Table1 The results of GO enrichment.

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| ONTOLOGY | ID | Description | pvalue | geneID | Count |
| BP | GO:0006397 | mRNA processing | 2.30E-47 | CDC5L/RBFOX1/RBFOX2/RBFOX3/SRSF12/ELAVL2/ELAVL4/NCBP2L/RBM28/SREK1/APOBEC2/APOBEC1/RRP1B/CLP1/ZMAT5/MBNL1/ADARB2/LSM3/PRPF6/AFF2/A1CF/RNF113A/U2AF1/U2AF1L4/SNUPN/GEMIN6/RBMY1B/CSDC2/RNPC3/ZFP36L1/POLR2D/KHDRBS2/KHDRBS3/QKI/SRRM1/CSTF2/CSTF2T/RBM24/LSM11/HNRNPA0/HNRNPA1L2/DDX47/PCF11/FASTKD5/SMN1/SMN2/RBM11/TSEN2/POLR2F/ZNF473/CELF3/CELF4/CELF5/CELF6/CPEB1/CPEB3/RPUSD3/RBM15B/RBM15/SNIP1/PPIE/PRPF40B/HTATSF1/ESRP1/ESRP2/ARL6IP4/RNGTT/NOVA1/NOVA2/SARNP/SRRM4/RBM4 | 72 |
| BP | GO:0008380 | RNA splicing | 9.69E-37 | CDC5L/RBFOX1/RBFOX2/RBFOX3/SRSF12/ELAVL2/NCBP2L/RBM28/SREK1/RRP1B/CLP1/ZMAT5/MBNL1/CLK3/CLK4/LSM3/PRPF6/AFF2/RNF113A/U2AF1/U2AF1L4/SNUPN/GEMIN6/RBMY1B/RNPC3/POLR2D/KHDRBS2/KHDRBS3/QKI/SRRM1/CSTF2/CSTF2T/RBM24/HNRNPA0/HNRNPA1L2/DDX47/PCF11/SMN1/SMN2/RBM11/TSEN2/POLR2F/CELF3/CELF4/CELF5/CELF6/RBM15B/RBM15/SNIP1/PPIE/PRPF40B/HTATSF1/ESRP1/ESRP2/ARL6IP4/NOVA1/NOVA2/SRRM4/RBM4 | 59 |
| BP | GO:0034660 | ncRNA metabolic process | 4.35E-34 | METTL2A/TDRD9/TRMT5/RPP25/DARS2/HENMT1/TRMT10C/RCL1/ADAT2/BOP1/EXOSC7/PWP2/CLP1/PLD6/EXOSC6/INTS8/EMG1/TDRKH/TRMT6/SMAD2/SMAD3/PSTK/MOV10L1/PIWIL1/PIWIL4/POP7/THG1L/BMS1/SARS2/ANG/POP4/RC3H1/AARSD1/POLR2D/INTS3/CSTF2/INTS7/AARS2/UTP14C/DDX47/NPM3/PUS3/TSEN2/POLR2F/TRDMT1/CELF3/FARSB/ISG20/ZC3H8/POP1/INTS2/BCDIN3D/NAF1/CTU1/INTS6/LIN28A/LIN28B/MARS2 | 58 |
| BP | GO:0090501 | RNA phosphodiester bond hydrolysis | 5.45E-34 | REXO2/RPP25/RNASEK/PNLDC1/RCL1/BOP1/EXOSC6/AZGP1/RNASE10/MOV10/PIWIL1/PIWIL4/POP7/RNASE2/RNASE3/RNASE4/RNASE7/RNASE8/ANG/POP4/CNOT2/MRPL44/RNASE11/ENDOU/ERI2/RNASE13/SAMHD1/PCF11/TSEN2/ISG20/POP1/RNASEH2A/CNOT6/SMG6/RNASET2/EXO1 | 36 |
| BP | GO:0000377 | RNA splicing, via transesterification reactions with bulged adenosine as nucleophile | 1.62E-26 | CDC5L/RBFOX2/SRSF12/ELAVL2/NCBP2L/SREK1/CLP1/ZMAT5/LSM3/PRPF6/RNF113A/U2AF1/U2AF1L4/SNUPN/GEMIN6/RNPC3/POLR2D/KHDRBS2/KHDRBS3/SRRM1/CSTF2/CSTF2T/RBM24/HNRNPA0/PCF11/SMN1/SMN2/RBM11/POLR2F/CELF3/CELF4/CELF5/CELF6/RBM15B/RBM15/SNIP1/PPIE/PRPF40B/HTATSF1/ESRP2/NOVA1/NOVA2/SRRM4/RBM4 | 44 |
| BP | GO:0000398 | mRNA splicing, via spliceosome | 1.62E-26 | CDC5L/RBFOX2/SRSF12/ELAVL2/NCBP2L/SREK1/CLP1/ZMAT5/LSM3/PRPF6/RNF113A/U2AF1/U2AF1L4/SNUPN/GEMIN6/RNPC3/POLR2D/KHDRBS2/KHDRBS3/SRRM1/CSTF2/CSTF2T/RBM24/HNRNPA0/PCF11/SMN1/SMN2/RBM11/POLR2F/CELF3/CELF4/CELF5/CELF6/RBM15B/RBM15/SNIP1/PPIE/PRPF40B/HTATSF1/ESRP2/NOVA1/NOVA2/SRRM4/RBM4 | 44 |
| BP | GO:0000375 | RNA splicing, via transesterification reactions | 2.64E-26 | CDC5L/RBFOX2/SRSF12/ELAVL2/NCBP2L/SREK1/CLP1/ZMAT5/LSM3/PRPF6/RNF113A/U2AF1/U2AF1L4/SNUPN/GEMIN6/RNPC3/POLR2D/KHDRBS2/KHDRBS3/SRRM1/CSTF2/CSTF2T/RBM24/HNRNPA0/PCF11/SMN1/SMN2/RBM11/POLR2F/CELF3/CELF4/CELF5/CELF6/RBM15B/RBM15/SNIP1/PPIE/PRPF40B/HTATSF1/ESRP2/NOVA1/NOVA2/SRRM4/RBM4 | 44 |
| BP | GO:0090305 | nucleic acid phosphodiester bond hydrolysis | 1.28E-24 | REXO2/ZC3H12C/RPP25/RNASEK/PNLDC1/RCL1/BOP1/PLD6/EXOSC6/AZGP1/RNASE10/MOV10/PIWIL1/PIWIL4/POP7/RNASE2/RNASE3/RNASE4/RNASE7/RNASE8/ANG/POP4/CNOT2/MRPL44/RNASE11/ENDOU/ERI2/RNASE13/SAMHD1/PCF11/TSEN2/ISG20/POP1/RNASEH2A/CNOT6/SMG6/RNASET2/EXO1 | 38 |
| BP | GO:0006401 | RNA catabolic process | 2.55E-24 | PSMA6/TNPO1/GSPT2/PNLDC1/EXOSC7/APOBEC1/EXOSC6/OAS2/LSM3/IGF2BP1/IGF2BP2/IGF2BP3/SMG8/MOV10/RBM46/RPS29/SIDT2/RPL17/RNASE2/RNASE3/RC3H1/ZFP36L1/CNOT2/RBM24/HNRNPA0/CPEB3/MEX3D/ISG20/POP1/YBX3/RNASEH2A/RNH1/CNOT6/SMG6/NAF1/RNASET2/RPL36A/WDR61/NANOS1/NANOS2/NANOS3/LIN28A/LIN28B | 43 |
| BP | GO:0034470 | ncRNA processing | 3.39E-23 | METTL2A/TRMT5/RPP25/TRMT10C/RCL1/ADAT2/BOP1/EXOSC7/PWP2/CLP1/EXOSC6/INTS8/EMG1/TRMT6/SMAD2/SMAD3/POP7/THG1L/BMS1/POP4/INTS3/CSTF2/INTS7/UTP14C/DDX47/NPM3/PUS3/TSEN2/TRDMT1/ISG20/POP1/INTS2/BCDIN3D/NAF1/CTU1/INTS6/LIN28A/LIN28B | 38 |
| CC | GO:0035770 | ribonucleoprotein granule | 7.92E-24 | PSMA6/TDRD9/HENMT1/APOBEC3G/TDRD5/TDRKH/MBNL1/IGF2BP1/MOV10/MOV10L1/PIWIL1/PIWIL4/DDX25/RC3H1/ZFP36L1/ATXN2/RBPMS/DDX28/FASTKD5/SMN1/SMN2/CPEB1/MEX3A/MEX3B/EIF4E/NANOS2/NANOS3/SARNP/LIN28A/RBM4/TOP1/JAKMIP1 | 32 |
| CC | GO:0036464 | cytoplasmic ribonucleoprotein granule | 2.85E-21 | PSMA6/TDRD9/HENMT1/APOBEC3G/TDRD5/TDRKH/MBNL1/IGF2BP1/MOV10/MOV10L1/PIWIL1/PIWIL4/DDX25/RC3H1/ZFP36L1/ATXN2/RBPMS/SMN1/SMN2/CPEB1/MEX3A/MEX3B/EIF4E/NANOS2/NANOS3/SARNP/LIN28A/RBM4/TOP1 | 29 |
| CC | GO:0005840 | ribosome | 5.16E-15 | MRPL53/EIF2D/MRPL38/MRPS24/MTG1/MRPS28/RPL10L/RPS29/MRPS22/RPL17/MRPL50/MRPS26/MRPS18C/MRPL45/NUFIP1/MRPL44/EIF2AK2/EIF2AK4/MRPL22/RPL3L/MRPL46/MRPL14/RPL39L/NR0B1/RPL36A/MRPS6/MRPL23 | 27 |
| CC | GO:0044391 | ribosomal subunit | 5.48E-14 | MRPL53/EIF2D/MRPL38/MRPS24/MRPS28/RPL10L/RPS29/MRPS22/RPL17/MRPL50/MRPS26/MRPS18C/MRPL45/MRPL44/MRPL22/RPL3L/MRPL46/MRPL14/RPL39L/RPL36A/MRPS6/MRPL23 | 22 |
| CC | GO:0000313 | organellar ribosome | 2.70E-13 | MRPL53/MRPL38/MRPS24/MTG1/MRPS28/MRPS22/MRPL50/MRPS26/MRPS18C/MRPL45/MRPL44/MRPL22/MRPL46/MRPL14/MRPS6/MRPL23 | 16 |
| CC | GO:0005761 | mitochondrial ribosome | 2.70E-13 | MRPL53/MRPL38/MRPS24/MTG1/MRPS28/MRPS22/MRPL50/MRPS26/MRPS18C/MRPL45/MRPL44/MRPL22/MRPL46/MRPL14/MRPS6/MRPL23 | 16 |
| CC | GO:0000932 | P-body | 9.05E-13 | PSMA6/APOBEC3G/MOV10/RC3H1/ZFP36L1/RBPMS/CPEB1/MEX3A/MEX3B/EIF4E/NANOS2/NANOS3/LIN28A/TOP1 | 14 |
| CC | GO:0005759 | mitochondrial matrix | 6.67E-12 | REXO2/MRPL53/TRMT5/DARS2/TRMT10C/MRPL38/MRPS24/MTG1/MRPS28/MRRF/MRPS22/SARS2/MRPL50/MRPS26/MRPS18C/MRPL45/PARS2/MRPL44/MRPL22/DDX28/TFB2M/FASTKD5/MRPL46/CARS2/MRPL14/RPUSD3/TERT/MRPS6/TST/MRPL23/MARS2 | 31 |
| CC | GO:0043186 | P granule | 7.47E-10 | TDRD9/HENMT1/TDRD5/TDRKH/MOV10L1/PIWIL1/PIWIL4 | 7 |
| CC | GO:0045495 | pole plasm | 7.47E-10 | TDRD9/HENMT1/TDRD5/TDRKH/MOV10L1/PIWIL1/PIWIL4 | 7 |
| MF | GO:0140098 | catalytic activity, acting on RNA | 8.68E-30 | METTL2A/TRMT5/RPP25/DARS2/HENMT1/TRMT10C/RNASEK/PNLDC1/EXOSC7/AZGP1/EMG1/EIF4A1/MOV10/MOV10L1/PIWIL1/POP7/SARS2/RNASE2/RNASE4/RNASE7/RNASE8/ANG/POP4/DDX25/PUS10/CNOT2/AARSD1/POLR2D/AARS2/ENDOU/SAMHD1/PUS3/TRDMT1/FARSB/TERT/ISG20/POP1/DDX10/BCDIN3D/RNASEH2A/CNOT6/SMG6/RNASET2/EXO1/MARS2 | 45 |
| MF | GO:0004540 | ribonuclease activity | 1.45E-19 | RPP25/RNASEK/PNLDC1/EXOSC7/AZGP1/PIWIL1/POP7/RNASE2/RNASE4/RNASE7/RNASE8/ANG/POP4/CNOT2/ENDOU/SAMHD1/ISG20/POP1/RNASEH2A/CNOT6/SMG6/RNASET2/EXO1 | 23 |
| MF | GO:0004518 | nuclease activity | 1.49E-18 | REXO2/ZC3H12C/RPP25/RNASEK/PNLDC1/EXOSC7/PLD6/AZGP1/PIWIL1/POP7/RNASE2/RNASE3/RNASE4/RNASE7/RNASE8/ANG/POP4/CNOT2/RNASE11/ENDOU/SAMHD1/ISG20/POP1/RNASEH2A/CNOT6/SMG6/RNASET2/EXO1 | 28 |
| MF | GO:0003730 | mRNA 3'-UTR binding | 4.54E-15 | ELAVL2/ELAVL3/ELAVL4/APOBEC1/IGF2BP1/IGF2BP2/IGF2BP3/DND1/RC3H1/ZFP36L1/RBM24/HNRNPA0/CPEB1/CPEB3/MEX3D/YBX3/RBM4 | 17 |
| MF | GO:0004519 | endonuclease activity | 6.63E-15 | ZC3H12C/RPP25/RNASEK/PLD6/PIWIL1/POP7/RNASE2/RNASE3/RNASE4/RNASE7/RNASE8/ANG/POP4/RNASE11/ENDOU/POP1/RNASEH2A/SMG6/RNASET2/EXO1 | 20 |
| MF | GO:0045182 | translation regulator activity | 1.47E-13 | SAMD4A/BOLL/DAZ1/RPS27L/IGF2BP1/IGF2BP2/IGF2BP3/EIF2AK2/EIF2AK4/CELF4/CPEB1/CPEB3/NANOS1/JAKMIP1 | 14 |
| MF | GO:0140101 | catalytic activity, acting on a tRNA | 4.31E-12 | METTL2A/TRMT5/RPP25/DARS2/TRMT10C/POP7/SARS2/POP4/PUS10/AARSD1/AARS2/PUS3/TRDMT1/FARSB/POP1/BCDIN3D/MARS2 | 17 |
| MF | GO:0003729 | mRNA binding | 5.76E-12 | ELAVL2/ELAVL3/ELAVL4/APOBEC1/EIF4A1/IGF2BP1/IGF2BP2/IGF2BP3/DND1/NXF3/PIWIL1/ACO1/LARP6/RC3H1/ZFP36L1/RBM24/RBPMS2/HNRNPA0/DHX33/CPEB1/CPEB3/MEX3D/RBM15/PPIE/YBX3/ESRP1/ESRP2/NANOS2/NOVA1/SRRM4/LIN28A/RBM4/JAKMIP1 | 33 |
| MF | GO:0003725 | double-stranded RNA binding | 6.98E-12 | OASL/OAS2/OAS3/MBNL1/EIF4A1/DHX58/SIDT2/RC3H1/EIF2AK2/YRDC/TLR7/TLR3/DHX33/DDX60 | 14 |
| MF | GO:0004521 | endoribonuclease activity | 9.82E-12 | RPP25/RNASEK/PIWIL1/POP7/RNASE4/RNASE8/POP4/ENDOU/POP1/RNASEH2A/SMG6/RNASET2/EXO1 | 13 |