

Supplementary Table 1. Species included in our study. See supplementary Table 2 for the accession number of individual sequences.

	Species	TLR Source	Publication	Genome/transcriptome NCBI Accession number	Transcriptome BUSCO values
Cnidaria	<i>N. vectensis</i>	Literature	[1]	-	-
	<i>A. digitifera</i>	Literature	[2]	-	-
	<i>A. millepora</i>	Literature	[2]	-	-
	<i>O. faveolata</i>	Literature	[3]	-	-
Xenacoelomorpha	<i>X. profunda</i>	This study: Genome	Unpublished		-
	<i>H. miamia</i>	This study: Genome	-	GCA004352715	-
	<i>P. naikaiensis</i>	This study: Genome	-	PRJDB7329	-
	<i>I. pulchra</i>	This study: Genome	Unpublished		-
	<i>M. stichopi</i>	This study: Genome	Unpublished		-
	<i>C. macropyga</i>	This study: Transcriptome	[4]	SRX1343815	89.2%
Bryozoa	<i>M. membranacea</i>	This study: Transcriptome	-	SRX1121923	96.9%
	<i>B. neritina</i>	This study: Transcriptome	[5]		96.6%
Cycliophora	<i>S. pandora</i>	This study: Transcriptome	[6]	SRX1531719	87.4
Annelida	<i>G. oculata</i>	This study: Transcriptome.	Unpublished		99%
	<i>E. fetida</i>	This study: Transcriptome	-	SRX3108745	96.2%
	<i>H. robusta</i>	This study: Genome	[7]	AMQM000000000.1	-
	<i>P. prolifica</i>	Literature	[8]	-	-
Mollusca	<i>C. gigas</i>	This study: Genome	[9]	AFTI000000000	-
	<i>O. bimaculoides</i>	This study: Genome	[10]	PRJNA270931	-
	<i>C. sinensis</i>	Literature	[11]	-	-
	<i>L. rugatus</i>	Literature	[8]	-	-
	<i>B. glabrata</i>	This study: Genome	[12]	APKA000000000.1	-

	<i>B. glabrata</i>	Individual sequence(s) downloaded from NCBI	-	-	-
Brachiopoda	<i>T. transversa</i>	This study: Transcriptome.	[4]	SRX1307070	95.7%
	<i>H. psittacea</i>	This study: Transcriptome.	[8]	SRX731469	94.5%
	<i>L. anatina</i>	This study: Genome	[13]	LFEI00000000	-
Micrognathozoa	<i>L. maerski</i>	This study: Transcriptome.		SRX1121929	93.8%
Gastrotricha	<i>L. squamata</i>	This study: Transcriptome.	[14]	SRX1000997	89.6%.
	<i>Macrodasys sp</i>	This study: Transcriptome.	[15]	SRX534826	75.9%
	<i>Megadasys sp</i>	This study: Transcriptome.	[15]	SRX534835	70%
	<i>D. aspetos</i>	This study: Transcriptome.		SRX1121926	90%
	<i>M. laticaudatus</i>	This study: Transcriptome.		SRX872416	82.5%
Nemertea	<i>Lineus longissimus</i>	This study: Transcriptome.	[4]	SRX1343823	95.2%
	<i>Lineus ruber</i>	This study: Transcriptome.	Unpublished		95%
	<i>N. geniculatus</i>	This study: Genome	[16]	NMRB00000000	-
	<i>P. peregrina</i>	Literature	[8]	-	-
Phoronida	<i>P. harmeri</i>	This study: Transcriptome.		SRX1121914	90.4%
	<i>P. australis</i>	This study: Genome	[16]	NMRA00000000	-
	<i>P. psammophila</i>	Literature	[8]	-	-
	<i>P. vancouverensis</i>	Literature	[8]	-	-
Platyhelminthes	<i>M. lignano</i>	This study: Genome	[17]	SRP059553	-
	<i>E. multilocularis</i>	This study: Genome	[18]	PRJEB122	-
	<i>H. microstoma</i>	This study: Genome	[18]	PRJEB124	-
	<i>S. mansoni</i>	Literature	[19]	-	-
	<i>S. mediterranea</i>	Literature	[20]	-	-
Rotifera	<i>E. senta</i>	This study: Transcriptome.	Unpublished		95.2%

	<i>R. tardigrada</i>	This study: Transcriptome.	[21]	SRX1253177	91.1%
	<i>E. gadi</i>	This study: Transcriptome.		SRX1121912	74.9%
	<i>M. hirudinaceus</i>	This study: Transcriptome.	[15]	PRJEB5803	84.5%.
	<i>A. vaga</i>	Literature	[22]	-	-
Priapulida	<i>P. caudatus</i>	This study: Transcriptome.	[4]	SRX507009	93.9%
	<i>H. spinulosus</i>	This study: Transcriptome	[4]	SRX1343820	96.4%
Tardigrada	<i>H. exemplaris</i>	This study: Genome	[23]	SRX2495681	-
	<i>R. varieornatus</i>	This study: Genome	[24]	DRX012456	-
Onychophora	<i>P. capensis</i>	This study: Transcriptome.	[25]	SRX451023	62%
Nematoda	<i>L. loa</i>	This study: Genome	[26]	ADBU00000000.2	-
	<i>O. volvulus</i>	This study: Genome	[27]	CBVM000000000	-
	<i>C. elegans</i>	Individual sequence(s) downloaded from NCBI	-	-	-
Loricifera	<i>A. elegans</i>	This study: Transcriptome.		SRX1120677	36.2%
Arthropoda	<i>D. pulex</i>	This study: Genome	[28]	ACJG00000000	-
	<i>D. melanogaster</i>	Individual sequence(s) downloaded from NCBI	-	-	-
	<i>I. scapularis</i>	Literature	[29]	-	-
Tunicata	<i>C. intestinalis</i>	Literature	[30]	-	-
	<i>O. dioika</i>	Literature	[31]	-	-
Echinodermata	<i>S. purpuratus</i>	Literature	[32]	-	-
Craniata	<i>H. sapiens</i>	Individual sequence(s) downloaded from NCBI	-	-	-

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