**Table S1 The top 10 up-/down-regulated DEGs and those DEGs interacted with top 10 up-/down-regulated DEGs enriched in GO terms**

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| --- | --- | --- | --- | --- | --- | --- |
| **Items**  | **Items detail** | **Gene****count** | **FDR** | **top 10 up-regulated** **DEGs enriched in it** | **top 10 down-regulated DEGs enriched in it** | **DEGs interacted with top 10 up/down-regulated DEGs**  |
| **Biolocial process** |
| GO:0008380 | RNA splicing | 19 | 9.89E-08 | RBFOX2 | NA | THOC2,DDX5 |
| GO:0007165 | Signal transduction  | 35 | 2.39E-05 | TNK1 | ATF6B | NPM1,ESR2,PRKAG1 |
| GO:0010467 | Gene expression  | 19 | 3.43E-05 | EIF5B | TARS,NR5A1 | ESR2 |
| **Molecular function** |
| GO:0005515 | Protein binding | 162 | 4.77E-48 | RBFOX2,SERBP1,TNK1,CD47,WIPF1,LCK,EIF5B | SIK3,TCOF1,NR5A1 | THOC2,NPM1,TOP1,DDX5,RPA3,NOP56,ATXN2,ESR2,PIAS1,ATN1,RPA2,WASL,PRKAG1 |
| GO:0000166 | Nucleotide binding  | 66 | 3.56E-13 | RBFOX2,SAR1A,TNK1,PFKFB3,LCK,EIF5B | TARS,SIK3,MAT2A | RAB2A,TOP1,DDX5,PRKAG1 |
| GO:0005524 | ATP binding | 45 | 3.29E-08 | RBFOX2,SAR1A,TNK1,PFKFB3,LCK,EIF5B | TARS,SIK3,MAT2A | RAB2A,TOP1,DDX5,PRKAG1 |

DEGs: differentially expressed genes; FDR: false discovery rate; NA: not available.