

Supplementary Information

A Approach to Illuminate Biological Interactions with In Vivo Protein Footprinting

Jessica A. Espino and Lisa M. Jones*

Department of Pharmaceutical Sciences, University of Maryland, Baltimore, MD 21201

*Correspondence to:

Lisa M. Jones

Department of Pharmaceutical Sciences

University of Maryland, Baltimore, MD 21201

Phone number: (410) 706-3380

Email: ljones@rx.umaryland.edu

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Supplementary methods

Viability Assay. Assays were performed as described previously by Ferreira *et al.*¹ with slight modifications. Synchronous L1 stage worms were obtained by hypochlorite treatment of gravid adults. Eggs were separated from debris by centrifugation in a 30% sucrose solution. Eggs were allowed to hatch for 18 h in M9 medium (0.02 M KH₂PO₄, 0.08 M Na₂HPO₄, 0.08 M NaCl, 1 mM MgSO₄) at 20 °C. The resulting L1 larvae were washed three times with deionized water (diH₂O) then transferred to standard E. coli OP50-seeded NGM plates and incubated at 20 °C until L4 larvae stage (~48 h post L1 incubation). After incubation, plates were washed with M9 medium and L4 larvae were collected. Larvae were washed three times with M9 medium in order to clean off bacteria. Approximately 1,000 larvae were added to each well in a 96-well plate. Worms were incubated with 20, 40, 60, 100, 120, 140, 160, 180, and 200 mM final H₂O₂ concentrations for 30 s and, immediately after, the reaction was stopped using a cell permeable quench buffer that contained 40 mM N'-Dimethylthiourea (DMTU), 40 mM N-tert-Butyl- α -phenylnitro (PBN), 10 mM of worm anesthetic levamisole hydrochloride, and 40 μ M propidium iodide (PI). The volume of quench buffer added was 1:1 for a final PI concentration of 20 μ M. Positive control wells contained M9 medium and quench solution while negative control wells contained 50% methanol and quench solution. Microplates were incubated for 15 min at room temperature, imaged using a Nikon Eclipse TI fluorescent microscope, and analyzed using General Analysis in the Nikon Elements AR High Content Analysis software package (Version 4.50.00). Viability was calculated using equation 1:

$$\frac{\# \text{ BF items} - \# \text{ PI items}}{\# \text{ BF items}}$$

where # BF items represents the total number of worms observed under bright field and # PI items represents total dead worms observed under fluorescence. All assays were performed in biological duplicates and technical triplicates.

IV-FPOP. For IV-FPOP studies, we examined the extent of FPOP modifications in the presence of 20, 60, 100, 140, 200 mM H₂O₂. L4 larvae were selected for analysis due to their developed adult-like characteristics² without the contamination of fetal phenotypes that would be present in egg carrying adults. With a laser frequency of 20 Hz and a worm flow rate of 147 μ L/min, data was collected for two BR at each concentration. The extent of modification for each oxidatively modified protein was calculated. To normalize background oxidation, control samples containing H₂O₂ but without laser irradiation were analyzed. Worms alone, without the addition of H₂O₂ were also analyzed to consider naturally occurring oxidations. Worms alone had a significant number of oxidatively modified proteins (Supplementary Fig. 2). The source of this oxidation is unknown since worm samples were carefully handled to minimize stress to the animals. Nonetheless, other proteomics studies looking at oxidation levels in the worms have shown naturally occurring oxidations at different larval stages³⁻⁴. A large number of the modified proteins identified in the H₂O₂ treated worms without laser irradiation were also modified in the worms alone (Supplementary Fig. 2). The addition of H₂O₂ resulted in additional modified proteins indicating some oxidation is induced at low incubation times although an increase with concentration was not observed. The background oxidation from both worms alone and control worms were subtracted from the FPOP samples for quantitation.

Supplemental Figures

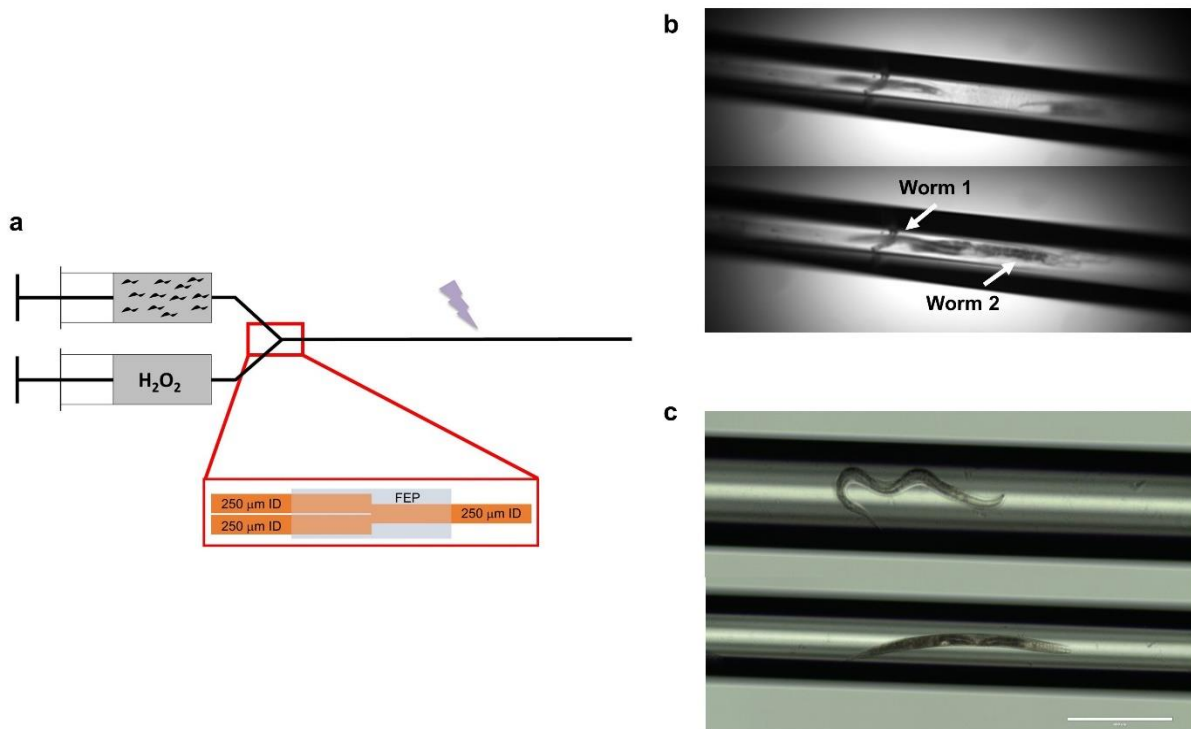


Figure S1. a. IV-FPOP flow system. Schematic of IV-FPOP flow system showing mixing tee (orange). Two capillaries of 250 μm ID are inserted of one end of a fluorinated ethylene propylene (FEP) (blue), a third capillary is inserted at the opposite end. C. *elgans* flowing through the laser irradiation window through a 150 μm b. 250 μm c. ID capillary. The worms are more tightly compacted in the smaller capillary, including the overlap of worm during flow, leading to an excess of clogging.

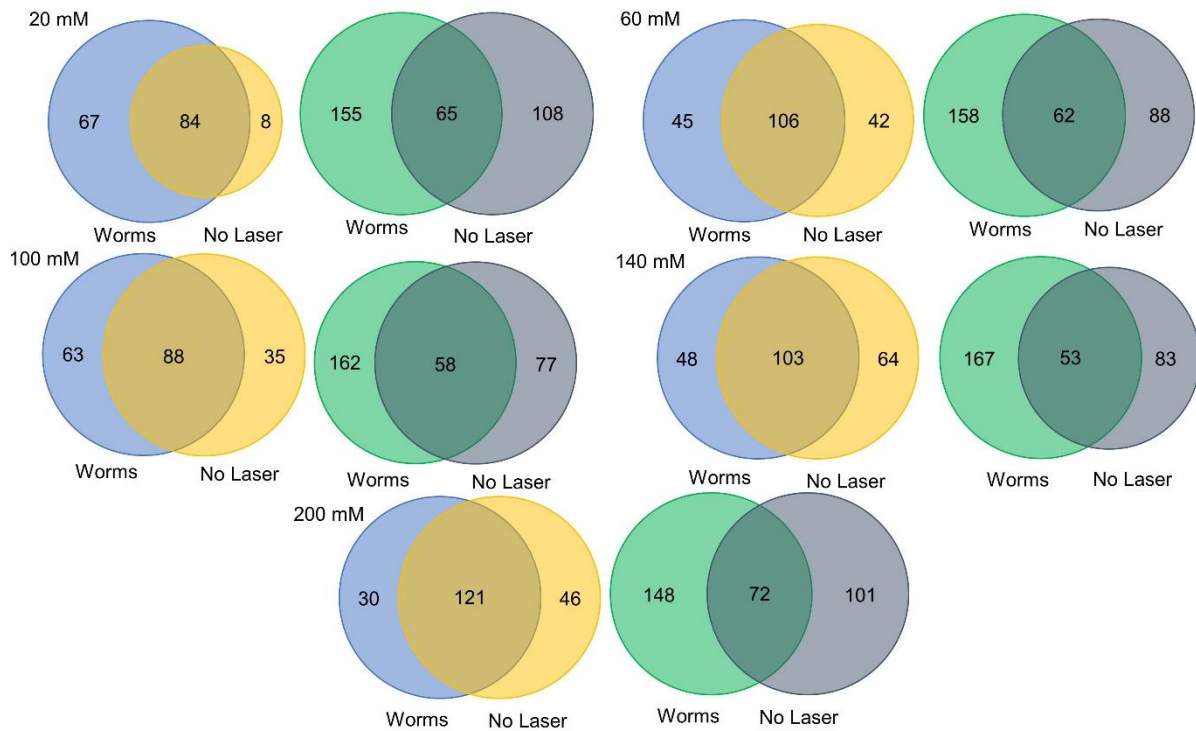


Figure S2. Background oxidation in the presence and absence of hydrogen peroxide. Venn diagrams representing the total number of oxidized proteins in *C. elegans* under six hydrogen peroxide conditions, 0 (worms only), 20, 60 100, 140, or 200 mM in the absence of laser irradiation. Blue and yellow diagrams represent biological replicate 1, green and grey represent biological replicate 2.

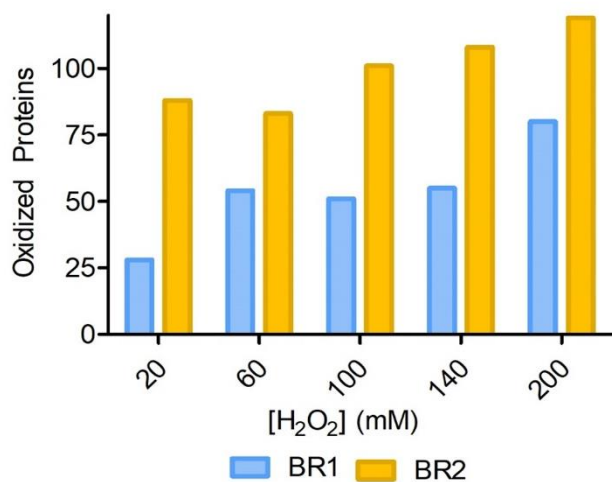


Figure S3. Comparison of the total number of oxidatively modified proteins through IV-FPOP between biological replicate 1 (blue) and biological replicate 2 (yellow) at 20, 60, 100, 140, and 200 mM hydrogen peroxide.

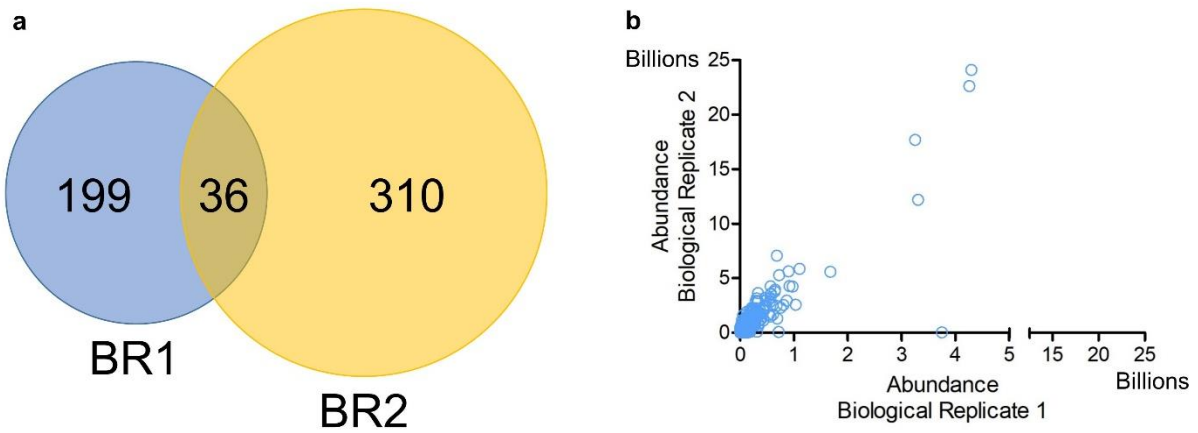


Figure S4. a. Venn diagrams of oxidatively modified proteins in the presence of 200 mM hydrogen peroxide at 50 Hz in biological replicate 1 is in blue biological replicate 2 is in yellow. b. Protein abundance differences between biological replicate 1 and 2 for 200 mM hydrogen peroxide at 50 Hz, proteins are more highly expressed in biological replicate 2.

Supplementary references

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2. Hart, A. C., Behavior (July 3, 2006). WormBook, Ed. The *C. elegans* Research Community, WormBook.
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Supplementary Table 1. IV-FPOP oxidatively modified proteins and identified body system

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
P41932	14-3-3-like protein 1	Biological 2 Only	par-5	excretory, muscle, reproductive	3
G5EF18	1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase epsilon-1	Biological 1 Only	plc-1	alimentary	1
A8WFH3	2 (Zwei) IG domain protein	Biological 1 Only	zig-10	nervous	1
Q19278	3-hydroxyisobutyryl-CoA hydrolase, mitochondrial	Biological 1 Only	hach-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P48150	40S ribosomal protein S14	Biological 2 Only	rps-14	alimentary, epithelial	1
Q9XVP0	40S ribosomal protein S15	Both	rps-15	nervous	2
P51403	40S ribosomal protein S2	Biological 2 Only	rps-2	reproductive	1
P49197	40S ribosomal protein S21	Biological 2 Only	rps-21	alimentary, epithelial, excretory, muscle, nervous	2
Q9TXP0	40S ribosomal protein S27	Biological 2 Only	rps-27	alimentary, epithelial, excretory, muscle	1
P48152	40S ribosomal protein S3	Biological 2 Only	rps-3	alimentary	4
P49041	40S ribosomal protein S5	Biological 2 Only	rps-5	reproductive	2
Q9NEN6	40S ribosomal protein S6	Biological 1 Only	rps-6	alimentary, epithelial, excretory, muscle, nervous, reproductive	2
P48156	40S ribosomal protein S8	Biological 2 Only	rps-8	alimentary, reproductive	1
G5EBI0	4D656	Biological 2 Only	4D656	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q93572	60S acidic ribosomal protein P0	Biological 2 Only	rla-0	alimentary, epithelial, excretory, muscle, nervous, reproductive	4
O01504	60S acidic ribosomal protein P2	Biological 2 Only	C37A2.7	nervous	2
P91128	60S ribosomal protein L13	Biological 2 Only	rpl-13	alimentary, epithelial, excretory, muscle, nervous, reproductive	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
O02639	60S ribosomal protein L19	Biological 1 Only	rpl-19	alimentary, excretory, muscle, nervous	1
P34334	60S ribosomal protein L21	Biological 2 Only	rpl-21	reproductive	1
P48162	60S ribosomal protein L23a 1	Biological 1 Only	rpl-25.1	alimentary, nervous	1
Q19869	60S ribosomal protein L26	Biological 1 Only	rpl-26	alimentary, epithelial, excretory, muscle, nervous, reproductive	3
O45226	60S ribosomal protein L29	Biological 1 Only	rpl-29	alimentary, nervous	1
Q9XVF7	60S ribosomal protein L8	Biological 2 Only	rpl-2	alimentary, epithelial, excretory, muscle, nervous, reproductive	4
Q19554	ABC transporter, class F	Biological 1 Only	abcf-1	alimentary	1
G4SRS5	ABC Transporter, Mitochondrial	Biological 1 Only	abtm-1	alimentary, muscle, nervous	1
A6ZJ71	Abnormal cell migration protein 38	Biological 2 Only	mig-38	nervous, reproductive	1
G5EDM7	Abnormal DAuer Formation DAF-5, a Ski oncogene homolog involved in a neuronal TGF beta pathway (71.0 kD) (Daf-5)	Biological 1 Only	daf-5	nervous	1
P91156	ACINus (Mammalian Apoptotic Chromatin condensation Inducer in the Nucleus) homolog	Biological 1 Only	acin-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
O45815	ACTin	Biological 1 Only	act-5	muscle	6
P0DM41	Actin-1	Both	act-1	alimentary, muscle, nervous	6
P10984	Actin-2	Both	act-2	alimentary, muscle, nervous	6
G5EDW5	ADAM (Disintegrin plus metalloprotease) family	Biological 2 Only	adm-2	nervous, reproductive	1
Q7YSI9	Adapter protein unc-53	Biological 1 Only	unc-53	alimentary, muscle	1
O45865	Adenine Nucleotide Translocator	Biological 2 Only	ant-1.1	alimentary, nervous, reproductive	4
P27604	Adenosylhomocysteinase	Both	ahcy-1	alimentary, nervous	3
O44510	Adenylyltransferase and sulfurtransferase MOCS3	Biological 2 Only	moc-3	reproductive	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
G5EG68	AGRin (Synaptic protein) homolog	Biological 1 Only	agr-1	alimentary, nervous	1
Q19102	Alcohol/Ribitol Dehydrogenase family	Biological 2 Only	ard-1	alimentary, muscle	1
E0AHD3	AMine oXidase family	Biological 1 Only	amx-3	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
A0A2C9C377	AMP deaminase (EC 3.5.4.6)	Biological 2 Only	ampd-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
G5EGB9	Anion transporter ABTS-2	Biological 2 Only	abts-2	alimentary, excretory	1
G5EBW3	Anoctamin	Biological 2 Only	anoh-1	alimentary, muscle	1
O16637	AP-3 complex subunit delta	Biological 2 Only	apd-3	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q9XXH8	Arf-GAP with ANK repeat and PH domain-containing protein cnt-1	Biological 1 Only	cnt-1	nervous	1
A0A2K5ATU7	Aspartyl aminopeptidase	Biological 2 Only	dnpp-1	alimentary, excretory	1
Q9XW25	AT hook Transcription Factor family	Biological 2 Only	attf-6	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
G5ED29	Ataxin-2 homolog	Biological 2 Only	atx-2	nervous	2
Q966L9	ATP-dependent RNA helicase glh-2	Biological 2 Only	glh-2	nervous, reproductive	1
O02326	AT-rich interactive domain-containing protein cfi-1	Biological 2 Only	cfi-1	alimentary, muscle, nervous	2
O44739	BAG family molecular chaperone regulator 1	Biological 2 Only	bag-1	nervous	1
O16779	Bestrophin homolog	Biological 2 Only	best-19	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q95Q18	Beta-lactamase-like protein 2 homolog	Biological 2 Only	Y53F4B.39	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
O01658	Bifunctional lysine-specific demethylase and histidyl-hydroxylase NO66	Biological 2 Only	jmjc-1	alimentary, muscle	1
O01904	BLIstered cuticle	Biological 1 Only	bli-2	epithelial	4

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
G5EF07	BTAF (TBP-associated factor) homolog	Biological 2 Only	btf-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q9NF14	BTB and MATH domain-containing protein 40	Biological 1 Only	bath-40	alimentary, muscle, nervous	1
Q9N2V1	C. Elegans Homeobox	Biological 1 Only	ceh-76	alimentary, muscle	1
Q86DC2	C. Elegans Homeobox	Biological 2 Only	ceh-93	alimentary, muscle	1
Q7YWV8	C.elegans orthologue of yeast OligoSaccharylTransFerase Ost4p	Biological 2 Only	ostf-4	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
U4PM66	CaDHerin family	Biological 2 Only	cdh-8	alimentary, epithelial	2
G5EEK8	Calcium-transporting ATPase	Biological 2 Only	sca-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q9TYP9	Calcium-transporting ATPase	Biological 1 Only	mca-2	alimentary, muscle, nervous	1
Q23008	Carboxylic ester hydrolase	Biological 2 Only	K11G9.3	epithelial, nervous, reproductive	1
P50140	Chaperonin homolog Hsp-60, mitochondrial	Biological 1 Only	hsp-60	alimentary, epithelial, excretory, muscle, nervous, reproductive	6
G5EFI9	Checkpoint protein	Biological 2 Only	hus-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q9XU76	CHItinase-Like	Biological 2 Only	chil-12	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
	CHItinase-Like	Biological 2 Only	chil-16	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q17835	CHItinase-Like	Both	chil-5	nervous	1
Q9GZF3	Choline Kinase B	Biological 2 Only	ckb-4	nervous	1
Q9TYL9	Coatomer subunit beta	Biological 2 Only	copb-1	nervous	1
O44174	COLlagen	Biological 2 Only	col-104	muscle, nervous	1
G5EDG6	COLlagen	Biological 1 Only	col-117	muscle, nervous	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
A3QM98	COLlagen	Biological 1 Only	col-138	muscle, nervous	6
Q20270	COLlagen	Biological 2 Only	col-173	muscle, nervous	1
Q18480	COLlagen	Both	col-175	muscle, nervous	2
Q9N3D7	COLlagen	Biological 1 Only	col-48	muscle, nervous	1
O44989	COLlagen	Both	col-49	muscle, nervous	3
Q94399	COLlagen	Biological 1 Only	col-63	muscle, nervous	4
Q9N4U2	COLlagen	Biological 1 Only	col-71	muscle, nervous	2
P17139	Collagen alpha-1(IV) chain	Biological 2 Only	emb-9	muscle, nervous	10
P17140	Collagen alpha-2(IV) chain	Biological 1 Only	let-2	muscle, nervous	5
Q9N425	COP9 signalosome complex subunit 3	Biological 2 Only	csn-3	nervous	1
Q17423	Crescerin-like protein che-12	Biological 2 Only	che-12	nervous	1
Q93781	CSB (Cockayne Syndrome B) homolog	Biological 1 Only	csb-1	muscle, nervous	1
G5EC98	CTP synthase	Biological 2 Only	ctps-1	alimentary	1
Q09457	Cuticle collagen bli-1	Biological 2 Only	bli-1	epithelial, muscle, nervous	3
P35800	Cuticle collagen dpy-10	Both	dpy-10	epithelial, muscle	2
Q23628	Cuticle collagen lon-3	Biological 2 Only	lon-3	epithelial, muscle	2
P12114	Cuticle collagen sqt-1	Biological 1 Only	sqt-1	epithelial, muscle	6
Q9TZE2	CUTiclin-Like	Biological 2 Only	cutl-13	epithelial	1
Q9XXI7	CYclophylin	Biological 2 Only	cyn-16	nervous	1
Q09500	Cystinosin homolog	Biological 2 Only	ctns-1	nervous	1
P90849	Cytochrome OXidase assembly protein	Biological 2 Only	cox-5b	muscle, nervous	1
G5ED86	CYtochrome P450 family	Biological 2 Only	cyp-14a4	muscle, nervous	1
Q9XX57	DAF-16/FOXO Controlled, germline Tumor affecting	Both	dct-16	nervous	1
Q23262	Dauer or Aging adult Overexpression	Biological 2 Only	dao-4	nervous	1
Q7JLY2	Dauer Up-Regulated	Biological 2 Only	dur-1	nervous	1
G5EG13	DeHydrogenases, Short chain	Biological 2 Only	dhs-12	muscle	2
Q9NAH4	Density-regulated protein homolog	Biological 2 Only	Y47D3A.21	alimentary, nervous	1
G5EET2	DeoxyUTPase	Biological 1 Only	dut-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
H2KZK7	Dipeptidyl Peptidase Four (IV) family	Biological 2 Only	dpf-3	nervous	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
G5EFD9	Disintegrin and metalloproteinase domain-containing protein 10 homolog	Biological 2 Only	sup-17	nervous, reproductive	1
Q18066	Disorganized muscle protein 1	Biological 2 Only	dim-1	muscle, nervous	2
O17966	DNA topoisomerase 1	Biological 1 Only	top-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q23670	DNA topoisomerase 2 top-2	Biological 1 Only	top-2	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q8MPX3	DnaJ homolog dnj-20	Biological 1 Only	dnj-20	alimentary	1
O61213	Dual oxidase 1	Biological 2 Only	bli-3	epithelial, muscle, nervous	2
Q18345	DumPY: shorter than wild-type	Biological 1 Only	dpy-8	muscle, nervous	2
O62432	DumPY: shorter than wild-type	Both	dpy-4	nervous	5
E2JKZ0	DyNactin Complex component	Biological 1 Only	dnc-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
G5EDV4	Dynein Heavy Chain	Both	dhc-3	alimentary, nervous	1
Q94361	E3 SUMO-protein ligase gei-17	Biological 2 Only	gei-17	muscle, nervous	1
Q9BIF4	EHS-1	Biological 2 Only	ehs-1	nervous, reproductive	1
P53013	Elongation factor 1-alpha	Biological 1 Only	eft-3; eft-4	alimentary, muscle	5
Q9XV52	Elongation factor G, mitochondrial	Biological 2 Only	gfm-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q20819	Elongation factor Ts, mitochondrial	Biological 1 Only	tsfm-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
O45146	Embryonic mRNA (mRNA) Anterior	Biological 1 Only	era-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P20163	Endoplasmic reticulum chaperone BiP homolog	Biological 1 Only	hsp-4	alimentary, epithelial	3
U4PBY0	Enhancer of EfL-1 mutant phenotype	Biological 1 Only	eel-1	reproductive	1
O61460	Ephrin receptor 1	Biological 1 Only	vab-1	alimentary, excretory, muscle, nervous	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
G5EDE8	ERGIC-53-like protein	Biological 1 Only	ile-1	alimentary, nervous	1
O62108	Eukaryotic Elongation Factor, SelenoCysteine-tRNA-specific	Biological 1 Only	efsc-1	nervous	1
O02328	Eukaryotic translation initiation factor 3 subunit C	Biological 1 Only	eif-3.C	alimentary, nervous	1
P34563	Eukaryotic translation initiation factor 5A-1	Both	iff-1	reproductive	1
Q20751	Eukaryotic translation initiation factor 5A-2	Both	iff-2	nervous, reproductive	1
G5EGT7	Eukaryotic translation initiation factor eIF5B	Biological 2 Only	iffb-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
G5EET6	Exchange factor for Arf-6	Biological 2 Only	efa-6	nervous	1
Q23089	EXPORTin (Nuclear export receptor)	Biological 2 Only	xpo-1	nervous	1
Q20121	Fatty Acid CoA Synthetase family	Biological 2 Only	acs-4	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P91871	Fatty Acid SyNthase	Biological 1 Only	fasn-1	nervous, reproductive	4
P34382	Fatty-acid and retinol-binding protein 1	Biological 1 Only	far-1	nervous, reproductive	1
O76692	F-box B protein	Biological 1 Only	fbxb-82	alimentary, nervous	1
O44475	F-box B protein	Biological 1 Only	fbxb-78	muscle, nervous	1
P91446	F-box C protein	Biological 1 Only	fbxc-49	alimentary, nervous	1
O16541	F-box C protein	Biological 1 Only	fbxc-50	alimentary, nervous	1
O17905	FERM domain (Protein4.1-ezrin-radixin-moesin) family	Biological 2 Only	frm-3	nervous	1
U4PBJ9	FiLamiN (Actin binding protein) homolog	Biological 1 Only	fln-1	nervous, reproductive	2
A0A0K3AST3	FMRF-Like Peptide	Biological 2 Only	flp-34	nervous	1
P54216	Fructose-bisphosphate aldolase 1	Biological 1 Only	aldo-1	muscle, nervous	2
Q18625	Galectin	Biological 2 Only	lec-4	nervous	1
O44499	General Transcription Factor homolog	Biological 1 Only	gtf-2h1	alimentary	1
G4SI07	GEX Interacting protein	Biological 2 Only	gei-15	muscle, nervous	1
Q20826	GLIoTactin (Drosophila neuroligin-like) homolog	Biological 2 Only	glit-1	nervous	1
A0A0K3AT43	GLoBin related	Biological 1 Only	glb-33	muscle, nervous	1
Q18086	Globin-like protein 6	Biological 2 Only	glb-6	muscle, nervous	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
Q8T7Z3	Glutathione S-Transferase	Biological 2 Only	gst-35	muscle	1
Q19459	Golgi apparatus protein 1 homolog	Biological 2 Only	F14E5.2	alimentary, muscle	1
Q19989	GOLGI associated coiled-coil protein homolog	Biological 1 Only	golg-2	alimentary, nervous	1
Q22422	Gon-2 Extragenic Modifier	Biological 1 Only	gem-4	alimentary, nervous	1
H1ZUV8	GTPase-activating protein pac-1	Biological 1 Only	pac-1	muscle	1
Q09417	Guanine nucleotide exchange factor subunit R06F6.8	Biological 1 Only	R06F6.8	alimentary, nervous	1
Q23553	GUstatory Receptor family	Biological 1 Only	gur-5	alimentary, nervous	2
G5EC23	HCF1 related	Biological 2 Only	hcf-1	nervous, reproductive	1
P09446	Heat shock 70 kDa protein A	Biological 2 Only	hsp-1	alimentary, excretory, muscle	3
Q05036	Heat shock protein 110	Both	hsp-110	alimentary, excretory, muscle	3
Q18688	Heat shock protein 90 (Abnormal dauer formation protein 21)	Biological 2 Only	daf-21	alimentary	1
F0IWT2	Heavy chain, Unconventional Myosin	Biological 2 Only	hum-7	muscle, nervous	1
G5EFD4	Heavy Metal Tolerance factor	Biological 1 Only	hmt-1	alimentary, nervous	1
Q9TZK5	Heparan SulphoTransferase	Biological 2 Only	hst-3.1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
A0A1I6CM66	Heterodimeric GTPase Activating Protein subunit	Biological 2 Only	hgap-2	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q27894	Histone H2B 2	Biological 2 Only	his-4	alimentary, epithelial	1
K7ZUH9	Histone H3	Biological 1 Only	his-40	alimentary, muscle	1
G5EFV4	HMG (High mobility group protein 1.1)	Biological 2 Only	hmg-1.1	alimentary, muscle, nervous	1
O76447	HoloCentric chromosome binding Protein	Biological 2 Only	hcp-1	nervous	1
Q23175	Homeobox protein ceh-32	Biological 2 Only	ceh-32	epithelial, nervous, reproductive	1
G5EE04	Hsp-70 Interacting Protein homolog	Both	hip-1	alimentary, nervous	2
Q22040	ImmunoGlobulin-like Cell adhesion Molecule family	Biological 1 Only	igcm-2	alimentary, muscle, nervous	1
Q9N5V3	IMportin Beta family	Biological 1 Only	imb-3	alimentary, nervous	3

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
O01634	Innexin-12	Biological 2 Only	inx-12	epithelial, nervous, reproductive	1
P91309	Inositol hexakisphosphate and diphosphoinositol-pentakisphosphate kinase	Biological 2 Only	F46F11.1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
A0A0M7REB7	Insulin/EGF-Receptor L Domain protein	Biological 2 Only	irlD-32	nervous	1
H2L0E3	Insulin/EGF-Receptor L Domain protein	Biological 2 Only	irlD-45	nervous	1
P34446	Integrin alpha pat-2	Biological 2 Only	pat-2	muscle, nervous	1
Q20330	Intermediate Filament Organize	Biological 2 Only	ifo-1	nervous, reproductive	1
P90901	Intermediate filament protein ifa-1	Biological 2 Only	ifa-1	nervous, reproductive	2
O02365	Intermediate filament protein ifa-2	Biological 1 Only	mua-6	alimentary, muscle	3
Q19289	Intermediate filament protein ifb-1	Both	ifb-1	epithelial, muscle	1
Q19698	Invertebrate LYsozyme	Biological 2 Only	ilys-5	alimentary, nervous	1
O76357	Invertebrate-type lysozyme 3	Biological 2 Only	ilys-3	alimentary, nervous	1
Q95YD8	Isocitrate dehydrogenase [NAD] subunit, mitochondrial	Biological 2 Only	idhg-2	alimentary, muscle, nervous	1
Q21926	Isoleucine--tRNA ligase, cytoplasmic	Biological 1 Only	iars-1	alimentary, nervous	1
Q8WQC4	KELch-repeat containing protein	Biological 2 Only	kel-3	alimentary, nervous	1
Q9XU12	Kinesin-like protein	Biological 2 Only	klp-7	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P45962	Kinesin-like protein klp-3	Biological 1 Only	klp-3	alimentary, muscle, nervous	1
Q20849	Kinetochores-associated protein rod-1	Biological 2 Only	rod-1	excretory, nervous	2
Q21443	Lamin-1	Biological 2 Only	lmn-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
O44565	LAMinin related	Biological 1 Only	lam-1	alimentary, muscle, nervous	1
G5ECE3	LAMinin related	Biological 2 Only	lam-3	muscle	2
Q9TZD0	Lateral signaling target protein 2	Biological 2 Only	lst-2	epithelial, reproductive	1
Q23164	LiPocalin-Related protein	Biological 1 Only	lpr-4	alimentary, muscle, nervous	1
G5EEA2	LiPocalin-Related protein	Biological 1 Only	lpr-3	alimentary, nervous	2

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
Q18695	LMBR1 domain-containing protein 2 homolog	Biological 2 Only	C47G2.4	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
O18188	MAEA (MAcrophage Erythroblast Attacher protein) homolog	Biological 2 Only	maea-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q9U2A7	Major sperm protein	Biological 2 Only	Y48B6A.5	reproductive	1
Q2V074	MATH (Meprin-associated Traf homology) domain containing	Biological 1 Only	math-4	alimentary, nervous	1
Q9N575	MEiosis-to-MItosis transition associated	Biological 2 Only	memi-1	reproductive	1
G5EG10	Metabotropic GLutamate receptor family	Biological 2 Only	mgl-2	alimentary, epithelial, excretory, muscle, nervous, reproductive	2
O45319	Mitochondrial import inner membrane translocase subunit tim-13	Biological 1 Only	tin-13	alimentary, muscle, reproductive	2
Q18090	Mitochondrial import receptor subunit TOM40 homolog	Biological 1 Only	tomm-40	alimentary, excretory, muscle, nervous	2
G5EC18	Mitochondrial phenylalanyl-tRNA synthetase	Biological 2 Only	fars-2	nervous, reproductive	1
Q21029	Mitogen-activated protein kinase kinase kinase nsy-1	Biological 1 Only	nsy-1	alimentary, epithelial	1
Q9BKU8	MOdifier of protein AGgregation	Biological 1 Only	moag-4	alimentary, nervous, reproductive	1
Q9TXV1	Multiple PDZ domain protein	Biological 1 Only	mpz-4	alimentary, nervous	1
O01761	Muscle M-line assembly protein unc-89	Biological 2 Only	unc-89	alimentary, epithelial, excretory, muscle, nervous, reproductive	3
Q21000	MYOsin heavy chain structural genes	Biological 1 Only	myo-5	alimentary, nervous	3
P19625	Myosin regulatory light chain 1	Biological 2 Only	mlc-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	2
P19626	Myosin regulatory light chain 2	Biological 2 Only	mlc-2	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P02567	Myosin-1	Biological 2 Only	myo-1	muscle	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
P12845	Myosin-2	Biological 1 Only	myo-2	alimentary, nervous	2
P12844	Myosin-3	Both	myo-3	muscle, reproductive	7
P02566	Myosin-4	Biological 2 Only	unc-54	muscle	2
G5EF08	Na/Ca eXchangers	Biological 1 Only	ncx-1	alimentary, muscle, nervous	2
Q86S66	Nascent polypeptide-associated complex subunit alpha	Biological 2 Only	icd-2	alimentary, epithelial, excretory, muscle, nervous, reproductive	2
G5EF32	Nematode Polyprotein Allergen related	Biological 2 Only	npa-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	4
O17972	Nephrocystin-1-like protein	Biological 1 Only	nph-1	muscle, nervous	1
Q9U2T1	NEPrilysin metallopeptidase family	Biological 1 Only	nep-23	alimentary, nervous	1
G5EED7	Neuroigin-1	Biological 2 Only	nlg-1	nervous	1
Q17698	Neuropeptide-Like Protein	Biological 2 Only	nlp-77	alimentary, epithelial, nervous	3
A5JYX8	Nicalin	Biological 2 Only	nra-2	nervous	1
Q20641	Non-muscle MYosin	Biological 2 Only	nmy-1	muscle, nervous	2
Q9N4M4	Nuclear anchorage protein 1	Both	anc-1	nervous	2
O16398	Nuclear Hormone Receptor family	Biological 1 Only	nhr-156	alimentary, muscle	1
Q86G90	Nuclear Pore complex Protein	Biological 2 Only	npp-9	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q9XVS7	Nuclear RNA export factor 1	Biological 2 Only	nxf-1	alimentary, muscle	1
Q8MQ51	NUCleoBindin homolog	Biological 1 Only	nucb-1	alimentary, muscle, nervous	2
O45012	NucleOLar protein	Biological 1 Only	nol-58	alimentary, muscle, nervous	2
Q93576	Nucleoside diphosphate kinase	Both	ndk-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	4
G5EBV8	Olfactory channel	Biological 2 Only	osm-9	alimentary, nervous	1
G5EF37	Paralysed Arrest at Two-fold	Biological 2 Only	pat-10	alimentary, epithelial, excretory, muscle, nervous, reproductive	3

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
P10567	Paramyosin	Both	unc-15	epithelial, muscle, reproductive	7
Q9NA76	PARN (Poly(A)-specific RiboNuclease) homolog	Biological 2 Only	parn-2	reproductive	1
P52011	Peptidyl-prolyl cis-trans isomerase 3	Biological 2 Only	cyn-3	excretory	1
P52015	Peptidyl-prolyl cis-trans isomerase 7	Biological 1 Only	cyn-7	alimentary, nervous, reproductive	1
Q9U2Q8	Peptidylprolyl isomerase	Biological 2 Only	fkf-2	alimentary, muscle, nervous	1
Q17645	p-GlycoProtein related	Biological 1 Only	pgp-5	alimentary, muscle, nervous	1
Q22656	p-GlycoProtein related	Biological 1 Only	pgp-6	alimentary, nervous	1
G5EG58	p-GlycoProtein related	Biological 2 Only	pgp-9	alimentary, nervous	1
G5ECU3	Phosphate carrier protein, mitochondrial	Biological 2 Only	F01G4.6	alimentary, muscle	1
Q9XWB7	Phosphoinositide phospholipase C	Biological 2 Only	plc-2	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
G5EDU3	Phospholipase	Biological 2 Only	pld-1	alimentary, muscle, nervous	1
U4PRY7	PLeXin	Biological 2 Only	plx-1	alimentary, muscle, reproductive	2
Q9U302	Polyadenylate-binding protein	Biological 2 Only	pab-1	alimentary	3
C7IVR4	Polyglutamine-repeat protein pqn-41	Biological 2 Only	pqn-41	alimentary, epithelial, nervous	1
Q9XWG9	Potassium channel, KvQLT family	Biological 1 Only	kqt-3	alimentary, nervous	1
Q10046	Potential vesicular glutamate transporter vglu-3	Biological 1 Only	vglu-3	alimentary, muscle, nervous	1
Q10454	Probable arginine kinase F46H5.3	Biological 2 Only	F46H5.3	muscle	2
P34574	Probable clathrin heavy chain 1	Biological 2 Only	chc-1	muscle	1
Q09236	Probable coatamer subunit delta	Biological 1 Only	copd-1	muscle	2
Q09248	Probable dynactin subunit 2	Biological 2 Only	dnc-2	nervous	2
Q93615	Probable electron transfer flavoprotein subunit alpha, mitochondrial	Biological 1 Only	F27D4.1	alimentary	1
Q27484	Probable histone H2B 3	Biological 2 Only	his-41	alimentary	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
O44757	Probable histone-lysine N-methyltransferase lin-59	Biological 2 Only	lin-59	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q22347	Probable medium-chain specific acyl-CoA dehydrogenase 10, mitochondrial	Biological 2 Only	acdH-10	epithelial, alimentary	1
P91427	Probable phosphoglycerate kinase	Biological 1 Only	pgk-1	muscle	2
Q09530	Probable pre-mRNA-splicing factor ATP-dependent RNA helicase mog-5	Biological 1 Only	mog-5	reproductive, nervous	1
O17680	Probable S-adenosylmethionine synthase 1	Biological 1 Only	sams-1	alimentary, muscle, nervous, reproductive	1
Q9N4G9	Probable small nuclear ribonucleoprotein G	Biological 2 Only	snr-7	alimentary, epithelial, excretory, muscle, nervous, reproductive	2
Q17848	Probable type I inositol 1,4,5-trisphosphate 5-phosphatase	Biological 2 Only	ipp-5	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q23680	Probable V-type proton ATPase subunit F	Biological 1 Only	vha-9	alimentary, muscle, reproductive	1
P91303	Probable V-type proton ATPase subunit G	Biological 2 Only	vha-10	nervous	1
Q22494	Probable V-type proton ATPase subunit H 2	Both	vha-15	alimentary, muscle, nervous	2
Q19842	Propionyl-CoA carboxylase alpha chain, mitochondrial	Biological 2 Only	pcca-1	alimentary, muscle, nervous	1
O44156	Proteasome subunit alpha type-1	Biological 1 Only	pas-6	reproductive	2
V6CJ04	Protein bicaudal D homolog	Biological 1 Only	bicd-1	excretory, muscle, nervous, reproductive	1
Q17469	Protein containing ALS2cr12 (ALS2CR12) signature	Biological 2 Only	pals-27	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P13508	Protein glp-1	Biological 1 Only	glp-1	nervous	1
O17237	Protein melted homolog	Biological 2 Only	K10B4.3	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P37806	Protein unc-87	Biological 2 Only	unc-87	muscle	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
G5EET8	Protein Up-regulated in Daf-2(Gf)	Biological 2 Only	pud-1.2	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
C6KRN3	Protein YIPF	Biological 2 Only	W02D9.2	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q09622	Pumilio domain-containing protein 12	Biological 2 Only	puf-12	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q93425	Putative 28S ribosomal protein S5, mitochondrial	Biological 2 Only	mrps-5	reproductive	1
Q21565	Putative ammonium transporter 3	Biological 2 Only	amt-3	alimentary, nervous	1
Q17426	Putative pseudouridine synthase	Biological 2 Only	B0024.11	alimentary, nervous	1
Q17703	Putative steroid dehydrogenase 1	Biological 2 Only	stdh-1	muscle, nervous	1
O44451	Pyruvate dehydrogenase E1 component subunit beta, mitochondrial	Biological 1 Only	pdhb-1	alimentary, nervous	1
Q9UAAQ6	RAB family	Biological 1 Only	rab-1	alimentary, muscle, reproductive	1
Q2V4S2	Rab GDP dissociation inhibitor	Biological 2 Only	gdi-1	alimentary, muscle, nervous	1
J7S122	RaBConnectin related	Biological 1 Only	rbc-1	alimentary, nervous	1
Q9BL05	RaBConnectin related	Both	rbc-2	alimentary, nervous	1
Q9XVI0	RaL Binding Protein	Biological 1 Only	rlbp-1	alimentary, nervous, reproductive	1
G5ECC3	Receptor Mediated Endocytosis	Biological 2 Only	rme-1	alimentary	1
P34891	Receptor-like tyrosine-protein kinase kin-15	Biological 2 Only	kin-15	epithelial	1
X5M8U1	Receptor-type guanylate cyclase gcy-17	Biological 2 Only	gcy-17	nervous	1
G5EFQ0	Receptor-type guanylate cyclase gcy-18	Biological 1 Only	gcy-18	alimentary, nervous	1
Q10028	Receptor-type guanylate cyclase gcy-3	Biological 2 Only	gcy-3	nervous	1
G5EGJ5	Receptor-type tyrosine-protein phosphatase-like ida-1	Biological 2 Only	ida-1	nervous	1
O16458	Related to yeast Vacuolar Protein Sorting factor	Biological 1 Only	vps-60	alimentary, nervous, reproductive	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
Q21024	Ribonuclease H1	Biological 2 Only	rnh-1.0	alimentary, epithelial, nervous	1
A3QMC5	Ribosomal Protein, Large subunit	Biological 1 Only	rpl-34	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q22716	Ribosomal Protein, Large subunit	Biological 2 Only	rpl-32	alimentary, nervous	2
O18240	Ribosomal Protein, Small subunit	Biological 1 Only	rps-18	alimentary, muscle, nervous, reproductive	4
Q20206	Ribosomal Protein, Small subunit	Biological 1 Only	rps-11	alimentary, muscle, nervous	1
O17218	Ribosomal Protein, Small subunit	Biological 2 Only	rps-22	alimentary, nervous	1
Q1XFY9	Ribosomal Protein, Small subunit	Biological 1 Only	rps-24	alimentary, nervous	2
O45713	RNA Binding Motif protein homolog	Biological 2 Only	rbm-3.2	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
G5EE53	RNA-dependent RNA polymerase Family	Biological 2 Only	rff-3	alimentary, excretory, nervous	1
Q9NA83	ROLLER: helically twisted, animals roll when moving	Both	rol-1	reproductive	5
P46549	Serine/threonine-protein kinase SULU	Biological 2 Only	kin-18	alimentary, epithelial, excretory, nervous	1
G5EC18	Serine/threonine-protein phosphatase	Biological 1 Only	pph-1	alimentary, muscle, nervous	1
Q9GUC2	Serpentine Receptor, class H	Biological 1 Only	srh-246	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q22982	Serpentine Receptor, class T	Biological 2 Only	srt-35	alimentary, nervous	1
H2L274	Serpentine Receptor, class W	Biological 2 Only	srw-62	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q7KPX1	Serpentine Receptor, class X	Biological 2 Only	srx-14	muscle, nervous	1
Q93869	Serpentine Receptor, class Z	Biological 2 Only	srz-12	alimentary	1
Q966L5	Serrate RNA effector molecule homolog	Biological 1 Only	E01A2.2	epithelial, muscle, nervous	1
H9G2R4	SLOWpoke potassium channel family	Biological 2 Only	slo-2	muscle, nervous	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
G5EFV6	Sodium/potassium-transporting ATPase subunit alpha	Biological 2 Only	catp-4	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P90735	Sodium/potassium-transporting ATPase subunit alpha	Both	eat-6	muscle	2
G4S034	SPeCtrin	Biological 1 Only	spc-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	2
G5EF80	Spermathecal Physiology Variant	Biological 1 Only	spv-1	nervous, reproductive	1
O02139	Sperm-Specific family, class R	Biological 2 Only	ssr-2	alimentary, muscle	1
Q9BI86	Spindle and Kinetochore-Associated protein homolog	Biological 2 Only	ska-3	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q20060	Structural maintenance of chromosomes protein 4	Biological 2 Only	smc-4	alimentary	2
O61794	SUn (SUN) domain Containing Ossification factor homolog	Biological 2 Only	suco-1	alimentary, nervous	1
C6KRN1	Suppressor of aph-1	Biological 1 Only	sao-1	nervous, reproductive	1
A0A1I6CM95	Suppressor of PAr-Two defect	Biological 2 Only	spat-2	alimentary, excretory, nervous	3
Q17768	Suppressor of presenilin protein 3	Biological 2 Only	spr-3	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q9N537	Suppressor of ZYg-1	Biological 1 Only	szy-2	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
B1Q236	Synaptogenesis protein syg-1	Biological 2 Only	syg-1	muscle, nervous, reproductive	1
O61707	TAF (TBP-associated transcription factor) family	Biological 2 Only	taf-4	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
G5EGK1	Talin	Biological 1 Only	tln-1	alimentary, muscle, nervous	2

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
A0A164D380	TBC (Tre-2/Bub2/Cdc16) domain family	Biological 2 Only	tbc-14	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P41988	T-complex protein 1 subunit alpha	Biological 1 Only	cct-1	alimentary, epithelial, excretory, muscle, nervous	2
P47209	T-complex protein 1 subunit epsilon	Biological 2 Only	cct-5	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q9N4J8	T-complex protein 1 subunit gamma	Biological 2 Only	cct-3	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q22554	TeTatriCopeptide repeat domain protein related	Biological 1 Only	ttc-17	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P52709	Threonine--tRNA ligase, cytoplasmic	Biological 2 Only	tars-1	alimentary, muscle	1
Q18885	Transcription factor BTF3 homolog	Biological 1 Only	icd-1	muscle	4
P54811	Transitional endoplasmic reticulum ATPase homolog 1	Biological 2 Only	cdc-48.1	muscle, reproductive	2
P54812	Transitional endoplasmic reticulum ATPase homolog 2	Biological 2 Only	cdc-48.2	muscle	2
O17759	TransKeTolase homolog	Biological 1 Only	tkt-1	alimentary, muscle, nervous	2
B3WFW5	Transmembrane 9 superfamily member	Biological 1 Only	ZK858.6	alimentary	1
Q9GRZ9	Transmembrane and Coiled-Coil protein	Biological 1 Only	tcc-1	nervous, reproductive	2
D3KZG3	Transmembrane channel-like protein 1	Biological 2 Only	tmc-1	nervous	1
Q21281	Transmembrane matrix receptor MUP-4	Biological 1 Only	mup-4	epithelial, nervous	1
Q9XV18	TransThyretin-Related family domain	Biological 2 Only	ttr-12	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
G5EG96	Trehalase	Biological 2 Only	tre-5	epithelial	1
Q27249	Tropomyosin isoforms c/e	Biological 2 Only	lev-11	alimentary, epithelial, excretory, muscle, nervous, reproductive	2
Q9GYF1	Troponin I 2	Biological 1 Only	unc-27	epithelial	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
Q9XUN9	Troponin I 3	Biological 1 Only	tnt-3	muscle, reproductive	1
Q7Z072	TropoNin T	Both	tnt-2	muscle	5
Q27371	Troponin T	Biological 2 Only	mup-2	alimentary, epithelial, excretory, muscle, nervous, reproductive	2
P91873	Tubulin alpha chain	Biological 1 Only	tba-6	alimentary	1
H2L2E8	Tubulin alpha chain	Biological 1 Only	tba-1	epithelial	2
G5EDD4	Tubulin alpha chain	Both	tba-4	nervous	2
Q20221	Tubulin alpha chain	Biological 2 Only	tba-9	alimentary, epithelial, excretory	1
P34690	Tubulin alpha-2 chain	Both	tba-2	alimentary, muscle, nervous	1
P91910	Tubulin alpha-3 chain	Both	mec-12	alimentary, nervous	1
Q18817	Tubulin beta chain	Biological 2 Only	ben-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
O17921	Tubulin beta chain	Biological 2 Only	tbb-1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P12456	Tubulin beta-1 chain	Both	mec-7	muscle, nervous	3
P52275	Tubulin beta-2 chain	Biological 2 Only	tbb-2	excretory, muscle, reproductive	3
P41937	Tubulin beta-4 chain (Beta-4-tubulin)	Biological 2 Only	tbb-4	alimentary, excretory, muscle, nervous	2
P34475	Tubulin gamma chain	Biological 2 Only	tbg-1	epithelial	1
H2KZM9	Tubulin Tyrosine Ligase Like	Biological 2 Only	ttll-11	alimentary, muscle	1
Q6EUT8	TWiK family of potassium channels	Biological 1 Only	twk-31	alimentary, muscle	1
Q9XX01	TWiK family of potassium channels	Biological 2 Only	twk-31	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
O01497	TYRosinase	Biological 2 Only	tyr-4	alimentary, nervous	1
O01435	Tyrosine-protein phosphatase	Biological 1 Only	B0207.1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
P91568	Tyrosine-protein phosphatase	Biological 1 Only	ZK354.8	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
O01555	Tyrosine-protein phosphatase	Biological 2 Only	F47B3.1	alimentary, muscle, nervous	1
G5EC24	Tyrosine-protein phosphatase non-receptor type ptp-2	Biological 2 Only	ptp-2	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q9U1W8	U6 snRNA-associated Sm-like protein LSm3	Biological 1 Only	lsm-3	alimentary, muscle	1
Q9UAV3	Ubiquitin carboxyl-terminal hydrolase	Biological 2 Only	ubh-1	alimentary, epithelial	1
Q22240	Ubiquitin carboxyl-terminal hydrolase	Biological 2 Only	T05H10.1	nervous	3
G5EBW2	Ubiquitin Specific Protease	Biological 1 Only	usp-50	alimentary, nervous, reproductive	1
Q9U3Q6	UDP-glucuronosyltransferase	Biological 1 Only	ugt-22	alimentary, nervous	1
P91039	UDP-glucuronosyltransferase	Biological 2 Only	ugt-25	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
O16276	UDP-glucuronosyltransferase	Biological 2 Only	ugt-61	alimentary	1
Q21603	UDP-glucuronosyltransferase	Biological 2 Only	ugt-62	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
G5EG62	UNC-45	Both	unc-45	alimentary, nervous	2
Q8TA81	Uncharacterized F-box protein ZK328.6	Biological 2 Only	ZK328.6	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q21534	Uncharacterized NTE family protein M110.7	Biological 2 Only	M110.7	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q9XW61	Uncharacterized protein	Biological 1 Only	mrp-8	alimentary, nervous	1
Q17490	Uncharacterized protein	Biological 2 Only	unc-44	alimentary, excretory, muscle, nervous	4
Q9XWN2	Uncharacterized protein	Biological 1 Only	dyf-19	muscle	1
Q19945	Uncharacterized protein	Biological 2 Only	daf-6	epithelial, nervous	1
Q9NET8	Uncharacterized protein	Biological 2 Only	dyf-17	nervous	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
Q9U1Q7	Uncharacterized protein	Biological 2 Only	emb-4	nervous	1
K8FDY0	Uncharacterized protein	Biological 2 Only	hpo-34	alimentary, epithelial, excretory, muscle, nervous, reproductive	2
A0A0K3ARB5	Uncharacterized protein	Biological 2 Only	lev-11	alimentary, epithelial, excretory, muscle, nervous, reproductive	2
A0A0K3ATR6	Uncharacterized protein	Biological 2 Only	lev-11	alimentary, epithelial, excretory, muscle, nervous, reproductive	3
A0A0K3AWP0	Uncharacterized protein	Both	lev-11	alimentary, epithelial, excretory, muscle, nervous, reproductive	7
Q20129	Uncharacterized protein	Biological 2 Only	mus-101	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
G5EFR0	Uncharacterized protein	Biological 2 Only	tag-297	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
A0A2C9C3B4	Uncharacterized protein	Biological 1 Only	F09G2.1	alimentary, epithelial, nervous	1
B7FAR9	Uncharacterized protein	Biological 1 Only	Y43F8B.1	unidentified	1
C7IVR0	Uncharacterized protein	Biological 1 Only	D2062.13	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
C7IVS0	Uncharacterized protein	Biological 1 Only	Y38H6C.25	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
E5QCH1	Uncharacterized protein	Biological 1 Only	ZC376.6	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
G4S0D7	Uncharacterized protein	Biological 1 Only	C16C8.22	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
H2KYE2	Uncharacterized protein	Biological 1 Only	F26F12.3	alimentary, nervous	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
H2KZE1	Uncharacterized protein	Biological 1 Only	F44E7.5	epithelial, muscle, nervous	1
H2KZE6	Uncharacterized protein	Biological 1 Only	F41B4.2	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
L8E972	Uncharacterized protein	Biological 1 Only	K08F9.3	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
O02060	Uncharacterized protein	Biological 1 Only	B0041.1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
O16302	Uncharacterized protein	Biological 1 Only	T05C3.2	unidentified	1
O16536	Uncharacterized protein	Biological 1 Only	C17A2.2	unidentified	1
O44893	Uncharacterized protein	Biological 1 Only	T20H9.6	unidentified	1
O45238	Uncharacterized protein	Biological 1 Only	C01G12.7	unidentified	1
O45398	Uncharacterized protein	Biological 1 Only	F22G12.4	alimentary, nervous	1
O45855	Uncharacterized protein	Biological 1 Only	T27E7.1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
O76407	Uncharacterized protein	Biological 1 Only	T10B5.3	nervous	1
P90989	Uncharacterized protein	Biological 1 Only	B0432.8	unidentified	1
P91340	Uncharacterized protein	Biological 1 Only	F55F8.2	unidentified	1
P91368	Uncharacterized protein	Biological 1 Only	K11H12.5	unidentified	1
Q09491	Uncharacterized protein	Biological 1 Only	C32D5.12	alimentary, epithelial, muscle, nervous	1
Q17476	Uncharacterized protein	Biological 1 Only	B0334.4	alimentary, epithelial, muscle, nervous	1
Q17512	Uncharacterized protein	Biological 1 Only	B0491.5	unidentified	1
Q17711	Uncharacterized protein	Biological 1 Only	C06C3.3	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q17863	Uncharacterized protein	Biological 1 Only	C09G1.2	alimentary, nervous	1
Q18048	Uncharacterized protein	Biological 1 Only	C16E9.1	unidentified	1
Q20380	Uncharacterized protein	Biological 1 Only	F44A2.3	unidentified	1
Q21545	Uncharacterized protein	Biological 1 Only	M153.2	unidentified	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
Q21753	Uncharacterized protein	Biological 1 Only	R05G6.5	alimentary, excretory, nervous	1
Q22790	Uncharacterized protein	Biological 1 Only	T25G3.1	unidentified	1
Q22951	Uncharacterized protein	Biological 1 Only	F08F3.1	alimentary, epithelial, reproductive	1
Q22974	Uncharacterized protein	Biological 1 Only	F45F2.10	alimentary, excretory, nervous	1
Q23346	Uncharacterized protein	Biological 1 Only	ZC477.7	unidentified	1
Q4W4Y5	Uncharacterized protein	Biological 1 Only	E02D9.1	alimentary	1
Q564W8	Uncharacterized protein	Biological 1 Only	C17E4.11	alimentary	1
Q5WRP2	Uncharacterized protein	Biological 1 Only	C11H1.9	alimentary, muscle, nervous	2
Q5WRT0	Uncharacterized protein	Biological 1 Only	F46G11.1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q93784	Uncharacterized protein	Biological 1 Only	F54E4.2	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q94010	Uncharacterized protein	Biological 1 Only	T08G11.1	muscle	2
Q94314	Uncharacterized protein	Biological 1 Only	ZK154.5	alimentary	1
Q95R17	Uncharacterized protein	Biological 1 Only	F43E2.6	alimentary, nervous	1
Q95XU0	Uncharacterized protein	Biological 1 Only	Y67D8B.1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q965P8	Uncharacterized protein	Biological 1 Only	Y22D7AL.11	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q965Q2	Uncharacterized protein	Biological 1 Only	Y22D7AL.9	unidentified	1
Q966I7	Uncharacterized protein	Biological 1 Only	K08D12.3	muscle	1
Q9BKY1	Uncharacterized protein	Biological 1 Only	Y22D7AR.3	excretory, muscle	1
Q9N3L4	Uncharacterized protein	Biological 1 Only	Y50D7A.3	excretory, muscle, nervous	1
Q9N564	Uncharacterized protein	Biological 1 Only	Y23B4A.1	unidentified	1
Q9N5B3	Uncharacterized protein	Biological 1 Only	W08E12.7	unidentified	2
Q9NA71	Uncharacterized protein	Biological 1 Only	Y57A10A.31	reproductive	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
Q9TZC6	Uncharacterized protein	Biological 1 Only	Y59C2A.1	epithelial, muscle, nervous	1
Q9XWX8	Uncharacterized protein	Biological 1 Only	Y43F8B.1	unidentified	1
U4PLK4	Uncharacterized protein	Biological 1 Only	M02B7.2	alimentary, muscle, nervous, reproductive	1
U4PLX3	Uncharacterized protein	Biological 1 Only	Y53F4B.12	unidentified	1
A0A1X7RBP4	Uncharacterized protein	Biological 2 Only	ZK1193.2	alimentary, epithelial, nervous	1
B5BM42	Uncharacterized protein	Biological 2 Only	T02G6.11	unidentified	1
B7WN93	Uncharacterized protein	Biological 2 Only	F28C6.9	unidentified	1
D3NQ89	Uncharacterized protein	Biological 2 Only	C35B1.2	alimentary, epithelial, nervous	1
G5EBI7	Uncharacterized protein	Biological 2 Only	C17C3.13	unidentified	1
G5EC99	Uncharacterized protein	Biological 2 Only	F11F1.1	alimentary, epithelial	1
G5ECF2	Uncharacterized protein	Biological 2 Only	F43D9.1	unidentified	1
G5ED69	Uncharacterized protein	Biological 2 Only	C33D3.5	alimentary	1
G5EDM0	Uncharacterized protein	Biological 2 Only	K08F9.4	unidentified	1
G5EDV0	Uncharacterized protein	Biological 2 Only	E01G4.6	unidentified	1
G5EE32	Uncharacterized protein	Biological 2 Only	T04F3.1	unidentified	1
G5EEA3	Uncharacterized protein	Biological 2 Only	H05L14.1	unidentified	1
G5EFE2	Uncharacterized protein	Biological 2 Only	Y32B12A.5	unidentified	1
G5EFF2	Uncharacterized protein	Biological 2 Only	F20C5.6	alimentary, muscle, nervous	1
H2KYI5	Uncharacterized protein	Biological 2 Only	C06G3.5	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
H9G2S0	Uncharacterized protein	Biological 2 Only	F08B12.4	muscle, nervous	1
K8ESI1	Uncharacterized protein	Biological 2 Only	C02H6.3	unidentified	1
O16547	Uncharacterized protein	Biological 2 Only	C35A11.4	unidentified	1
O16628	Uncharacterized protein	Biological 2 Only	K02F6.7	unidentified	1
O16738	Uncharacterized protein	Biological 2 Only	F45C12.9	alimentary, excretory, nervous	1
O17164	Uncharacterized protein	Biological 2 Only	C24H12.2	unidentified	1
O17827	Uncharacterized protein	Biological 2 Only	F21A3.4	unidentified	1
O44895	Uncharacterized protein	Biological 2 Only	ZK484.3	alimentary, excretory	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
O76643	Uncharacterized protein	Biological 2 Only	T08E11.8	unidentified	1
P91287	Uncharacterized protein	Biological 2 Only	F27C1.1	alimentary, epithelial, muscle, nervous	1
Q09594	Uncharacterized protein	Biological 2 Only	R03D7.2	alimentary, epithelial	1
Q17566	Uncharacterized protein	Biological 2 Only	C01G5.4	unidentified	1
Q18204	Uncharacterized protein	Biological 2 Only	C26C6.8	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q18848	Uncharacterized protein	Biological 2 Only	C54G4.3	excretory, muscle, nervous	1
Q18935	Uncharacterized protein	Biological 2 Only	D1046.4	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q19295	Uncharacterized protein	Biological 2 Only	F10D7.1	unidentified	1
Q19589	Uncharacterized protein	Biological 2 Only	F19C7.2	epithelial, nervous	1
Q19602	Uncharacterized protein	Biological 2 Only	F19H6.5	epithelial, nervous	1
Q19654	Uncharacterized protein	Biological 2 Only	F20D6.10	alimentary, muscle	1
Q19761	Uncharacterized protein	Biological 2 Only	F23D12.2	unidentified	1
Q20202	Uncharacterized protein	Biological 2 Only	F40E10.5	alimentary, excretory, nervous	1
Q20626	Uncharacterized protein	Biological 2 Only	F49E2.5	unidentified	1
Q21171	Uncharacterized protein	Biological 2 Only	K03B4.4	unidentified	1
Q21247	Uncharacterized protein	Biological 2 Only	K05F1.1	unidentified	1
Q21841	Uncharacterized protein	Biological 2 Only	R08C7.4	alimentary, epithelial	1
Q21850	Uncharacterized protein	Biological 2 Only	R08E3.1	unidentified	1
Q21953	Uncharacterized protein	Biological 2 Only	R12B2.3	alimentary, nervous	1
Q22137	Uncharacterized protein	Biological 2 Only	T04A8.7	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q22163	Uncharacterized protein	Biological 2 Only	T04F8.3	unidentified	1
Q22219	Uncharacterized protein	Biological 2 Only	T05C1.3	excretory, epithelial	1
Q22719	Uncharacterized protein	Biological 2 Only	T24B8.3	unidentified	1
Q23119	Uncharacterized protein	Biological 2 Only	W02B12.1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
Q23616	Uncharacterized protein	Biological 2 Only	ZK822.5	alimentary, excretory, muscle, nervous, reproductive	1
Q2L6W7	Uncharacterized protein	Biological 2 Only	R11G1.7	nervous	1
Q3HKD3	Uncharacterized protein	Biological 2 Only	C29E4.14	alimentary, nervous	1
Q688Z7	Uncharacterized protein	Biological 2 Only	Y48G1BL.7	unidentified	1
Q7JNM2	Uncharacterized protein	Biological 2 Only	ZC13.1	alimentary, nervous	1
Q7YTK4	Uncharacterized protein	Biological 2 Only	R09H10.6	unidentified	1
Q8IAB4	Uncharacterized protein	Biological 2 Only	Y119D3B.12	alimentary	1
Q8ITV6	Uncharacterized protein	Biological 2 Only	Y44E3A.6	alimentary, nervous	1
Q8WQD9	Uncharacterized protein	Biological 2 Only	M176.10	alimentary, nervous	1
Q93718	Uncharacterized protein	Biological 2 Only	F43G9.4	alimentary, epithelial, muscle	1
Q93763	Uncharacterized protein	Biological 2 Only	F53C11.5	alimentary, nervous	1
Q95Q15	Uncharacterized protein	Biological 2 Only	Y55D9A.2	alimentary	1
Q95QC9	Uncharacterized protein	Biological 2 Only	K09F5.6	unidentified	1
Q966A0	Uncharacterized protein	Biological 2 Only	Y5H2B.1	unidentified	1
Q966H1	Uncharacterized protein	Biological 2 Only	R05G9.3	unidentified	1
Q9N393	Uncharacterized protein	Biological 2 Only	Y54H5A.1	unidentified	1
Q9N522	Uncharacterized protein	Biological 2 Only	Y39A3A.2	unidentified	1
Q9N5Z0	Uncharacterized protein	Biological 2 Only	C09E7.4	nervous	1
Q9TYZ4	Uncharacterized protein	Biological 2 Only	H35B03.1	unidentified	1
Q9U1Y4	Uncharacterized protein	Biological 2 Only	Y60A9.1	unidentified	1
Q9XUD6	Uncharacterized protein	Biological 2 Only	F55G11.8	unidentified	1
Q9XVF1	Uncharacterized protein	Biological 2 Only	C04F12.1	alimentary	1
Q9XVN8	Uncharacterized protein	Biological 2 Only	F36A2.2	nervous	1
Q9XVU5	Uncharacterized protein	Biological 2 Only	F15B9.8	alimentary, epithelial	1
X5M5W2	Uncharacterized protein	Biological 2 Only	T28C6.7	alimentary, nervous	1
O61201	Uncharacterized protein	Both	F39C12.1	alimentary, excretory, epithelial, nervous	1
Q22167	Uncharacterized protein	Both	T04F8.6	unidentified	1
Q22631	Uncharacterized protein	Both	T21B6.3	unidentified	2
Q22850	Uncharacterized protein	Both	T28F4.5	unidentified	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
Q09223	Uncharacterized protein B0228.6	Biological 2 Only	B0228.6	alimentary, excretory, muscle, nervous	1
Q7JPK6	Uncharacterized protein B0361.3	Biological 1 Only	B0361.3	alimentary, muscle, excretory, nervous	1
Q11081	Uncharacterized protein B0563.5	Biological 1 Only	B0563.5	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q11188	Uncharacterized protein C05D11.9	Biological 2 Only	C05D11.9	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P34352	Uncharacterized protein C30A5.10	Biological 2 Only	C30A5.10	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P48322	Uncharacterized protein C36E8.1	Biological 2 Only	C36E8.1	nervous	2
Q19191	Uncharacterized protein F08B12.4	Biological 2 Only	F08B12.4	muscle, nervous	1
P41879	Uncharacterized protein F37A4.1	Biological 2 Only	F37A4.1	nervous	1
Q10123	Uncharacterized protein F52C9.3	Biological 2 Only	F52C9.3	nervous	1
Q10020	Uncharacterized protein T28D9.1	Biological 1 Only	T28D9.1	alimentary, nervous	2
Q09359	Uncharacterized protein ZK1307.1	Biological 1 Only	ZK1307.1	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P34645	Uncharacterized protein ZK512.7	Biological 2 Only	ZK512.7	alimentary, excretory, epithelial, muscle, nervous	1
P34654	Uncharacterized protein ZK632.9	Biological 2 Only	ZK632.9	alimentary	1
P34680	Uncharacterized protein ZK757.2	Biological 1 Only	ZK757.2	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
P52715	Uncharacterized serine carboxypeptidase F13S12.6	Biological 2 Only	F13D12.6	excretory, epithelial, muscle, nervous	1
Q95X44	Vacuolar H ATPase	Biological 1 Only	vha-8	alimentary, epithelial	2
Q9U1Q4	Valine--tRNA ligase	Biological 2 Only	glp-4	alimentary, nervous	1
H2KYR1	VIG (Drosophila Vasa Intronic Gene) ortholog	Both	vig-1	alimentary, epithelial, reproductive, muscle, nervous	1

UniProt ID	Protein names	Biological Replicate	Gene	Body System	Peptides Modified No.
Q9XW92	V-type proton ATPase catalytic subunit A	Biological 2 Only	vha-13	alimentary, excretory	4
P34462	V-type proton ATPase subunit D	Biological 2 Only	vha-14	alimentary, excretory, nervous	1
Q9U229	Worm AIF (Apoptosis inducing factor) Homolog	Biological 2 Only	wah-1	alimentary, nervous	1
Q965Q8	Xylosyltransferase sqv-6	Biological 1 Only	sqv-6	reproductive	1
Q21740	Yeast Enhancer of DeCapping homolog	Biological 1 Only	edc-3	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q7K7S3	Zinc finger, HIT-type	Biological 2 Only	zhit-2	alimentary, nervous	1
Q20176	Zinc metalloproteinase nas-39	Biological 1 Only	nas-39	alimentary, excretory, muscle, nervous	1
Q17996	Zrt (ZRT), Irt-(IRT-) like Protein Transporter	Biological 2 Only	zipt-13	alimentary, epithelial, excretory, muscle, nervous, reproductive	1
Q23529	Zygote defective protein 12	Biological 2 Only	zyg-12	reproductive	1
G5EEM5	Zygote defective protein 9	Biological 2 Only	zyg-9	reproductive	1