Cluster: 1 plate\_number plate\_number LC279 mouse sex LC280 genotype LC392 cluster 2 LC396 LC398 Tuba1b  $^{0}$  mouse ENSMUSG00000112926.1 #1554 #1577 2810417H13Rik #1576 #1743 Ube2c #1747 #1824 #1819 Gm9234 #1823 Gm6061 sex female Gm10123 male genotype Gm6139 Control Mutant ENSMUSG00000109610.1 cluster ENSMUSG00000114184.1 2 3 Rps2 4 5 Npm1 6 7 Sparc lgfbp7 Eef1b2 Rpl4 mt-Rnr2 mt-Nd1 Gm28661 mt-Co2 Gm10925 Gm29216 mt-Cytb mt-Nd4 Wdr89 Rplp1 Tmsb10 Tmsb4x Rpsa-ps10 Rpsa-ps2 Rps5 Rpl41 Gm10076

Cluster: 2 plate\_number plate\_number LC279 mouse sex LC280 genotype LC392 2 cluster LC396 Gm3788 LC398  $^{0}$  mouse Gm4691 #1554 Rpl41 #1577 Gm29216 #1576 mt-Co1 #1743 #1747 Tmsb10 #1824 Actb #1819 #1823 Tmsb4x Ptma sex female Gm10073 male Rplp1 genotype Gm9234 Control Mutant Ppia cluster Gm10123 Gm6061 2 3 Gm13493 4 Gm9625 5 Rps2 6 7 Rps2-ps10 8 Gm12922 Gm11687 Arhgef7 Tm6sf1 Kdm5b Nufip2 Rnf215 Hmbox1 Zcchc7 Tsc22d1 Malat1 Cldn5 Sparc Igfbp7 Slc7a1 Lhfpl2 Prnp Slfn5 Mxd4 ApInr Pglyrp1 Ptgfrn Slc7a5 Tfrc Slc40a1 Bsg Slc38a5 Spock2 Junb Egr1

Cluster: 4 plate\_number plate\_number LC279 mouse sex LC280 genotype LC392 cluster 2 LC396 LC398 Tubb4b  $^{0}$  mouse Gm3756 #1554 Gm17383 #1577 #1576 ENSMUSG00000114547.1 #1743 Tuba1b #1747 #1824 ENSMUSG00000112926.1 #1819 Hmgb2 #1823 ENSMUSG00000112808.1 sex female Gm13232 male Gm13237 genotype Control Gm13461 Mutant Ran cluster Hmgn2 2 Gm10282 3 Gm8203 4 5 H2afz 6 7 Ftl1 Gm15590 Gm10116 Rpl7a-ps5 Rpl7a Rps2 Gm12922 Rps2-ps10 Ptma Gm6061 Gm10123 Emp1 Cenpa Nufip2 Ptms Hmbox1 Zcchc7 Scaf8 Mrps17 Slc25a36 Gm12372 Pithd1 ENSMUSG00000114739.1 Rpa3 Tmsb10 Tmsb4x Slfn5 Srsf5





