**Supplementary Table 3**: results of enrichment analysis for the genes located in the regions of variants with suggestive p values (p<5e-06) for association with the phenotypes of interest in GSRD. N genes=n genes in each set; N overlap=n genes that overlap with the genes of interest (those in the regions carrying polymorphisms with suggestive associations); adj. p=FDR corrected p value. Gene sets were downloaded from [http.//www.broadinstitute.org/gsea/](http://www.broadinstitute.org/gsea/). For further methodological details see (Watanabe et al., 2017).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Phenotype** | **Category** | **Gene Set** | **N genes** | **N overlap** | **p** | **Adj. p** | **Genes** |
| Symptom improvement | GO biological process | GO peptide cross linking | 56 | 2 | 3.44E-05 | 3.73E-02 | EVPL,TGM4 |
| TRD vs. others | GO cell component | GO intermediate filament | 193 | 20 | 7.27E-42 | 4.24E-39 | KRTAP13-1,KRTAP13-3,KRTAP13-4,KRTAP15-1,KRTAP19-1,KRTAP19-2,KRTAP19-3,KRTAP19-4,KRTAP19-5,KRTAP19-6,KRTAP19-7,KRTAP22-2,KRTAP6-3,KRTAP6-2,KRTAP22-1,KRTAP6-1,KRTAP20-1,KRTAP20-4,KRTAP20-2,KRTAP20-3 |
| GO cell component | GO intermediate filament cytoskeleton | 235 | 20 | 5.58E-40 | 1.63E-37 | KRTAP13-1,KRTAP13-3,KRTAP13-4,KRTAP15-1,KRTAP19-1,KRTAP19-2,KRTAP19-3,KRTAP19-4,KRTAP19-5,KRTAP19-6,KRTAP19-7,KRTAP22-2,KRTAP6-3,KRTAP6-2,KRTAP22-1,KRTAP6-1,KRTAP20-1,KRTAP20-4,KRTAP20-2,KRTAP20-3 |
| GO cell component | GO supramolecular fiber | 665 | 20 | 3.06E-30 | 5.94E-28 | KRTAP13-1,KRTAP13-3,KRTAP13-4,KRTAP15-1,KRTAP19-1,KRTAP19-2,KRTAP19-3,KRTAP19-4,KRTAP19-5,KRTAP19-6,KRTAP19-7,KRTAP22-2,KRTAP6-3,KRTAP6-2,KRTAP22-1,KRTAP6-1,KRTAP20-1,KRTAP20-4,KRTAP20-2,KRTAP20-3 |
| GO cell component | GO cytoskeletal part | 1423 | 20 | 3.02E-23 | 4.40E-21 | KRTAP13-1,KRTAP13-3,KRTAP13-4,KRTAP15-1,KRTAP19-1,KRTAP19-2,KRTAP19-3,KRTAP19-4,KRTAP19-5,KRTAP19-6,KRTAP19-7,KRTAP22-2,KRTAP6-3,KRTAP6-2,KRTAP22-1,KRTAP6-1,KRTAP20-1,KRTAP20-4,KRTAP20-2,KRTAP20-3 |
| GO cell component | GO cytoskeleton | 1949 | 20 | 2.26E-20 | 2.63E-18 | KRTAP13-1,KRTAP13-3,KRTAP13-4,KRTAP15-1,KRTAP19-1,KRTAP19-2,KRTAP19-3,KRTAP19-4,KRTAP19-5,KRTAP19-6,KRTAP19-7,KRTAP22-2,KRTAP6-3,KRTAP6-2,KRTAP22-1,KRTAP6-1,KRTAP20-1,KRTAP20-4,KRTAP20-2,KRTAP20-3 |