

Table S1: Table listing the most significant Gene Ontologies (GO) represented among the most significantly differentially expressed genes in Beaf32-KD compared to WT cells identified by RNA-Seq from three combined experiments. ‘Number (TOT)’ is the number of genes for each GO, ‘FREQ’ the total frequency of genes

| GO_TERM | TOTAL | | INSULATOR | | |
|------------------------------------|--------|--------|-----------|--------|-----------|
| | NUMBER | FREQ | NUMBER | FREQ | P_VALUE |
| cell cycle | 402 | 0.0397 | 103 | 0.0829 | 4.00E-14 |
| system development | 1671 | 0.1651 | 288 | 0.2317 | 2.13E-11 |
| cell differentiation | 1070 | 0.1057 | 199 | 0.1601 | 8.06E-11 |
| homeostatic process | 202 | 0.02 | 58 | 0.0467 | 1.44E-10 |
| ribonucleotide binding | 893 | 0.0818 | 176 | 0.1271 | 1.61E-10 |
| purine nucleotide binding | 960 | 0.0879 | 186 | 0.1343 | 1.99E-10 |
| biopolymer metabolic process | 3492 | 0.3451 | 512 | 0.4119 | 2.79E-08 |
| transferase activity | 511 | 0.0468 | 107 | 0.0773 | 2.81E-08 |
| protein localization | 365 | 0.0361 | 80 | 0.0644 | 5.50E-08 |
| nucleoside, nucleotide | 1640 | 0.1621 | 261 | 0.21 | 3.83E-07 |
| regulation of cell size | 56 | 0.0055 | 20 | 0.0161 | 3.99E-06 |
| appendage development | 256 | 0.0253 | 56 | 0.0451 | 4.87E-06 |
| organelle fission | 177 | 0.0175 | 41 | 0.033 | 2.03E-05 |
| programmed cell death | 207 | 0.0205 | 46 | 0.037 | 2.04E-05 |
| cytoskeletal protein binding | 215 | 0.0197 | 48 | 0.0347 | 2.78E-05 |
| hydrolase activity, acting on acid | 605 | 0.0554 | 107 | 0.0773 | 6.06E-05 |
| cation binding | 1481 | 0.1356 | 231 | 0.1668 | 6.11E-05 |
| cell-cell signaling | 236 | 0.0233 | 49 | 0.0394 | 6.57E-05 |
| fusome organization | 14 | 0.0014 | 8 | 0.0064 | 6.98E-05 |
| cellular response to stress | 177 | 0.0175 | 39 | 0.0314 | 9.31E-05 |
| synapse organization | 64 | 0.0063 | 18 | 0.0145 | 0.0003372 |
| cellular macromolecule loc | 280 | 0.0277 | 53 | 0.0426 | 0.000342 |
| nucleus organization | 39 | 0.0039 | 13 | 0.0105 | 0.0003796 |
| enzyme binding | 63 | 0.0058 | 18 | 0.013 | 0.0004036 |
| asymmetric cell division | 57 | 0.0056 | 15 | 0.0121 | 0.0019148 |
| stem cell division | 49 | 0.0048 | 13 | 0.0105 | 0.0033381 |