

Supplementary information

Table S1: List of 88 proteins identified from the modified hydrogenosomal protein sample based on their N-terminal peptides. Proteins identified in this sample were compared with the identified proteins obtained from the corresponding unmodified hydrogenosomal control sample. “N-terminal peptide” stands for the amino acid position of the identified peptide in the corresponding protein based on the sequence from UniProt database. “X” represents a positive value, “-“ a negative value.

Protein	UniProt accession code	N-terminal peptide	N-terminus acetylation	ID both in modified and unmodified sample
Succinyl-CoA ligase	P53400	10-22	-	X
Ribosomal protein S14, putative	A2E264	2-33	-	X
Actin	A2FA04 or A2DCC3	2-29	X	-
Putative uncharacterized protein	A2DHT2	2-12	-	X
Rubrerhythrin, putative	A2EHC4	2-23	X	X
Histone H2B	A2DJ26	2-34	X	X
Phosphoglycerate kinase, putative	A2DLF4	1-20	X	X
Chaperonin, 10 kDa family protein	A2G3U8	10-22	-	X
Ribosomal protein L23, putative	A2DIF2	2-24	X	-
Ribosomal protein L23, putative	A2DW98	2-24	X	-
TolA, putative	A2FE19	23-37	-	-
40S ribosomal protein S14, putative	A2FWM0	2-32	X	-
Ribosomal protein L13e, putative	A2EYN3 or A2D8Z0	23-35 or 2-14	-	-
NAC domain containing protein	A2FZR4 or A2EXA4	2-30	X	-
Ribosomal protein L24, putative	A2DCS2	2-16	-	-
Ribosomal protein S10p/S20e, putative	A2DGQ4	2-24	X	X
Putative uncharacterized protein	A2EQM2	10-23	-	-
Putative uncharacterized protein	A2E8B4	2-19	X	X
Putative uncharacterized protein	A2FV16	2-20	X	X
Putative uncharacterized protein	A2DQN8	1-19	X	-

Thioredoxin	A2EFR4	2-20	X	X
Putative uncharacterized protein	A2DXB2	2-16	X	-
NifU-like domain containing protein	A2FGS9	21-37	-	X
Adenylate kinase	P49983	10-16	-	X
Phosphofructokinase family protein	A2FR66	1-21	X	X
Histone H2A	A2DHC5	2-20	X	X
Putative uncharacterized protein	A2DDJ7	2-19	X	X
Phosphofructokinase family protein	A2FKA7	2-23	X	X
Putative uncharacterized protein	A2EHK3	2-23	X	X
Ribosomal protein S10p/S20e, putative	A2FDE0	2-25	X	-
Actin-related protein 2/3 complex subunit 5	A2F412	2-19	X	X
Mrp protein, putative	A2F0N4	10-21	-	X
Putative uncharacterized protein	A2EX50	1-23	X	-
40S ribosomal protein S21	A2FFS8	1-15	X	X
TRNA binding domain containing protein	A2FFW8	2-25	X	-
DnaJ domain containing protein	A2DN65	2-20	X	X
Mrp, putative	A2FTU7	14-31	-	X
Guanine nucleotide-binding protein beta subunit, putative	A2EFS6	2-26	X	-
Putative uncharacterized protein	A2DM71	1-14	X	X
Thioredoxin	Q6IV59	2-18	X	-
Actin family protein	A2FH22	2-22	X	X
F-actin capping protein, beta subunit, putative	A2E5T1	2-15	X	-
Ribosomal protein L23, putative	A2DBI3	2-24	X	-
Actin related protein, putative	A2FXP4	2-13	X	-
Ribosomal protein L36e, putative	A2DIW6	2-15	X	-

Transcription factor BTF3, putative	A2F3E0	2-17	X	-
Ribosomal protein L36e, putative	A2D8B8	2-15	X	-
Enolase 2, putative	A2EBB4	31-45	-	-
Ribosomal protein L29, putative	A2DDE2	2-14	-	-
Ribosomal protein L21e, putative	A2F2S5 or A2FP66	2-8	-	-
Ribosomal protein L38e, putative	A2ETM7	26-41	-	-
Ribosomal protein L35Ae, putative	A2D8N1	2-17	X	-
Calmodulin, putative	A2DSC4	2-14	X	-
Tctex-1 family protein	A2F6X9	2-12	X	-
60S ribosomal protein L7-2, putative	A2EMI2	2-15	X	X
Alcohol dehydrogenase 1, putative	A2DJ40	2-15	X	X
Ribosomal protein L36e, putative	A2EXW7	2-13	X	-
Chaperonin, 10 kDa family protein	A2DWT3	10-22	-	X
Ribosomal protein L21e, putative	A2FP66	2-8	-	X
Co-chaperone GrpE family protein	A2DRG0	39-57	-	X
Ribosomal protein L36e, putative	A2GHK3	2-14	X	-
Mitochondrial carrier protein	A2FII9	13-23	-	X
NifU-like domain containing protein	A2EY22	19-36	-	-
Citrate lyase beta like, putative	A2FP65	2-17	X	-
Phosphofructokinase family protein	A2DM03	1-21	X	X
Ribosomal protein L37	A2DIN6	2-11	-	-
Chaperonin, 10 kDa family protein	A2FW67	13-23	X	X
Putative uncharacterized protein	A2G8H9	2-17	X	-
Mitotic apparatus protein, putative	A2G2I8	2-18	X	-
Synaptobrevin family protein	A2DCB1	2-10	X	X
Putative uncharacterized protein	A2E6V6	1-9	X	X
60S ribosomal protein L6, putative	A2DG67	2-21	X	-

SNARE domain containing protein	A2EZK7	2-14	X	X
Ribosomal protein L14, putative	A2DZ49	2-11	-	X
Ribosomal protein L32, putative	A2F2J0	2-17	-	X
Putative uncharacterized protein	A2DBA1	2-15	X	-
Ribosomal protein S19, putative	A2DVD8	2-10	X	X
Ribosomal protein L34e, putative	A2DT99	40-51	-	-
Hydrogenosomal membrane protein 31	Q9NI37	13-23	-	X
Putative uncharacterized protein	A2D7E3	2-21	X	-
Glucose-6-phosphate isomerase	A2E7V8	2-13	X	-
60S ribosomal protein L18, putative	A2G2I2	2-11	-	-
Putative uncharacterized protein	A2E4N7	1-11	-	-
Putative uncharacterized protein	A2DGT9	2-16	X	-
Spermatogenesis associated factor, putative	A2EP65	1-9	-	-
Tail fiber protein, putative	A2HZ95	1-7	X	-
Ribosomal protein L29, putative	A2E6R2	2-14	-	-
Ribonucleoside-diphosphate reductase	A2DI13	2-17	X	X