

Table S6. Gene Ontology (GO) assignments of proteins identified. The conceptually translated amino acid sequences of the identified *Oesophagostomum dentatum* contigs were applied to GO analyses using the AmiGO tool. Only annotations found in related nematode species were taken into account using a cut-off of $p \leq 2 \times 10^{-25}$.

GO - Biological process			
Protein	Category 1	Category 2	Category 3
LIM domain protein	GO:0000003 Reproduction		
Propionyl-CoA carboxylase alpha chain	GO:0008152 Metabolic process		
Phosphoenolpyruvate carboxy kinase GTP	GO:0008152 Metabolic process	GO:0044238 Primary metabolic process	GO:0006094 Gluconeogenesis
Intermediate filament protein B	GO:0032501 Multicellular organismal process	GO:0009058 Biosynthetic process	GO:0002119 Nematode larval development
	GO:0032502 Developmental process	GO:0007275 Multicellular organismal development	
	GO:0032502 Developmental process	GO:0009791 Post-embryonic development	GO:0008340 Determination of adult lifespan
	GO:0032501 Multicellular organismal process	GO:0007568 Aging	
	GO:0032502 Developmental process	GO:0007275 Multicellular organismal development	GO:0009792 Embryo development ending in birth or egg hatching
	GO:0032501 Multicellular organismal process	GO:0048856 Anatomical structure development	
	GO:0032502 Developmental process	GO:0007275 Multicellular organismal development	GO:0010171 Body morphogenesis
	GO:0032501 Multicellular organismal process	GO:0048856 Anatomical structure development	GO:0018996 Molting cycle, collagen and cuticulin-based cuticle
	GO:0032502 Developmental process	GO:0042303 Molting cycle	GO:0040002 Collagen and cuticulin-based cuticle development
	GO:0032501 Multicellular organismal process	GO:0048856 Anatomical structure development	
	GO:0040007 Growth	GO:0007275 Multicellular organismal development	
GO:0040011 Locomotion			
Heat shock 70 kDa protein	GO:0000003 Reproduction		
	GO:0032501 Multicellular organismal process	GO:0007275 Multicellular organismal development	GO:0002119 Nematode larval development
	GO:0032502 Developmental process	GO:0009791 Post-embryonic development	
	GO:0008152 Metabolic process	GO:0044237 Cellular metabolic process	GO:0006200 ATP catabolic process
		GO:0044281 Small molecule metabolic process	
		GO:0019637 Organophosphate metabolic process	
		GO:0006807 Nitrogen compound metabolic process	
		GO:0009056 Catabolic process	
	GO:0009987 Cellular process	GO:0044237 Cellular metabolic process	
	GO:0032502 Developmental process	GO:0007568 Aging	GO:0008340 Determination of adult lifespan
	GO:0032501 Multicellular organismal process	GO:0007275 Multicellular organismal development	
	GO:0050896 Response to stimulus	GO:0006950 Response to stress	GO:0009408 Response to heat
	GO:0032502 Developmental process	GO:0048856 Anatomical structure development	GO:0009792 Embryo development ending in birth or egg hatching
	GO:0032501 Multicellular organismal process	GO:0007275 Multicellular organismal development	
	GO:0032502 Developmental process	GO:0048856 Anatomical structure development	GO:0010171 Body morphogenesis
GO:0040007 Growth			
GO:0040011 Locomotion			
GO:0009987 Cellular process	GO:0051641 Cellular localization	GO:0042147 Retrograde transport, endosome to Golgi	
GO:0051179 Localization	GO:0051234 Establishment of localization		
Troponin T	GO:0065007 Biological regulation	GO:0050789 Regulation of biological process	GO:0040010 Positive regulation of growth rate
	GO:0040007 Growth		
	GO:0040011 Locomotion		
	GO:0040011 Locomotion		GO:0040017 Positive regulation of locomotion
Heat shock 60 kDa protein	GO:0000003 Reproduction		
	GO:0050896 Response to stimulus	GO:0006950 Response to stress	GO:0000302 Response to reactive oxygen species
	GO:0032501 Multicellular organismal process	GO:0007275 Multicellular organismal development	GO:0002119 Nematode larval development
	GO:0032502 Developmental process	GO:0009791 Post-embryonic development	
	GO:0008152 Metabolic process	GO:0044237 Cellular metabolic process	GO:0006457 Protein folding
	GO:0009987 Cellular process		
	GO:0009987 Cellular process	GO:0071841 Cellular component organization or biogenesis at cellular level	GO:0007005 Mitochondrion organization
	GO:0050896 Response to stimulus	GO:0006950 Response to stress	GO:0009408 Response to heat
	GO:0032502 Developmental process	GO:0048856 Anatomical structure development	GO:0009792 Embryo development ending in birth or egg hatching
	GO:0032501 Multicellular organismal process	GO:0007275 Multicellular organismal development	
	GO:0050896 Response to stimulus	GO:0006950 Response to stress	GO:0034514 Mitochondrial unfolded protein response
	GO:0009987 Cellular process	GO:0051716 Cellular response to stimulus	
	GO:0040007 Growth		
	GO:0065007 Biological regulation	GO:0050789 Regulation of biological process	GO:0040010 Positive regulation of growth rate
	GO:0040007 Growth		
	GO:0008152 Metabolic process	GO:0044237 Cellular metabolic process	GO:0042026 Protein refolding
	GO:0009987 Cellular process		

	GO:0008152 Metabolic process	GO:0044237 Cellular metabolic process	GO:0044267 Cellular protein metabolic process
	GO:0009987 Cellular process		
4-hydroxybutyrate coenzyme A transferase	GO:0008152 Metabolic process	GO:0044237 Cellular metabolic process	GO:0006084 Acetyl-CoA metabolic process
	GO:0009987 Cellular process		
Calreticulin	GO:0032501 Multicellular organismal process	GO:0007275 Multicellular organismal development	GO:0002119 Nematode larval development
	GO:0032502 Developmental process	GO:0009791 Post-embryonic development	
	GO:0008152 Metabolic process	GO:0044237 Cellular metabolic process	GO:0006457 Protein folding
	GO:0009987 Cellular process		
	GO:0050896 Response to stimulus		GO:0006950 Response to stress
	GO:0009987 Cellular process	GO:0008219 Cell death	GO:0012501 Programmed cell death
	GO:0016265 Death	GO:0008219 Cell death	
	GO:0032501 Multicellular organismal process	GO:0003008 System process	GO:0030421 Defecation
	GO:0009987 Cellular process	GO:0071841 Cellular component organization or biogenesis at cellular level	GO:0031581 Hemidesmosome assembly
	GO:0040011 Locomotion		
	GO:0032501 Multicellular organismal process		GO:0048609 Multicellular organismal reproductive process
Actin	GO:0000003 Reproduction		
	GO:0009987 Cellular process		GO:0000910 Cytokinesis
	GO:0032501 Multicellular organismal process	GO:0007275 Multicellular organismal development	GO:0002119 Nematode larval development
	GO:0032502 Developmental process	GO:0009791 Post-embryonic development	
	GO:0032502 Developmental process	GO:0048856 Anatomical structure development	GO:0009792 Embryo development ending in birth or egg hatching
	GO:0032501 Multicellular organismal process	GO:0007275 Multicellular organismal development	
	GO:0009987 Cellular process	GO:0071841 Cellular component organization or biogenesis at cellular level	GO:0030036 Actin cytoskeleton organization
	GO:0040007 Growth		
	GO:0040011 Locomotion		
	GO:0032502 Developmental process	GO:0048856 Anatomical structure development	GO:0040035 Hermaphrodite genitalia development
	GO:0032501 Multicellular organismal process	GO:0007275 Multicellular organismal development	
	GO:0000003 Reproduction	GO:0022414 Reproductive process	
Fructose-bisphosphate aldolase	GO:0000003 Reproduction		
	GO:0008152 Metabolic process	GO:0044237 Cellular metabolic process	GO:0006096 Glycolysis
	GO:0009987 Cellular process		
	GO:0032502 Developmental process	GO:0048856 Anatomical structure development	GO:0009792 Embryo development ending in birth or egg hatching
	GO:0032501 Multicellular organismal process	GO:0007275 Multicellular organismal development	
	GO:0032501 Multicellular organismal process	GO:0032504 Multicellular organism reproduction	GO:0018991 Oviposition
	GO:0000003 Reproduction	GO:0022414 Reproductive process	
	GO:0050896 Response to stimulus	GO:0007610 Behavior	
	GO:0065007 Biological regulation	GO:0050789 Regulation of biological process	GO:0040010 Positive regulation of growth rate
	GO:0040007 Growth		
	GO:0040011 Locomotion		
Tropomyosin	GO:0000003 Reproduction		
	GO:0009987 Cellular process		GO:0000910 Cytokinesis
	GO:0032501 Multicellular organismal process	GO:0007275 Multicellular organismal development	GO:0002119 Nematode larval development
	GO:0032502 Developmental process	GO:0009791 Post-embryonic development	
	GO:0032502 Developmental process	GO:0048856 Anatomical structure development	GO:0009792 Embryo development ending in birth or egg hatching
	GO:0032501 Multicellular organismal process	GO:0007275 Multicellular organismal development	
	GO:0032502 Developmental process	GO:0048856 Anatomical structure development	GO:0010171 Body morphogenesis
	GO:0032501 Multicellular organismal process	GO:0032504 Multicellular organism reproduction	GO:0018991 Oviposition
	GO:0000003 Reproduction	GO:0022414 Reproductive process	
	GO:0050896 Response to stimulus	GO:0007610 Behavior	
	GO:0032501 Multicellular organismal process	GO:0042303 Molting cycle	GO:0018996 Molting cycle, collagen and cuticulin-based cuticle
	GO:0009987 Cellular process	GO:0071841 Cellular component organization or biogenesis at cellular level	GO:0030833 Regulation of actin filament depolymerization
	GO:0065007 Biological regulation	GO:0050789 Regulation of biological process	
	GO:0065007 Biological regulation	GO:0050789 Regulation of biological process	GO:0030835 Negative regulation of actin filament depolymerization
	GO:0040011 Locomotion		
	GO:0040011 Locomotion		GO:0040017 Positive regulation of locomotion
	GO:0065007 Biological regulation	GO:0050789 Regulation of biological process	GO:0040015 Negative regulation of multicellular organism growth
	GO:0040007 Growth	GO:0040008 Regulation of growth	
	GO:0032501 Multicellular organismal process	GO:0051239 Regulation of multicellular organismal process	
	GO:0032502 Developmental process	GO:0048856 Anatomical structure development	GO:0040035 Hermaphrodite genitalia development
	GO:0032501 Multicellular organismal process	GO:0007275 Multicellular organismal development	
	GO:0000003 Reproduction	GO:0022414 Reproductive process	
	GO:0065007 Biological regulation	GO:0065009 Regulation of molecular function	GO:0043393 Regulation of protein binding

Malate dehydrogenase	GO:0032501 Multicellular organismal process GO:0032502 Developmental process GO:0008152 Metabolic process GO:0009987 Cellular process GO:0032502 Developmental process GO:0032501 Multicellular organismal process GO:0040007 Growth GO:0065007 Biological regulation GO:0040007 Growth GO:0008152 Metabolic process GO:0009987 Cellular process GO:0008152 Metabolic process GO:0009987 Cellular process	GO:0007275 Multicellular organismal development GO:0009791 Post-embryonic development GO:0044237 Cellular metabolic process GO:0044281 Small molecule metabolic process GO:0048856 Anatomical structure development GO:0007275 Multicellular organismal development GO:0050789 Regulation of biological process GO:0044238 Primary metabolic process GO:0044237 Cellular metabolic process GO:0007049 Cell cycle GO:0051301 Cell division GO:0000910 Cytokinesis GO:0007275 Multicellular organismal development GO:0009791 Post-embryonic development GO:0071841 Cellular component organization or biogenesis at cellular level GO:0007275 Multicellular organismal development GO:0048869 Cellular developmental process GO:0048869 Cellular developmental process GO:0048856 Anatomical structure development GO:0007275 Multicellular organismal development GO:0032504 Multicellular organism reproduction GO:0022414 Reproductive process GO:0007610 Behavior GO:0050789 Regulation of biological process GO:0006928 Cellular component movement GO:0051641 Cellular localization GO:0051641 Cellular localization GO:0050789 Regulation of biological process GO:0048856 Anatomical structure development GO:0007275 Multicellular organismal development GO:0022414 Reproductive process GO:0022414 Reproductive process GO:0048610 Cellular process involved in reproduction GO:0007049 Cell cycle GO:0007059 Chromosome segregation	GO:0002119 Nematode larval development GO:0006108 Malate metabolic process GO:0009792 Embryo development ending in birth or egg hatching GO:0040010 Positive regulation of growth rate GO:0044262 Cellular carbohydrate metabolic process GO:0055114 Oxidation-reduction process GO:0000281 Cytokinesis after mitosis GO:0002119 Nematode larval development GO:0006997 Nucleus organization GO:0008045 Motor axon guidance GO:0009792 Embryo development ending in birth or egg hatching GO:0018991 Oviposition GO:0030334 Regulation of cell migration GO:0033365 Protein localization to organelle GO:0040010 Positive regulation of growth rate GO:0040017 Positive regulation if locomotion GO:0040035 Hermaphrodite genitalia development GO:0040038 Polar body extrusion after meiotic division GO:0051304 Chromosome separation
RACK-1 (receptor for activated protein kinase C 1)	GO:0032501 Multicellular organismal process GO:0032502 Developmental process GO:0009987 Cellular process GO:0032501 Multicellular organismal process GO:0009987 Cellular process GO:0032502 Developmental process GO:0032502 Developmental process GO:0032501 Multicellular organismal process GO:0032501 Multicellular organismal process GO:0000003 Reproduction GO:0050896 Response to stimulus GO:0065007 Biological regulation GO:0009987 Cellular process GO:0051179 Localization GO:0009987 Cellular process GO:0051179 Localization GO:0040007 Growth GO:0065007 Biological regulation GO:0040007 Growth GO:0040011 Locomotion GO:0032502 Developmental process GO:0032501 Multicellular organismal process GO:0000003 Reproduction GO:0000003 Reproduction GO:0009987 Cellular process GO:0009987 Cellular process	GO:0007275 Multicellular organismal development GO:0009791 Post-embryonic development GO:0071841 Cellular component organization or biogenesis at cellular level GO:0007275 Multicellular organismal development GO:0048869 Cellular developmental process GO:0048869 Cellular developmental process GO:0048856 Anatomical structure development GO:0007275 Multicellular organismal development GO:0032504 Multicellular organism reproduction GO:0022414 Reproductive process GO:0007610 Behavior GO:0050789 Regulation of biological process GO:0006928 Cellular component movement GO:0051641 Cellular localization GO:0051641 Cellular localization GO:0050789 Regulation of biological process GO:0048856 Anatomical structure development GO:0007275 Multicellular organismal development GO:0022414 Reproductive process GO:0022414 Reproductive process GO:0048610 Cellular process involved in reproduction GO:0007049 Cell cycle GO:0007059 Chromosome segregation	GO:0002119 Nematode larval development GO:0006997 Nucleus organization GO:0008045 Motor axon guidance GO:0009792 Embryo development ending in birth or egg hatching GO:0018991 Oviposition GO:0030334 Regulation of cell migration GO:0033365 Protein localization to organelle GO:0040010 Positive regulation of growth rate GO:0040017 Positive regulation if locomotion GO:0040035 Hermaphrodite genitalia development GO:0040038 Polar body extrusion after meiotic division GO:0051304 Chromosome separation
Disorganised muscle protein 1	No GO data reported		No gene ontology data
Pyruvate Dehydrogenase E1	GO:0008152 Metabolic process GO:0032502 Developmental process GO:0032501 Multicellular organismal process GO:0065007 Biological regulation GO:0040007 Growth	GO:0048856 Anatomical structure development GO:0007275 Multicellular organismal development GO:0050789 Regulation of biological process	GO:0009792 Embryo development ending in birth or egg hatching GO:0040010 Positive regulation of growth rate
Probable voltage-dependent anion-selective channel	GO:0051179 Localization GO:0051179 Localization GO:0051179 Localization	GO:0051234 Establishment of localization GO:0051234 Establishment of localization GO:0051234 Establishment of localization	GO:0006820 Anion transport GO:0044070 Regulation of anion transport GO:0055085 Transmembrane transport
Aspartyl protease inhibitor	No GO data reported		No gene ontology data
14-3-3 protein	GO:0032501 Multicellular organismal process GO:0032502 Developmental process GO:0032502 Developmental process GO:0032501 Multicellular organismal process GO:0032501 Multicellular organismal process GO:0000003 Reproduction GO:0050896 Response to stimulus GO:0040007 Growth	GO:0007275 Multicellular organismal development GO:0009791 Post-embryonic development GO:0048856 Anatomical structure development GO:0007275 Multicellular organismal development GO:0032504 Multicellular organism reproduction GO:0022414 Reproductive process GO:0007610 Behavior	GO:0002119 Nematode larval development GO:0009792 Embryo development ending in birth or egg hatching GO:0018991 Oviposition

	GO:0065007 Biological regulation	GO:0050789 Regulation of biological process	GO:0040010 Positive regulation of growth rate
	GO:0040007 Growth		
	GO:0032501 Multicellular organismal process	GO:0007275 Multicellular organismal development	GO:0043053 Dauer entry
	GO:0032502 Developmental process	GO:0009791 Post-embryonic development	
Phosphatidylethanol-amine binding protein homolog	No GO data reported		No gene ontology data
Peroxiredoxin	GO:0050896 Response to stimulus	GO:0006950 Response to stress	GO:0006979 Response to oxidative stress
Peptidyl-prolyl <i>cis-trans</i> isomerase	GO:0008152 Metabolic process	GO:0044237 Cellular metabolic process	GO:0000413 Protein peptidyl-prolyl isomerization
	GO:0009987 Cellular process		
	GO:0008152 Metabolic process	GO:0044237 Cellular metabolic process	GO:0006457 Protein folding
	GO:0009987 Cellular process		

GO - Molecular function

Protein	Category 1	Category 2	Category 3
LIM domain protein	GO:0005488 Binding	GO:0043167 Ion binding	GO:0008270 Zinc ion binding
Propionyl-CoA carboxylase alpha chain	GO:0003824 Catalytic activity		
	GO:0005488 Binding	GO:0036094 Small molecule binding	GO:0005524 ATP binding
		GO:0097159 Organic cyclic compound binding	
	GO:0003824 Catalytic activity	GO:0016874 Ligase activity	GO:0008716 D-alanine-D-alanine ligase activity
	GO:0003824 Catalytic activity		GO:0016874 Ligase activity
	GO:0005488 Binding	GO:0043167 Ion binding	GO:0046872 Metal ion binding
Phosphoenolpyruvate carboxy kinase GTP	GO:0003824 Catalytic activity	GO:0016829 Lyase activity	GO:0004611 Phosphoenolpyruvate carboxy kinase activity
	GO:0003824 Catalytic activity	GO:0016829 Lyase activity	GO:0004613 Phosphoenolpyruvate carboxy kinase (GTP) activity
	GO:0005488 Binding	GO:0036094 Small molecule binding	GO:0005525 GTP binding
		GO:0097159 Organic cyclic compound binding	
Intermediate filament protein B	GO:0005198 Structural molecule activity		
	GO:0005488 Binding		GO:0005515 Protein binding
Heat shock 70 kDa protein	GO:0005488 Binding		GO:0005515 Protein binding
	GO:0005488 Binding	GO:0036094 Small molecule binding	GO:0005524 ATP-binding
		GO:0097159 Organic cyclic compound binding	
	GO:0003824 Catalytic activity	GO:0016787 Hydrolase activity	GO:0016887 ATPase activity
Troponin T	No GO data reported		No gene ontology data
Heat shock 60 kDa protein	GO:0005488 Binding	GO:0005515 Protein binding	GO:0008134 Transcription factor binding
	GO:0003824 Catalytic activity	GO:0016787 Hydrolase activity	GO:0016887 ATPase activity
	GO:0005488 Binding	GO:0005515 Protein binding	GO:0051082 Unfolded protein binding
4-hydroxybutyrate coenzyme A transferase	GO:0003824 Catalytic activity		
Calreticulin	GO:0005488 Binding	GO:0043167 Ion binding	GO:0005509 Calcium ion binding
	GO:0005488 Binding	GO:0005515 Protein binding	GO:0051082 Unfolded protein binding
Actin	GO:0005198 Structural molecule activity		GO:0005200 Structural constituent of exoskeleton
	GO:0005488 Binding	GO:0036094 Small molecule binding	GO:0005524 ATP-binding
		GO:0097159 Organic cyclic compound binding	
Fructose-bisphosphate aldolase	GO:0003824 Catalytic activity	GO:0016829 Lyase activity	GO:0004332 Fructose-bisphosphate aldolase activity
Tropomyosin	GO:0005488 Binding	GO:0005515 Protein binding	GO:0051015 Actin filament binding
Malate dehydrogenase	GO:0003824 Catalytic activity		GO:0016491 Oxireductase activity
	GO:0003824 Catalytic activity	GO:0016491 Oxireductase activity	GO:0016615 Malate dehydrogenase activity
	GO:0003824 Catalytic activity	GO:0016491 Oxireductase activity	GO:0030060 L-malate dehydrogenase activity
RACK-1 (receptor for activated protein kinase C 1)	GO:0005488 Binding		GO:0005515 Protein binding
Disorganised muscle protein 1	No GO data reported		
Pyruvate Dehydrogenase E1	GO:0003824 Catalytic activity		
Probable voltage-dependent anion-selective channel	GO:0005215 Transporter activity	GO:0022857 Transmembrane transporter activity	GO:0008308 Voltage-gated anion channel activity
		GO:0022892 Substrate-specific transporter activity	
Aspartyl protease inhibitor	No GO data reported		No gene ontology data
14-3-3 protein	GO:0005488 Binding		GO:0005515 Protein binding
	GO:0005488 Binding	GO:0005515 Protein binding	GO:0019904 Protein domain specific binding
Phosphatidylethanol-amine binding protein homolog	No GO data reported		
Peroxiredoxin	GO:0016209 Antioxidant activity		GO:0004601 Peroxidase activity
	GO:0003824 Catalytic activity	GO:0016491 Oxireductase activity	
	GO:0016209 Antioxidant activity	GO:0004601 Peroxidase activity	GO:0008379 Thioredoxin peroxidase activity
	GO:0003824 Catalytic activity	GO:0016491 Oxireductase activity	
	GO:0016209 Antioxidant activity		
Peptidyl-prolyl <i>cis-trans</i> isomerase	GO:0003824 Catalytic activity	GO:0016853 Isomerase activity	GO:0003755 Protein peptidyl-prolyl isomerase activity