**TABLE S4** Differentially expressed proteins in mitochondria were compared between the WT control and the *irk5*Δ mutant. Significant differences were identified with a ratio (*irk5*Δ mutant / WT control) showing a fold change greater than 1.5 or less than 0.67, alongside a statistically significant p-value of less than 0.05.

|  |  |  |
| --- | --- | --- |
| Protein | Function | WT (control) vs *irk5*Δ mutant |
| CNAG\_03127 | Small subunit ribosomal protein S23  | 2.68 |
| CNAG\_03747 | Large subunit ribosomal protein L27Ae  | 1.53 |
| CNAG\_00149 | NADH dehydrogenase (Ubiquinone) 1 alpha subcomplex 4 SV=1 | 2.29 |
| CNAG\_04011 | Large ribosomal subunit protein eL42  | 1.6 |
| CNAG\_07802 | Class III aminotransferase | 4.6 |
| CNAG\_03165 | Small ribosomal subunit protein mS33  | 1.86 |
| CNAG\_00270 | Mitochondrial pyruvate carrier  | 1.86 |
| CNAG\_06644 | C-22 sterol desaturase  | 1.56 |
| CNAG\_04751 | EF-hand domain-containing protein  | 1.86 |
| CNAG\_06517 | Cytoplasmic protein  | 1.56 |
| CNAG\_01939 | FmHP  | 1.67 |
| CNAG\_08025 | Ribonuclease H1 N-terminal domain-containing protein  | 1.53 |
| CNAG\_03267 | Splicing factor 3B subunit 2  | 1.5 |
| AOX1 (CNAG\_00162) | Alternative oxidase, mitochondrial  | 3.34 |
| CNAG\_01542 | Taurine catabolism dioxygenase TauD  | 1.9 |
| CNAG\_05626 | Thioredoxin domain-containing protein  | 1.55 |
| CCP1 (CNAG\_01138) | Cytochrome c peroxidase, mitochondrial | 1.62 |
| CNAG\_05725 | Ketol-acid reductoisomerase, mitochondrial  | 1.58 |
| CNAG\_03240 | alpha-1,2-Mannosidase  | 3.17 |
| CNAG\_05059 | Pyruvate dehydrogenase E1 component subunit beta  | 1.5 |
| CNAG\_01181 | Large ribosomal subunit protein eL42  | 1.76 |
| CNAG\_00457 | Glutamine synthetase  | 1.6 |
| CNAG\_00854 | C-8 sterol isomerase | 1.9 |
| CNAG\_06638 | Malic enzyme  | 1.61 |
| CNAG\_02048 | Proline dehydrogenase  | 1.85 |
| CNAG\_06621 | biotin synthase  | 2.31 |
| CNAG\_07908 | Aconitate hydratase, mitochondrial  | 1.84 |
| CNAG\_03939 | 5-aminolevulinate synthase  | 5.38 |
| CNAG\_01721 | hydroxymethylbilane synthase  | 2.81 |
| CNAG\_06502 | Solute carrier family 25 (Mitochondrial carnitine/acylcarnitine transporter), member 20/29  | 0.65 |
| CNAG\_05317 | Phytanoyl-CoA dioxygenase  | 0.63 |
| CNAG\_05329 | Myo-inositol 2-dehydrogenase  | 0.55 |
| CNAG\_01102 | Oxidoreductase  | 0.65 |
| CNAG\_05683 | Uncharacterized protein | 0.56 |
| CNAG\_04392 | Sterol-binding protein  | 0.66 |
| CNAG\_00997 | Uncharacterized protein  | 0.42 |
| CNAG\_01588 | Plasma membrane proteolipid 3  | 0.47 |
| CNAG\_01751 | Uncharacterized protein  | 0.5 |
| CNAG\_04466 | Selenoprotein O  | 0.65 |
| CNAG\_02139 | Oxysterol-binding protein  | 0.64 |
| CNAG\_01495 | Myo-inositol 2-dehydrogenase  | 0.6 |
| CNAG\_07968 | HIT domain-containing protein  | 0.38 |
| CNAG\_04288 | Fe-S protein assembly co-chaperone HscB  | 0.59 |
| CNAG\_06121 | J domain-containing protein  | 0.65 |
| CNAG\_01534 | Gram-positive cocci surface proteins LPxTG domain-containing protein GN=CNAG\_01534 PE=4 SV=1 | 0.19 |
| CNAG\_06094 | Uncharacterized protein  | 0.27 |
| CNAG\_04757 | Mitochondrial protein  | 0.66 |
| CNAG\_01555 | DDE Tnp4 domain-containing protein  | 0.63 |
| CNAG\_05421 | Uncharacterized protein  | 0.58 |
| CNAG\_01991 | Cytochrome c oxidase subunit 4  | 0.51 |
| CNAG\_02000 | Short-chain dehydrogenase  | 0.55 |
| CNAG\_06494 | Cold-induced thioredoxin domain-containing protein  | 0.56 |
| CNAG\_05859 | Uncharacterized protein  | 0.55 |
| CNAG\_05390 | Uncharacterized protein  | 0.61 |
| CNAG\_05829 | MIF4G domain-containing protein  | 0.59 |
| CNAG\_03213 | UV damage endonuclease UvdE | 0.6 |
| CNAG\_02041 | Uncharacterized protein | 0.66 |
| CNAG\_03965 | Ribosome recycling factor | 0.61 |
| SOD2 (CNAG\_04388) | Superoxide dismutase [Mn], mitochondrial  | 0.58 |
| CNAG\_00484 | Dihydrolipoamide acetyltransferase component of pyruvate dehydrogenase complex  | 0.36 |
| CNAG\_04031 | rRNA methyltransferase 2, mitochondrial | 0.32 |
| CNAG\_03679 | acylphosphatase  | 0.44 |
| CNAG\_00735 | aldehyde dehydrogenase (NAD(+))  | 0.21 |
| CNAG\_02049 | Proline dehydrogenase  | 0.46 |
| CNAG\_05429 | histone acetyltransferase  | 0.63 |
| CNAG\_06051 | Galactokinase  | 0.27 |
| CNAG\_03927 | Bola-like protein  | 0.49 |
| CNAG\_04043 | CENP-V/GFA domain-containing protein  | 0.56 |
| CNAG\_04088 | Uncharacterized protein  | 0.42 |
| CNAG\_00516 | Peroxin-7  | 0.66 |
| CNAG\_00396 | AGC/PKA protein kinase | 0.6 |
| CNAG\_05310 | Nipsnap family protein  | 0.6 |
| CNAG\_03082 | Cupin domain-containing protein  | 0.48 |
| CNAG\_05173 | DNA-3-methyladenine glycosylase II | 0.64 |
| CNAG\_02996 | Flavoprotein oxygenase | 0.61 |
| CNAG\_02718 | NAD binding dehydrogenase  | 0.52 |
| CNAG\_01215 | Cytochrome b mRNA-processing protein 4  | 0.57 |
| CNAG\_00247 | Alpha-aminoadipic semialdehyde synthase  | 0.12 |
| CNAG\_02768 | CENP-V/GFA domain-containing protein  | 0.55 |
| CNAG\_03869 | Impact N-terminal domain-containing protein  | 0.36 |
| CNAG\_03874 | Oxidoreductase  | 0.55 |
| CNAG\_07351 | PIN domain-containing protein  | 0.47 |