

Table S3.

| Process | GO number | CNAG # | Function | FPKM, WT | FPKM, kcs1 | Log2 (kcs1/WT) | Q-value | Significant |
|--|------------|------------|---|----------|------------|----------------|---------|-------------|
| Glycolysis and pyruvate decarboxylation (6 genes) | | | | | | | | 4 |
| biological_process | GO:0006096 | CNAG_03769 | hexokinase | 357.50 | 515.89 | 0.53 | 0.5841 | |
| biological_process | GO:0006096 | CNAG_05480 | hexokinase | 65.67 | 149.86 | 1.19 | 0.0005 | yes |
| biological_process | GO:0006096 | CNAG_04676 | 6-phosphofructokinase | 22.91 | 103.29 | 2.17 | 0.0005 | yes |
| biological_process | GO:0006096 | CNAG_01820 | pyruvate kinase | 53.69 | 322.45 | 2.59 | 0.0005 | yes |
| biological_process | GO:0008152 | CNAG_01120 | pyruvate dehydrogenase complex E2 component dihydrolipoamide acetyltransferase pyruvate dehydrogenase (acetyl-transferring) | 101.37 | 219.77 | 1.12 | 0.0005 | yes |
| biological_process | GO:0008152 | CNAG_07660 | E1 component, alpha subunit | 105.44 | 220.38 | 1.06 | 0.2379 | |
| Citric acid cycle (16 genes) | | | | | | | | 5 |
| biological_process | GO:0006096 | CNAG_03225 | malate dehydrogenase, NAD-dependent | 542.05 | 393.71 | -0.46 | 0.1568 | |
| biological_process | GO:0006096 | CNAG_03266 | malate dehydrogenase, NAD-dependent | 418.84 | 212.30 | -0.98 | 0.0005 | |
| biological_process | GO:0044262 | CNAG_00061 | citrate synthase, mitochondrial | 351.42 | 251.37 | -0.48 | 0.2178 | |
| biological_process | GO:0008152 | CNAG_07363 | isocitrate dehydrogenase, NAD-dependent | 187.56 | 194.13 | 0.05 | 0.9135 | |
| biological_process | GO:0008152 | CNAG_07851 | isocitrate dehydrogenase, NAD-dependent | 232.39 | 221.89 | -0.07 | 0.8845 | |
| biological_process | GO:0006099 | CNAG_01137 | aconitate hydratase, mitochondrial | 397.72 | 226.19 | -0.81 | 0.0084 | |
| biological_process | GO:0006099 | CNAG_03226 | succinate dehydrogenase [ubiquinone] iron-sulfur subunit, mitochondrial | 637.58 | 299.74 | -1.09 | 0.0005 | yes |
| biological_process | GO:0006099 | CNAG_03427 | aconitate hydratase, mitochondrial | 20.65 | 8.79 | -1.23 | 0.0005 | yes |
| biological_process | GO:0006099 | CNAG_03596 | 2-oxoglutarate dehydrogenase E2 component (dihydrolipoamide succinyltransferase) | 571.47 | 425.04 | -0.43 | 0.2248 | |
| biological_process | GO:0006099 | CNAG_04189 | succinate dehydrogenase [ubiquinone] flavoprotein subunit, mitochondrial | 741.37 | 283.18 | -1.39 | 0.0005 | yes |
| biological_process | GO:0006099 | CNAG_06723 | succinate dehydrogenase (ubiquinone) membrane anchor subunit | 1287.65 | 571.45 | -1.17 | 0.0005 | yes |
| biological_process | GO:0006099 | CNAG_07356 | succinate dehydrogenase, cytochrome b556 subunit | 875.97 | 421.19 | -1.06 | 0.0005 | yes |
| biological_process | GO:0006099 | CNAG_07363 | isocitrate dehydrogenase, NAD-dependent | 187.56 | 194.13 | 0.05 | 0.9135 | |
| biological_process | GO:0006099 | CNAG_07851 | isocitrate dehydrogenase, NAD-dependent | 232.39 | 221.89 | -0.07 | 0.8845 | |
| biological_process | GO:0006099 | CNAG_07908 | aconitate hydratase, mitochondrial | 14.38 | 13.96 | -0.04 | 0.9328 | |
| biological_process | GO:0006106 | CNAG_01657 | fumarate hydratase, mitochondrial | 181.56 | 248.63 | 0.45 | 0.1296 | |
| Fatty acid beta-oxidation and peroxisomal organisation (24 genes) | | | | | | | | 18 |
| biological_process | GO:0006635 | CNAG_07747 | acyl-CoA oxidase | 99.86 | 21.78 | -2.20 | 0.0005 | yes |
| biological_process | GO:0006810 | CNAG_02764 | ATP-binding cassette, subfamily D (ALD), peroxisomal long-chain fatty acid import protein | 58.38 | 4.85 | -3.59 | 0.0005 | yes |
| biological_process | GO:0008152 | CNAG_02562 | acyl-CoA dehydrogenase | 114.58 | 9.03 | -3.66 | 0.0005 | yes |
| biological_process | GO:0008152 | CNAG_03666 | acyl-CoA dehydrogenase | 541.90 | 24.11 | -4.49 | 0.0005 | yes |
| biological_process | GO:0008152 | CNAG_04688 | acyl-CoA dehydrogenase | 199.96 | 25.38 | -2.98 | 0.0005 | yes |
| biological_process | GO:0008152 | CNAG_04308 | 3-hydroxyacyl-CoA dehydrogenase Had1 | 441.78 | 49.38 | -3.16 | 0.0005 | yes |
| biological_process | GO:0008152 | CNAG_05378 | 3-hydroxyacyl-CoA dehydrogenase | 9.95 | 12.47 | 0.32 | 0.5101 | |
| biological_process | GO:0006637 | CNAG_03393 | acyl-CoA thioesterase II | 78.27 | 9.77 | -3.00 | 0.0005 | yes |
| biological_process | GO:0006637 | CNAG_04274 | acyl-CoA thioesterase II | 29.91 | 16.42 | -0.87 | 0.0016 | |
| biological_process | GO:0008152 | CNAG_00861 | 3-hydroxyacyl-CoA dehydrogenase | 8.22 | 4.37 | -0.91 | 0.0162 | |
| biological_process | GO:0006118 | CNAG_06431 | acyl-CoA oxidase | 768.18 | 22.10 | -5.12 | 0.0005 | yes |
| biological_process | GO:0008152 | CNAG_03010 | enoyl-CoA hydratase/isomerase family protein | 516.44 | 22.25 | -4.54 | 0.0005 | yes |
| biological_process | GO:0008152 | CNAG_04228 | 2,4-dienoyl-CoA reductase | 95.26 | 16.77 | -2.51 | 0.0005 | yes |
| biological_process | GO:0008152 | CNAG_04238 | peroxisomal 2,4-dienoyl-CoA reductase | 232.15 | 21.14 | -3.46 | 0.0005 | yes |
| biological_process | GO:0008152 | CNAG_04531 | enoyl-CoA hydratase | 1969.33 | 199.73 | -3.30 | 0.0005 | yes |
| biological_process | GO:0008152 | CNAG_01947 | 2,4-dienoyl-CoA reductase | 8.08 | 339.78 | 5.39 | 0.0005 | yes |
| biological_process | GO:0008152 | CNAG_01135 | delta(3,5)-Delta(2,4)-dienoyl-CoA isomerase | 21.95 | 12.83 | -0.77 | 0.3261 | |
| biological_process | GO:0007031 | CNAG_00171 | peroxin-2 | 51.47 | 13.12 | -1.97 | 0.0005 | yes |
| biological_process | GO:0007031 | CNAG_02939 | peroxin-3 | 41.37 | 22.60 | -0.87 | 0.3996 | |
| biological_process | GO:0007031 | CNAG_04937 | peroxin-12 | 17.85 | 4.26 | -2.07 | 0.0005 | yes |
| biological_process | GO:0007031 | CNAG_05564 | peroxin-10 | 59.16 | 25.67 | -1.20 | 0.0005 | yes |
| biological_process | GO:0007031 | CNAG_07403 | peroxin-1 | 46.07 | 9.93 | -2.10 | 0.4260 | |
| biological_process | GO:0008152 | CNAG_05721 | multifunctional beta-oxidation protein Mfe2 | 370.16 | 17.62 | -4.39 | 0.0003 | yes |
| biological_process | GO:0006631 | CNAG_03134 | 3-hydroxyacyl-CoA dehydrogenase Had2 | 264.66 | 23.92 | -3.47 | 0.0003 | yes |
| Glyoxylate cycle and gluconeogenesis (5 genes) | | | | | | | | 3 |
| biological_process | GO:0005975 | CNAG_00057 | fructose-1,6-bisphosphatase I | 1105.45 | 815.94 | -0.44 | 0.3014 | |
| biological_process | GO:0006094 | CNAG_04217 | phosphoenolpyruvate carboxykinase (PCK1) | 1103.07 | 54.26 | -4.35 | 0.0005 | yes |

| | | | | | | | | |
|---|------------|------------|---|---------|---------|-------|--------|-----|
| biological_process | GO:0006094 | CNAG_05907 | pyruvate carboxylase | 93.24 | 140.45 | 0.59 | 0.0559 | |
| biological_process | GO:0008152 | CNAG_05303 | isocitrate lyase | 1035.28 | 3.88 | -8.06 | 0.0005 | yes |
| biological_process | GO:0006097 | CNAG_05653 | malate synthase A | 916.08 | 44.54 | -4.36 | 0.0005 | yes |
| Translation/ribosomal biogenesis (160 genes) | | | | | | | | |
| biological_process | GO:0006412 | CNAG_00007 | methionine-tRNA ligase | 46.05 | 41.27 | -0.16 | 0.7637 | |
| biological_process | GO:0006412 | CNAG_00034 | large subunit ribosomal protein L9e | 409.66 | 1581.66 | 1.95 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_00084 | glutamine-tRNA ligase | 13.99 | 25.79 | 0.88 | 0.0052 | |
| biological_process | GO:0006412 | CNAG_00109 | large subunit ribosomal protein L34 | 38.15 | 46.81 | 0.30 | 0.5121 | |
| biological_process | GO:0006412 | CNAG_00116 | small subunit ribosomal protein S3 | 141.03 | 452.63 | 1.68 | 0.0005 | yes |
| | | | phosphoribosylaminoimidazolesuccinocarbox | | | | | |
| biological_process | GO:0006412 | CNAG_00143 | amide synthase | 20.84 | 50.78 | 1.28 | 0.0012 | yes |
| biological_process | GO:0006412 | CNAG_00232 | large subunit ribosomal protein L30e | 1158.00 | 3145.83 | 1.44 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_00238 | isoleucine-tRNA ligase | 45.00 | 100.62 | 1.16 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_00347 | DEAH box polypeptide 36 | 6.35 | 6.79 | 0.10 | 0.8799 | |
| biological_process | GO:0006412 | CNAG_00370 | polyubiquitin | 788.64 | 2141.44 | 1.44 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_00451 | cytoplasmic protein | 7.15 | 7.40 | 0.05 | 0.9318 | |
| biological_process | GO:0006412 | CNAG_00502 | large subunit ribosomal protein L35 | 69.29 | 83.34 | 0.27 | 0.4703 | |
| biological_process | GO:0006412 | CNAG_00535 | large subunit ribosomal protein L16 | 41.08 | 55.45 | 0.43 | 0.6481 | |
| biological_process | GO:0006412 | CNAG_00608 | hypothetical protein | 92.82 | 198.61 | 1.10 | 0.0368 | yes |
| biological_process | GO:0006412 | CNAG_00640 | small subunit ribosomal protein S4-A | 873.69 | 3002.20 | 1.78 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_00656 | large subunit ribosomal protein L7e | 258.57 | 988.71 | 1.94 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_00672 | small subunit ribosomal protein S11 | 705.02 | 2654.13 | 1.91 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_00703 | large subunit ribosomal protein L31e | 983.37 | 3293.43 | 1.74 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_00722 | large subunit ribosomal protein L27 | 106.98 | 143.41 | 0.42 | 0.4015 | |
| biological_process | GO:0006412 | CNAG_00771 | large subunit ribosomal protein L29 | 523.89 | 1851.66 | 1.82 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_00779 | large subunit ribosomal protein L27e | 475.08 | 1680.87 | 1.82 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_00819 | small subunit ribosomal protein S30 | 1160.19 | 2471.15 | 1.09 | 0.0019 | yes |
| biological_process | GO:0006412 | CNAG_00821 | large subunit ribosomal protein L34e | 351.16 | 1072.11 | 1.61 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01152 | small subunit ribosomal protein S6e | 248.71 | 1057.11 | 2.09 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01153 | small subunit ribosomal protein S13e | 249.70 | 773.51 | 1.63 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01170 | small subunit ribosomal protein S17 | 713.01 | 2555.58 | 1.84 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01181 | small subunit ribosomal protein S27Ae | 627.68 | 1938.31 | 1.63 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01224 | large subunit ribosomal protein L18-A | 592.26 | 2232.13 | 1.91 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01300 | small subunit ribosomal protein S21e | 223.73 | 716.02 | 1.68 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01305 | methionine-tRNA ligase | 28.38 | 52.14 | 0.88 | 0.0012 | |
| biological_process | GO:0006412 | CNAG_01320 | large subunit ribosomal protein L17 | 44.88 | 59.48 | 0.41 | 0.3855 | |
| biological_process | GO:0006412 | CNAG_01332 | small subunit ribosomal protein S24e | 387.57 | 1297.66 | 1.74 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01345 | small subunit ribosomal protein S2 | 30.58 | 51.48 | 0.75 | 0.0082 | |
| biological_process | GO:0006412 | CNAG_01347 | co-chaperone | 142.94 | 96.93 | -0.56 | 0.0887 | |
| biological_process | GO:0006412 | CNAG_01435 | serine-tRNA ligase | 62.00 | 142.00 | 1.20 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01455 | large subunit ribosomal protein L39 | 378.41 | 1234.32 | 1.71 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01471 | hypothetical protein | 24.66 | 69.73 | 1.50 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01480 | large subunit ribosomal protein L12 | 251.52 | 1740.10 | 2.79 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01486 | large subunit ribosomal protein L15-A | 340.05 | 1780.00 | 2.39 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01522 | phenylalanine-tRNA ligase | 21.06 | 75.09 | 1.83 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01544 | histidyl-tRNA synthetase | 67.53 | 175.88 | 1.38 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01590 | large subunit ribosomal protein L32 | 57.82 | 207.59 | 1.84 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01599 | hypothetical protein | 14.03 | 41.69 | 1.57 | 0.1087 | |
| biological_process | GO:0006412 | CNAG_01628 | small subunit ribosomal protein S20 | 348.23 | 2181.06 | 2.65 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01650 | large subunit ribosomal protein L7 | 14.54 | 43.34 | 1.58 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01679 | small subunit ribosomal protein S15 | 70.98 | 170.30 | 1.26 | 0.0231 | yes |
| biological_process | GO:0006412 | CNAG_01812 | large subunit ribosomal protein L24e | 45.35 | 121.98 | 1.43 | 0.0118 | yes |
| biological_process | GO:0006412 | CNAG_01819 | large subunit ribosomal protein L1 | 9.35 | 63.05 | 2.75 | 0.0019 | yes |
| biological_process | GO:0006412 | CNAG_01884 | large subunit ribosomal protein L3 | 252.31 | 1535.19 | 2.61 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01894 | aspartate-tRNA ligase | 9.71 | 38.45 | 1.98 | 0.3853 | |
| biological_process | GO:0006412 | CNAG_01951 | small subunit ribosomal protein S22-A | 451.56 | 2685.76 | 2.57 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01974 | large subunit ribosomal protein L36 | 54.00 | 98.62 | 0.87 | 0.2034 | |
| biological_process | GO:0006412 | CNAG_01976 | large subunit ribosomal protein L23 | 403.58 | 2473.50 | 2.62 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_01990 | small subunit ribosomal protein S5 | 730.34 | 5192.73 | 2.83 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_02037 | large subunit ribosomal protein L22 | 20.04 | 25.03 | 0.32 | 0.8750 | |
| biological_process | GO:0006412 | CNAG_02136 | small subunit ribosomal protein S6 | 147.70 | 246.33 | 0.74 | 0.0097 | |
| biological_process | GO:0006412 | CNAG_02144 | large subunit ribosomal protein L1-A | 461.31 | 1525.44 | 1.73 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_02234 | large subunit ribosomal protein L6e | 225.28 | 759.48 | 1.75 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_02330 | large subunit ribosomal protein L21e | 107.87 | 452.41 | 2.07 | 0.0183 | yes |
| biological_process | GO:0006412 | CNAG_02331 | small subunit ribosomal protein S9 | 815.88 | 3369.79 | 2.05 | 0.0009 | yes |
| biological_process | GO:0006412 | CNAG_02354 | large subunit ribosomal protein L2 | 25.20 | 45.42 | 0.85 | 0.1226 | |

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|--------------------|------------|------------|--|--------|---------|-------|--------|-----|
| biological_process | GO:0006412 | CNAG_02418 | asparagine-tRNA ligase | 22.81 | 79.49 | 1.80 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_02709 | small subunit ribosomal protein S19 | 66.30 | 91.74 | 0.47 | 0.2004 | |
| biological_process | GO:0006412 | CNAG_02754 | small subunit ribosomal protein S12e | 960.85 | 3408.42 | 1.83 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_02763 | phenylalanine-tRNA ligase, beta subunit | 19.53 | 39.90 | 1.03 | 0.0869 | |
| biological_process | GO:0006412 | CNAG_02811 | small subunit ribosomal protein S29 | 879.63 | 3252.14 | 1.89 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_02813 | large subunit ribosomal protein L30 | 185.64 | 190.28 | 0.04 | 0.9436 | |
| biological_process | GO:0006412 | CNAG_02838 | small subunit ribosomal protein S17 | 42.45 | 62.37 | 0.56 | 0.0794 | |
| biological_process | GO:0006412 | CNAG_02914 | hypothetical protein | 15.90 | 23.45 | 0.56 | 0.0891 | |
| biological_process | GO:0006412 | CNAG_02923 | large subunit ribosomal protein L14 | 79.00 | 101.16 | 0.36 | 0.2803 | |
| biological_process | GO:0006412 | CNAG_02928 | large subunit ribosomal protein L5e | 229.13 | 778.62 | 1.76 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_03000 | small subunit ribosomal protein S19e | 704.36 | 2456.32 | 1.80 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_03015 | large subunit ribosomal protein L37-A | 427.00 | 1315.86 | 1.62 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_03053 | large subunit ribosomal protein L23 | 264.37 | 1027.98 | 1.96 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_03127 | small subunit ribosomal protein S23 | 948.13 | 2100.79 | 1.15 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_03221 | large subunit ribosomal protein L29 | 824.08 | 2749.61 | 1.74 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_03260 | large subunit ribosomal protein L6 | 34.41 | 47.24 | 0.46 | 0.2481 | |
| biological_process | GO:0006412 | CNAG_03283 | large subunit ribosomal protein L24e | 353.83 | 1272.54 | 1.85 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_03303 | small subunit ribosomal protein S27 | 368.07 | 962.36 | 1.39 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_03320 | mannose-1-phosphate guanylyltransferase | 28.31 | 24.18 | -0.23 | 0.8319 | |
| biological_process | GO:0006412 | CNAG_03353 | hypothetical protein | 37.46 | 80.45 | 1.10 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_03441 | small subunit ribosomal protein S21 | 33.68 | 44.73 | 0.41 | 0.2462 | |
| biological_process | GO:0006412 | CNAG_03457 | arginine-tRNA ligase | 32.05 | 96.83 | 1.59 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_03510 | large subunit ribosomal protein L36e | 398.27 | 973.00 | 1.29 | 0.0116 | yes |
| biological_process | GO:0006412 | CNAG_03540 | aspartyl/glutamyl-tRNA(Asn/Gln) amidotransferase, B subunit coatomer protein complex, subunit alpha (xenin) | 26.87 | 24.36 | -0.14 | 0.7653 | |
| biological_process | GO:0006412 | CNAG_03554 | | 73.62 | 99.61 | 0.44 | 0.1884 | |
| biological_process | GO:0006412 | CNAG_03563 | aspartate-tRNA(Asn) ligase | 58.17 | 101.52 | 0.80 | 0.0116 | |
| biological_process | GO:0006412 | CNAG_03693 | large subunit ribosomal protein L11 | 119.94 | 122.81 | 0.03 | 0.9607 | |
| biological_process | GO:0006412 | CNAG_03739 | large subunit ribosomal protein L10-like | 778.27 | 1867.45 | 1.26 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_03747 | large subunit ribosomal protein L27Ae | 427.83 | 1536.99 | 1.85 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_03779 | large subunit ribosomal protein L4 | 16.80 | 18.97 | 0.18 | 0.8437 | |
| biological_process | GO:0006412 | CNAG_03780 | small subunit ribosomal protein S16 | 364.78 | 1325.08 | 1.86 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_03793 | hypothetical protein | 77.83 | 55.99 | -0.48 | 0.6021 | |
| biological_process | GO:0006412 | CNAG_03810 | large subunit ribosomal protein L13 | 173.98 | 162.92 | -0.09 | 0.8589 | |
| biological_process | GO:0006412 | CNAG_03965 | ribosome recycling factor | 131.36 | 101.88 | -0.37 | 0.2520 | |
| biological_process | GO:0006412 | CNAG_04004 | small subunit ribosomal protein S1 | 908.90 | 3097.77 | 1.77 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_04011 | large subunit ribosomal protein L37a | 733.09 | 2774.04 | 1.92 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_04021 | large subunit ribosomal protein L24 | 377.46 | 1361.80 | 1.85 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_04068 | large subunit ribosomal protein L28e | 111.92 | 446.05 | 1.99 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_04082 | proline-tRNA ligase | 29.30 | 68.56 | 1.23 | 0.0055 | yes |
| biological_process | GO:0006412 | CNAG_04114 | small subunit ribosomal protein S0 | 51.66 | 283.79 | 2.46 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_04179 | lysine-tRNA ligase | 46.15 | 88.73 | 0.94 | 0.0012 | |
| biological_process | GO:0006412 | CNAG_04180 | large subunit ribosomal protein L15 | 74.92 | 121.53 | 0.70 | 0.0537 | |
| biological_process | GO:0006412 | CNAG_04292 | hypothetical protein | 25.93 | 44.75 | 0.79 | 0.0055 | |
| biological_process | GO:0006412 | CNAG_04400 | small subunit ribosomal protein S10 | 26.41 | 36.43 | 0.46 | 0.7522 | |
| biological_process | GO:0006412 | CNAG_04445 | small subunit ribosomal protein S7e | 377.54 | 1451.02 | 1.94 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_04448 | large subunit ribosomal protein L19e | 639.40 | 1988.41 | 1.64 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_04452 | small subunit ribosomal protein S18 | 59.02 | 84.64 | 0.52 | 0.2463 | |
| biological_process | GO:0006412 | CNAG_04604 | tryptophan-tRNA ligase general transcription factor 3C polypeptide 3 (transcription factor C subunit 4) | 39.36 | 66.66 | 0.76 | 0.0029 | |
| biological_process | GO:0006412 | CNAG_04641 | | 15.57 | 14.48 | -0.11 | 0.8132 | |
| biological_process | GO:0006412 | CNAG_04726 | large subunit ribosomal protein L18Ae | 432.49 | 1639.13 | 1.92 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_04762 | large subunit ribosomal protein L4e | 165.05 | 540.16 | 1.71 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_04799 | large subunit ribosomal protein L14e | 391.89 | 1499.48 | 1.94 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_04800 | phenylalanine-tRNA ligase, alpha subunit | 109.18 | 125.86 | 0.21 | 0.5653 | |
| biological_process | GO:0006412 | CNAG_04830 | large subunit ribosomal protein L33 | 234.78 | 219.34 | -0.10 | 0.8555 | |
| biological_process | GO:0006412 | CNAG_04883 | small subunit ribosomal protein S18 | 467.59 | 1451.03 | 1.63 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_04884 | large subunit ribosomal protein L44 | 861.38 | 2589.57 | 1.59 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_04896 | tyrosine-tRNA ligase | 19.78 | 24.76 | 0.32 | 0.6314 | |
| biological_process | GO:0006412 | CNAG_05110 | small subunit ribosomal protein S13 | 68.67 | 87.09 | 0.34 | 0.3321 | |
| biological_process | GO:0006412 | CNAG_05232 | large subunit ribosomal protein L8 | 615.30 | 2054.82 | 1.74 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_05507 | small subunit ribosomal protein S8 | 252.54 | 258.01 | 0.03 | 0.9503 | |
| biological_process | GO:0006412 | CNAG_05525 | small subunit ribosomal protein S26 | 864.06 | 2659.91 | 1.62 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_05530 | hypothetical protein | 39.36 | 40.61 | 0.05 | 0.9405 | |
| biological_process | GO:0006412 | CNAG_05555 | large subunit ribosomal protein L7Ae | 411.68 | 1566.88 | 1.93 | 0.0005 | yes |

| | | | | | | | | |
|--------------------------------------|------------|------------|---|---------|---------|-------|--------|-----------|
| biological_process | GO:0006412 | CNAG_05556 | hypothetical protein | 492.31 | 1882.61 | 1.94 | 0.0047 | yes |
| biological_process | GO:0006412 | CNAG_05580 | hypothetical protein | 4.22 | 2.64 | -0.68 | 0.7885 | |
| biological_process | GO:0006412 | CNAG_05635 | large subunit ribosomal protein L19 | 22.19 | 27.94 | 0.33 | 0.7345 | |
| biological_process | GO:0006412 | CNAG_05722 | alanine-tRNA ligase | 60.30 | 72.30 | 0.26 | 0.5626 | |
| biological_process | GO:0006412 | CNAG_05764 | small subunit ribosomal protein S5 | 60.52 | 72.46 | 0.26 | 0.6730 | |
| biological_process | GO:0006412 | CNAG_05800 | large subunit ribosomal protein L33-b minichromosome maintenance protein 7 (cell | 276.78 | 1066.97 | 1.95 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_05825 | division control protein 47) | 9.27 | 37.65 | 2.02 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_05900 | glycine-tRNA ligase | 47.46 | 91.12 | 0.94 | 0.0005 | |
| biological_process | GO:0006412 | CNAG_05904 | small subunit ribosomal protein S14 | 285.08 | 983.23 | 1.79 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_05978 | glutamate-tRNA ligase | 60.67 | 92.26 | 0.60 | 0.0279 | |
| biological_process | GO:0006412 | CNAG_05980 | large subunit ribosomal protein L7/L12 | 44.14 | 83.21 | 0.91 | 0.0019 | |
| biological_process | GO:0006412 | CNAG_06095 | large subunit ribosomal protein L13e | 510.02 | 1924.22 | 1.92 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_06123 | leucine-tRNA ligase | 24.92 | 75.31 | 1.60 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_06222 | large subunit ribosomal protein L32e | 1475.33 | 5286.23 | 1.84 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_06231 | large subunit ribosomal protein L13 | 139.83 | 569.85 | 2.03 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_06441 | isoleucine-tRNA ligase | 19.18 | 25.00 | 0.38 | 0.2262 | |
| biological_process | GO:0006412 | CNAG_06447 | large subunit ribosomal protein L22 | 274.94 | 1148.69 | 2.06 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_06471 | small subunit ribosomal protein S12 | 33.97 | 43.28 | 0.35 | 0.3608 | |
| biological_process | GO:0006412 | CNAG_06535 | ribosome biogenesis protein UTP30 | 15.73 | 29.58 | 0.91 | 0.0023 | |
| biological_process | GO:0006412 | CNAG_06605 | small subunit ribosomal protein S2 | 194.20 | 849.49 | 2.13 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_06633 | small subunit ribosomal protein S15 | 853.07 | 2933.37 | 1.78 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_06713 | cysteine-tRNA ligase | 12.09 | 26.59 | 1.14 | 0.2149 | |
| biological_process | GO:0006412 | CNAG_06748 | U3 small nucleolar RNA-associated protein 7 | 19.59 | 19.01 | -0.04 | 0.9320 | |
| biological_process | GO:0006412 | CNAG_06755 | threonine-tRNA ligase | 36.71 | 78.70 | 1.10 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_06763 | serine-tRNA ligase | 13.42 | 13.96 | 0.06 | 0.9114 | |
| biological_process | GO:0006412 | CNAG_06811 | large subunit ribosomal protein L22e | 277.11 | 1053.36 | 1.93 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_06847 | small subunit ribosomal protein S28 | 959.01 | 2965.93 | 1.63 | 0.0005 | yes |
| biological_process | GO:0006412 | CNAG_07309 | mRNA surveillance protein pelota | 68.24 | 136.39 | 1.00 | 0.0005 | |
| biological_process | GO:0006412 | CNAG_07400 | aspartate-tRNA(Asn) ligase | 83.32 | 111.59 | 0.42 | 0.1507 | |
| biological_process | GO:0006412 | CNAG_07429 | asparagine-tRNA ligase | 19.83 | 25.46 | 0.36 | 0.2854 | |
| biological_process | GO:0006412 | CNAG_07473 | valine-tRNA ligase | 39.11 | 53.14 | 0.44 | 0.1296 | |
| biological_process | GO:0006412 | CNAG_07535 | small subunit ribosomal protein S16 | 21.11 | 31.01 | 0.55 | 0.1691 | |
| biological_process | GO:0006412 | CNAG_07563 | glutamate-tRNA ligase | 19.57 | 29.94 | 0.61 | 0.1560 | |
| biological_process | GO:0006412 | CNAG_07637 | large subunit ribosomal protein L3 | 83.99 | 125.24 | 0.58 | 0.3869 | |
| biological_process | GO:0006412 | CNAG_07778 | translation initiation factor 2 subunit 1 | 111.25 | 198.97 | 0.84 | 0.0016 | |
| biological_process | GO:0006412 | CNAG_07839 | large subunit ribosomal protein L11 | 786.94 | 2681.61 | 1.77 | 0.0005 | yes |
| Sugar transporters (51 genes) | | | | | | | | 23 |
| molecular_function | GO:0005351 | CNAG_00048 | sugar transporter | 11.79 | 1.82 | -2.70 | 0.0005 | yes |
| | | | MFS transporter, SP family, solute carrier | | | | | |
| | | | family 2 (myo-inositol transporter), member | | | | | |
| molecular_function | GO:0005351 | CNAG_00097 | 13 | 10.82 | 10.32 | -0.07 | 0.9351 | |
| | | | MFS transporter, SP family, solute carrier | | | | | |
| | | | family 2 (myo-inositol transporter), member | | | | | yes |
| molecular_function | GO:0005351 | CNAG_00864 | 13 | 15.32 | 1.03 | -3.90 | 0.0125 | |
| | | | MFS transporter, SP family, solute carrier | | | | | |
| | | | family 2 (myo-inositol transporter), member | | | | | |
| molecular_function | GO:0005351 | CNAG_00867 | 13 | 1.62 | 0.44 | -1.87 | 0.5069 | |
| molecular_function | GO:0005351 | CNAG_01683 | monosaccharide transporter | 120.56 | 348.82 | 1.53 | 0.0005 | |
| molecular_function | GO:0005351 | CNAG_01835 | hypothetical protein | 81.67 | 53.74 | -0.60 | 0.0279 | |
| molecular_function | GO:0005351 | CNAG_01862 | hexose transporter | 7.53 | 1.22 | -2.63 | 0.0959 | |
| molecular_function | GO:0005351 | CNAG_01936 | sugar transporter | 130.18 | 6.90 | -4.24 | 0.0005 | yes |
| molecular_function | GO:0005351 | CNAG_02254 | quininate permease | 25.95 | 5.16 | -2.33 | 0.0005 | yes |
| molecular_function | GO:0005351 | CNAG_02479 | monosaccharide transporter | 3.87 | 4.82 | 0.32 | 0.4528 | |
| molecular_function | GO:0005351 | CNAG_02554 | sugar transporter | 9.73 | 6.68 | -0.54 | 0.1240 | |
| molecular_function | GO:0005351 | CNAG_02733 | monosaccharide transporter | 18.69 | 1.27 | -3.88 | 0.0077 | yes |
| molecular_function | GO:0005351 | CNAG_03087 | maltose permease | 1.26 | 0.38 | -1.72 | 1.0000 | |
| molecular_function | GO:0005351 | CNAG_03320 | mannose-1-phosphate guanylyltransferase | 28.31 | 24.18 | -0.23 | 0.8319 | |
| molecular_function | GO:0005351 | CNAG_03432 | solute carrier family 2 | 36.41 | 15.49 | -1.23 | 0.1396 | |
| molecular_function | GO:0005351 | CNAG_03438 | hexose transporter | 118.98 | 1025.80 | 3.11 | 0.0005 | |
| molecular_function | GO:0005351 | CNAG_03772 | glucose transporter | 687.02 | 13.25 | -5.70 | 0.0005 | yes |
| molecular_function | GO:0005351 | CNAG_03910 | D-xylose-proton symporter | 239.02 | 20.04 | -3.58 | 0.0005 | yes |
| molecular_function | GO:0005351 | CNAG_04024 | sugar transporter | 33.90 | 8.27 | -2.03 | 0.0005 | yes |
| molecular_function | GO:0005351 | CNAG_04038 | MFS quininate transporter QutD | 12.92 | 10.07 | -0.36 | 0.3294 | |
| molecular_function | GO:0005351 | CNAG_04092 | sugar transporter | 14.88 | 1.94 | -2.94 | 0.0005 | yes |

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|--------------------|------------|------------|---|---------|--------|-------|--------|--|-----|
| | | | MFS transporter, SP family, general alpha | | | | | | |
| molecular_function | GO:0005351 | CNAG_04210 | glucoside:H symporter | 43.30 | 57.36 | 0.41 | 0.1781 | | |
| molecular_function | GO:0005351 | CNAG_04552 | hypothetical protein | 0.93 | 0.21 | -2.17 | 1.0000 | | |
| molecular_function | GO:0005351 | CNAG_04783 | monosaccharide transporter | 20.66 | 33.31 | 0.69 | 0.0166 | | |
| molecular_function | GO:0005351 | CNAG_04784 | monosaccharide transporter | 1.78 | 0.52 | -1.78 | 0.4783 | | |
| molecular_function | GO:0005351 | CNAG_04920 | galactose transporter | 17.34 | 44.37 | 1.36 | 0.0055 | | |
| molecular_function | GO:0005351 | CNAG_04938 | hypothetical protein | 117.25 | 163.60 | 0.48 | 0.2883 | | |
| | | | solute carrier family 35 (UDP-sugar | | | | | | |
| molecular_function | GO:0005351 | CNAG_05139 | transporter), member A1/2/3 | 18.88 | 21.26 | 0.17 | 0.7548 | | |
| molecular_function | GO:0005351 | CNAG_05324 | sugar transporter | 3.08 | 0.42 | -2.88 | 0.0005 | | yes |
| | | | MFS transporter, SP family, general alpha | | | | | | |
| molecular_function | GO:0005351 | CNAG_05330 | glucoside:H symporter | 0.22 | 0.21 | -0.07 | 1.0000 | | |
| molecular_function | GO:0005351 | CNAG_05336 | glucose transporter | 35.21 | 5.18 | -2.77 | 0.0026 | | yes |
| molecular_function | GO:0005351 | CNAG_05340 | monosaccharide transporter | 26.39 | 2.97 | -3.15 | 0.4952 | | |
| | | | MFS transporter, SP family, solute carrier | | | | | | |
| | | | family 2 (myo-inositol transporter), member | | | | | | |
| molecular_function | GO:0005351 | CNAG_05377 | 13 | 2.02 | 1.94 | -0.06 | 0.9292 | | |
| | | | MFS transporter, SP family, solute carrier | | | | | | |
| | | | family 2 (myo-inositol transporter), member | | | | | | |
| molecular_function | GO:0005351 | CNAG_05381 | 13 | 15.77 | 0.75 | -4.39 | 0.0005 | | yes |
| molecular_function | GO:0005351 | CNAG_05387 | galactose transporter | 2301.50 | 240.34 | -3.26 | 0.0005 | | yes |
| molecular_function | GO:0005351 | CNAG_05471 | alpha-glucosidase | 14.37 | 5.88 | -1.29 | 0.0005 | | yes |
| molecular_function | GO:0005351 | CNAG_05662 | sugar transporter | 1074.95 | 9.75 | -6.78 | 0.0005 | | yes |
| | | | MFS transporter, SP family, solute carrier | | | | | | |
| | | | family 2 (myo-inositol transporter), member | | | | | | |
| molecular_function | GO:0005351 | CNAG_05667 | 13 | 20.18 | 4.70 | -2.10 | 0.0005 | | yes |
| | | | MFS transporter, SP family, general alpha | | | | | | |
| molecular_function | GO:0005351 | CNAG_05914 | glucoside:H symporter | 26.40 | 7.79 | -1.76 | 0.0636 | | |
| | | | MFS transporter, SP family, general alpha | | | | | | |
| molecular_function | GO:0005351 | CNAG_05929 | glucoside:H symporter | 17.00 | 4.35 | -1.97 | 0.0005 | | yes |
| | | | MFS transporter, SP family, general alpha | | | | | | |
| molecular_function | GO:0005351 | CNAG_05982 | glucoside:H symporter | 21.57 | 3.71 | -2.54 | 0.0005 | | yes |
| | | | MFS transporter, SP family, general alpha | | | | | | |
| molecular_function | GO:0005351 | CNAG_06259 | glucoside:H symporter | 2.70 | 1.95 | -0.47 | 0.3120 | | |
| molecular_function | GO:0005351 | CNAG_06290 | high-affinity glucose transporter SNF3 | 152.32 | 68.60 | -1.15 | 0.4054 | | |
| molecular_function | GO:0005351 | CNAG_06485 | hexose transporter protein | 7.86 | 5.94 | -0.40 | 0.3021 | | |
| molecular_function | GO:0005351 | CNAG_06521 | hypothetical protein | 8.43 | 6.36 | -0.41 | 0.2984 | | |
| | | | MFS transporter, SP family, general alpha | | | | | | |
| molecular_function | GO:0005351 | CNAG_06527 | glucoside:H symporter | 1.41 | 0.40 | -1.81 | 0.0038 | | yes |
| molecular_function | GO:0005351 | CNAG_06932 | sugar transporter | 32.10 | 0.69 | -5.53 | 0.0077 | | yes |
| molecular_function | GO:0005351 | CNAG_06934 | hexose transporter protein | 17.56 | 5.06 | -1.79 | 0.0005 | | yes |
| molecular_function | GO:0005351 | CNAG_06963 | sugar transporter | 11.06 | 65.50 | 2.57 | 0.0005 | | |
| molecular_function | GO:0005351 | CNAG_07641 | monosaccharide transporter | 20.10 | 4.58 | -2.13 | 0.0097 | | yes |
| molecular_function | GO:0005351 | CNAG_07874 | sugar transporter | 122.59 | 1.76 | -6.12 | 0.0005 | | yes |