**S5 Table. In silico analysis results for SNPs with significant association in single marker analysis.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SNPs** | **Allele** | **Silicon estimation a** | | | | |
| **TFB site** | **Splice site** | **ORF-finder** | **Estimated function b** | **Conservative domain, similar protein and related function estimation** |
| rs6624142 | C | - | - | 65aa | Nonsynonymous  Val>Ile | SRP1 |
| T | - | - | 65aa | No changed |
| rs6622044 | A | - | - | 38aa | Nonsynonymous  Arg>Ser | Cytoplasmic domain, Non-Cytoplasmic domain  TMhelix, Transmembrane region |
| C | - | Gain an acceptor site | 38aa | TMhelix domain loss |
| rs4829463 | G | gain SRY site | - | - | -  - | - |
| A | gain C/EBRPb site | - | - | - |
| rs3116911 | A | - | - | 40aa | Nonsynonymous  Ile>Val | Cytoplasmic domain, Non-Cytoplasmic domain  TMhelix, Transmembrane region |
| G | - | - | 40aa | No change |
| rs5929554 | A | - | Changed significant | 64aa |  | Transposase\_22, L1 transposable element |
| T | - | - | No change |
| rs12164331 | C | - | - | - |  | - |
| T | - | - | - | - |
| rs5974392 | T | - | - | 37aa | Nonsense SNP | Non\_Cytoplasmic domain, Signal peptide domain with C, H and N regions, signalP-noTM |
| G | - | Gain an acceptor site | - | - |

Abbreviations: TFB site, transcription factor-binding site analysis; ORF-finder, open reading frame finder; SRP1, Improtin subunit alpha-2-like protein domain, which related to interacelluar trafficking and secretion; SRY site, sex-determining region Y gene product; C/EBRPb site, CCAAT/enhancer binding protein beta, a nuclear factor for IL-6 expression.

a The promoter prediction did not include since no any promoter were founded out;