

Group 5 main functional clusters

• Ribonucleoside monophosphate metabolism

L2hgdh, Rdh13, Thnsl1, Nudt15, Paics, Gart, Mthfd1, Pank4, Dpyd, Pcmtd1, Cyb5rl, Slc28a2, Amd2, Amd1, Srr, Prps2, Prps1

Cardiac muscle cell contraction

Hey2, Cacnb2, Camk2g, Scn5a, Gpd1l, Abcc9, Dsg2, Kcnj12, Kcnj2, Fgf13, Kcnn2

· Mixed, incl. nucleoid, and regulation of mitochondrial translation

Grsf1, Mterf4, Fastkd1, Ptcd1, Gtpbp10, Fastkd2, Mtpap, Mterf3, Mterf2, Ttc33, Fastkd5

BTB and C-terminal Kelch

Cul2, Wwp1, Senp8, Cul3, Dcun1d2, Btbd1, Dcun1d4, Klhl15, Ociad1, Klhl23, Kbtbd4

Vesicle tethering involved in exocytosis

Tbc1d4, Rab10, Myo5b, Rab21, Snap29, Rab14, Exoc8, Exoc7, Exoc3, Exoc6, Rilpl1

Cysteine-type deubiquitinase activity
Usp13, Usp14, Josd1, Ecpas, Usp10, Ublcp1, Usp15, Ubl4a, Katnal1, Ppp6r2

mRNA surveillance pathway

Ppp2r2a, Ppp2ca, Ppp2r3c, Ppp2r5c, Ccnq1, Fqfr1op2, Fqfr1op, Ppp2r3a, Ppp2r5e

Mitochondrial translation

Mrpl1, Eif1ax, Mtrf1l, Ptcd3, Mtif2, Mrpl35, Mtif3, Mrrf, Tarsl2

Complex I biogenesis

Ndufaf4, mt-Nd4, mt-Nd3, mt-Nd2, mt-Nd6, mt-Nd5, mt-Nd4l, Tmem186

Propanoate metabolism

Hibch, Abat, Acox1, Acadsb, Echdc1, Aldh6a1, Acsl1, Acacb

Group 6 main functional clusters

· Autophagy - animal

Mtor, Rb1cc1, Nbr1, Ulk2, Fyco1, Stx17, Atg9a, Rptor, Pik3r4, Prkaa2, Fnip1, Bmt2, Tecpr2, Pfkfb2

Histone H3 acetylation

Spen, Ep300, Ncoa2, Kat6b, Rora, Ncoa6, Kat6a, Jade1, Prdm2, Prox1, Jmy

Nucleocytoplasmic carrier activity

Csell, Xpo7, Xpo5, Kpna6, Tnpo1, Xpo4, Kpna3, Kpna4, Ipo11, Tmem64

Thyroid hormone signalling pathway

Med1, Med131, Med13, Rarb, Med23, Med14, Thrb, Ncoa1, Med121, Fam120b

• U2-type spliceosomal complex, and spliceosomal complex

Sf3a1, Prpf18, Rnpc3, Srrm2, Prpf8, Ddx46, Snrnp200, Dhx36, Prpf4b

Dystrophin-associated glycoprotein complex

Itga7, Lama5, Dag1, Dtna, Sspn, Sgcg, Sgcd, Fktn, Large1

• Mixed, incl. ECM-receptor interaction, and cell-extracellular matrix interactions

Vcl, Flnb, Fermt2, Tln2, Itga1, Lims1, Ctnna3, Cd28

Clathrin-dependent endocytosis

Itsn2, Epn2, Trim23, Arl5a, Fcho2, Chrm2, Fnbp1l

· Cardiac muscle cell development

Actn2, Ttn, Myo18b, Nebl, Obscn, Rbm20, Myom1

Cul3-RING ubiquitin ligase complex

Spopl, Kbtbd8, Klhl9, Kbtbd7, Klhl20, Klhl13, Klhl11