCCAGTTGTGGATTCTCAGCAG           | AAGGGCTCTCTCCCTCTCTTGT            |
| 28         | GTA0335204 | VIT_2_4121375   | GC     | G         | C         | TGGATGACCGGATCATTTGCC[C/G]ATCTCATAATCATAGACCGTAAGAAGATTTTG            | TGGATGACCGGATCATTTGCTCC          | TGGATGACCGGATCATTTGCTCG          | CAAAATCTTCTTACGGCTATGATTATGAGAAT  |
| 29         | GTA0335205 | VIT_2_6863000   | GA     | G         | A         | AAAAAGAAAAAGGGAAAAACAAAAAATACTCC[C/G/A]TTCAAACCAACCCAACTAATCAATGAAATC | AAAAAGAAAAAGGGAAAAACAAAAAATACTCC | AAAAAGAAAAAGGGAAAAACAAAAAATACTCT | GATTTTCATTGATTAGTTGGGTTGGTTGAA    |
| 30         | GTA0335207 | VIT_3_10039665  | CA     | C         | A         | GCGTGCCGGTTGAAATTGAATTTATG[C/A]AAATTTGTCTTTTGAGAGTTAAACATGGAAC        | GCGTGCCGGTTGAAATTGAATTTATG       | CGGTGCCGGTTGAAATTGAATTTATT       | GGTTTCCATGTTTAACTCTCAAAAGACAAATTT |
| 31         | GTA0335179 | VIT_3_19173971  | TA     | T         | A         | CAAGTGACCAATCATGGAGTTCAT[T/A]TTGCTACACCGCATGAGGAGCG                   | CAAGTGACCAATCATGGAGTTCAT         | CAAGTGACCAATCATGGAGTTCCAA        | CGCTCCTCATCGGGGTAGACAA            |
| 32         | GTA0335181 | VIT_5_11514532  | CT     | C         | T         | AATAAGGCAATTAACCTGACCAAGACG[C/T]TAACCTGCTAAATTCCACAGACAAATGTAAAG      | AATAAGGCAATTAACCTGACCAAGACG      | GAATAAGGCAATTAACCTTGACCAAGACA    | CTTTACATTTTGTCTGGAAATTTAGCAGTTA   |
| 33         | GTA0335208 | VIT_5_1785979   | CT     | C         | T         | GGTCCCTCACCTATTACTCCAG[C/T]AAGAAACTCAAGCTTTCCATGTCCGAAA               | GGTCCCTCACCTATTACTCCAG           | CGGTCCCTCACCTATTACTCCAA          | TTTCGACATGGAAAAGCTTGAGTTTCT       |
| 34         | GTA0335180 | VIT_5_5773320   | CT     | C         | T         | GGCTGTATCTGTCTTGAAGCT[C/T]ATCATAAACAGCTCGTGACCTTGGATC                 | GGCTGTATCTGTCTTGAAGCTC           | TGGCTGTATCTGTCTTGAAGCTT          | GATCCAAGGTCACGAGCTGTTTATGAT       |
| 35         | GTA0335209 | VIT_5_6744629   | AG     | A         | G         | TGAGTCAATCTCGCGGAATATGAGT[A/G]AATATGGGATATTGCTGCCAATCTTGAGTTT         | TGAGTCAATCTCGCGGAATATGAGT        | AGTCAATCTCGCGGAATATGAGC          | AAACTCAAGATTGGACAGCAATATCCATATT   |
| 36         | GTA0335210 | VIT_6_1032391   | GA     | G         | A         | TTACAACAGACGCTTTCCATGG[G/C/A]TTTCCCTCTAATCTGACAACCCCTAC               | TTACAACAGACGCTTTCCATGG           | GTACAACAGACGCTTTCTCAATGA         | GTAGGGTGTGCAGATTGAGAGGGAAA        |
| 37         | GTA0335183 | VIT_6_17593092  | AT     | A         | T         | CTGCAATTCGTTCACTGTGCAACTTA[A/T]JAATTAAAGGACAAGCTCGAAGATGCAAT          | CTGCAATTCGTTCACTGTGCAACTTA       | CTGCATTCTGTTCACTGTCAACTTT        | ATCTGCAATCTGACAGCTTGCTTAATT       |
| 38         | GTA0335182 | VIT_6_4258638   | CT     | C         | T         | TGTCAGAGAGTCTGTTTCTCG[C/T]JAACCTTCCATGTGCTGCTGCTGAAAG                 | TGTCAGAGAGTCTGTTTCTCG            | ACTGTCCAGAGATCTGTTTCTCTA         | CTTTCAGCAGGAGCAATGGAAGGTT         |
| 39         | GTA0335211 | VIT_7_1388822   | AG     | A         | G         | CGTCCGGATGCAATTCGCGCT[A/G]TACTCCAGCCAATCAGCGTTTGGC                    | CGTCCGGATGCAATTCGCGCT            | GTCCGGATGCAATTCGCGCC             | GGCAACCGTCAATTTGCGTGGAGTA         |
| 40         | GTA0335212 | VIT_7_17760363  | CT     | C         | T         | GGATTATATGGAGGAAACAAAGAAACATG[C/T]ATCAATGACCGGCAGTTCCAGCAG            | GGATTATATGGAGGAAACAAAGAAACATG    | GGATTATATGGAGGAAACAAAGAAACAT     | CTGCTGGAATCTGCCGTCTATTGAT         |
| 41         | GTA0335185 | VIT_8_12622984  | TG     | T         | G         | GATGAATGATTGCTAATTATATTTAGCATCTA[T/G]TAAACGTCCACAGATAAATCACAATCAGAC   | GATGAATGATTGCTAATTATATTTAGCATCTA | ATGAATGATTGCTAATTATATTTAGCATCTC  | GTGCTGATTGTGATTATCTGTGGACGTTAA    |
| 42         | GTA0335213 | VIT_8_3320936   | CT     | C         | T         | TGGAGGGTAAAAATGAACCTAAATTTGA[C/T]TTCCCACTGCTTCTATCATCAGAAAAAG         | TGGAGGGTAAAAATGAACCTAAATTTGAC    | ATTGGAGGGTAAAAATGAACCTAAATTTGAT  | CCTTCTGATGATAGAACGATGGGAA         |
| 43         | GTA0335184 | VIT_8_7904164   | CG     | C         | G         | TCCAATTTCAATTCAATTAAGAGCATGAC[C/G]ATCAAAGTTTCAATTAGATCCGAGGTAG        | TCCAATTTCAATTCAATTAAGAGCATGAC    | TCCAATTTCAATTCAATTAAGAGCATGAG    | CTACCTCGGAATCTGAATTGAACTTTGAT     |
| 44         | GTA0335187 | VIT_9_1623772   | GA     | G         | A         | GCAAGTCGAGCTCTGTGTCG[G/A]AAGTTGACTCCTTTATCTCCAATATAAGCC               | GCAAGTCGAGCTCTGTGTCG             | AGCAAGTCGAGCTCTGTGCA             | GGCTTATATTGGAGATAAAGGAGTCAACTT    |
| 45         | GTA0335186 | VIT_9_3123999   | AT     | A         | T         | TGTTCTGACTCATATTTTGAACAGCA[A/T]ATTGGACCCATATCGTCTTCACACC              | TGTTCTGACTCATATTTTGAACAGCA       | TGTTCTGACTCATATTTTGAACAGCT       | GGGTGAAGCAGATAAATGGGTCCAA         |
| 46         | GTA0335214 | VIT_9_6730580   | GT     | G         | T         | TGTTGCAGCAGATAATGCATACGAC[G/T]AATAAAGGTGCTGATGATAAAATAGAAGTGTG        | TGTTGCAGCAGATAATGCATACGAC        | ATGTTGCAGCAGATAATGCATACGAA       | CACACTCTATTTTATCATCAGCACCTTTATT   |