

Supplementary Table 2. M49 family peptidases from different species used in phylogenetic analysis.

Abbreviation	Species	Accession number	Species group
MONDOM	<i>Monodelphis domestica</i>	F6ZXH8	mammals
SARHAR	<i>Sarcophilus harrisii</i>	G3W555	
MUSMUS	<i>Mus musculus</i>	Q99KK7	
RATNOR	<i>Rattus norvegicus</i>	O55096	
NEOLEP	<i>Neotoma lepida</i>	A0A1A6HW94	
CRIGRI	<i>Cricetulus griseus</i>	G3I2H0	
TUPCHI	<i>Tupaia chinensis</i>	L8Y5A0	
HETGLA	<i>Heterocephalus glaber</i>	A0A0P6JC08	
CAVPOR	<i>Cavia porcellus</i>	H0UUH1	
ICTTRI	<i>Ictidomys tridecemlineatus</i>	I3ME44	
LOXAFR	<i>Loxodonta africana</i>	G3T8L7	
MUSPUT	<i>Mustela putorius</i>	M3XVE8	
PANTIG	<i>Panthera tigris</i>	A0A060KZU3	
EQUCAB	<i>Equus caballus</i>	F6TNY4	
HOMSAP	<i>Homo sapiens</i>	Q9NY33	
CALJAC	<i>Callithrix jacchus</i>	U3FHY1	
SUSSCR	<i>Sus scrofa</i>	L8I2E6	
BOSMUT	<i>Bos mutus</i>	F1RU52	
PANGUT	<i>Pantherophis guttatus</i>	A0A098LYJ3	non mammalian vertebrates
OPHAES	<i>Opheodrys aestivus</i>	A0A098LWX2	
BOIIRR	<i>Boiga irregularis</i>	A0A0B8RRY3	
CROADA	<i>Crotalus adamanteus</i>	J3RZ30	
ESHCOL	<i>Echis coloratus</i>	A0A0A1WDL0	
XENLAE	<i>Xenopus laevis</i>	0	
XENTRO	<i>Xenopus tropicalis</i>	Q6DE90	
ASTMEX	<i>Astyanax mexicanus</i>	F7DZ42	
DANRER	<i>Danio rerio</i>	W5KIP6	
SCLFOR	<i>Scleropages formosus</i>	Q6DI20	
ONCMYK	<i>Oncorhynchus mykiss</i>	A0A0N8JZV5	
SALSAL	<i>Salmo salar</i>	A0A060X8W4	
TAKRUB	<i>Takifugu rubripes</i>	B5X435	
NOTFUR	<i>Nothobranchius furzeri</i>	H2TEX3	
APHSTR	<i>Aphyosemion striatum</i>	A0A1A8ABL4	
FUNHET	<i>Fundulus heteroclitus</i>	A0A1A7YL47	
GASACU	<i>Gasterosteus aculeatus</i>	A0A146P4W4	
ORENIL	<i>Oreochromis niloticus</i>	G3QAW5	
CALMIL	<i>Callorhinchus milii</i>	I3JPG4 V9KGU9	
BACDOR	<i>Bactrocera dorsalis</i>	A0A034VA64	arthropods
DROMOJ	<i>Drosophila mojavensis</i>	B4K999	
DROMEL	<i>Drosophila melanogaster</i>	Q9VHR8-2	
GLOMOR	<i>Glossina morsitans</i>	D3TMQ7	
STOCAL	<i>Stomoxys calcitrans</i>	A0A1I8NZT2	
ANOFAR	<i>Anopheles farauti</i>	A0A182QC05	
APIMEL	<i>Apis mellifera</i>	A0A088A023	

DAPPUL DAPMAG GRAATR	<i>Daphnia pulex</i> <i>Daphnia magna</i> <i>Graphocephala atropunctata</i>	E9GTX0 A0A162P8G7 A0A1B6KD94	
NECAME ANCCEY ANGCOS HAEPLA CAEELE DRAMED SYPMUR TOXCAN PRIPAC STEGLA BURXYL	<i>Necator americanus</i> <i>Ancylostoma ceylanicum</i> <i>Angiostrongylus costaricensis</i> <i>Haemonchus placei</i> <i>Caenorhabditis elegans</i> <i>Dracunculus medinensis</i> <i>Syphacia muris</i> <i>Toxocara canis</i> <i>Pristionchus pacificus</i> <i>Steinernema glaseri</i> <i>Bursaphelenchus xylophilus</i>	W2SLT7 A0A0D6M7T1 A0A0R3PGV3 A0A0N4X8W6 G5ECW7 A0A0N4U2V0 A0A0N5AXJ5 A0A0B2VIP3 A0A0F5CUX7 A0A1I7YLE5 A0A1I7SCL0	nematodes
SCHCOM LEUSP HETIRR CANGLA SACCCER CYBJAD OGAPAR NEOFIS EXOSPI AURPUR	<i>Schizophyllum commune</i> <i>Leucoagaricus sp</i> <i>Heterobasidion irregulare</i> <i>Candida glabrata</i> <i>Saccharomyces cerevisiae</i> <i>Cyberlindnera jadinii</i> <i>Ogataea parapolyomorpha</i> <i>Neosartorya fischeri</i> <i>Exophiala spinifera</i> <i>Aureobasidium pullulans</i>	D8PVF6 A0A137QPX9 W4KKQ6 A0A0W0CQ92 Q08225 A0A0H5CH85 W1QG85 A1CY04 A0A0D1Y698 A0A074XX23	fungi
FLABAC2 KORALG DOKDON CROATL GRAFOR FLABAC1 OPITER PEDSAL PLEPAC BACCEL BACTHE PARMER PARJOH PREMAR PRERUM ALISHA ALIPUT PORGIN1 PORGIN2	<i>Flavobacteriales bacterium</i> <i>Kordia algicida</i> <i>Dokdonia donghaensis</i> <i>Croceibacter atlanticus</i> <i>Gramella forsetii</i> <i>Flavobacteria bacterium</i> (strain BBFL7) <i>Opitutus terrae</i> (strain DSM 11246/PB90-1) <i>Pedobacter saltans</i> DSM 12145 <i>Plesiocystis pacifica</i> SIR-1 <i>Bacteroides cellulosilyticus</i> DSM 14838 <i>Bacteroides thetaiotaomicron</i> <i>Parabacteroides merdae</i> ATCC 43184 <i>Parabacteroides johnsonii</i> DSM 18315 <i>Prevotella marshii</i> DSM 16973 <i>Prevotella ruminicola</i> (strain ATCC 19189/JCM 8958/23) <i>Alistipes shahii</i> WAL 8301 <i>Alistipes putredinis</i> DSM 17216 <i>Porphyromonas gingivalis</i> <i>Porphyromonas gingivalis</i> (strain ATCC 33277/ DSM 20709/JCM 12257)	A4AQA4 A9ECI1 A2TUF5 A3U8C5 A0LXF2 Q26C69 B1ZZ02 E4KIB0 A6GID1 E2NMV7 Q8A6N1 A7ACL0 B7BE50 E0NQE0 D5ERS0 D4IQ41 B0MWP5 Q7MX92 B2RLB9	bacteria