Supplementary Material

Aquatic Invertebrate Antimicrobial Peptides in the Fight Against Aquaculture Pathogens

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Table S1. Pathogenicity profiles of the microorganisms targeted by AMPs derived from aquatic invertebrates.

Type	Genus	Species	Aquaculture pathogen	Human pathogen	References
Fungi	Aspergillus	fumigatus	Yes	Yes	[1,2]
Fungi	Aspergillus	niger	Yes	Yes	[3,4]
Fungi	Aspergillus	ochraceus	Yes	Yes	[5,6]
Fungi	Aspergillus	terreus	Yes	Yes	[7,8]
Fungi	Candida	albicans	Yes	Yes	[9,10]
Fungi	Candida	parapsilosis	Yes	Yes	[5,11]
Fungi	Candida	tropicalis	Yes	Yes	[12,11]
Fungi	Cladosporium	sp.	Yes	Yes	[13,14]
Fungi	Fusarium	oxysporum	Yes	Yes	[15,16]
Fungi	Fusarium	solani	Yes	Yes	[17,18]
Gram-	Acinetobacter	baumannii	Yes	Yes	[19,20]
Gram-	Aeromonas	hydrophila	Yes	Yes	[21,22]
Gram-	Citrobacter	freundii	Yes	Yes	[23,24]
Gram-	Edwardsiella	tarda	Yes	Yes	[25,26]
Gram-	Enterobacter	cloacae	Yes	Yes	[27,28]
Gram-	Escherichia	coli	Yes	Yes	[29,30]
Gram-	Klebsiella	aerogenes	Yes	Yes	[31,32]
Gram-	Klebsiella	oxytoca	Yes	Yes	[33,34]
Gram-	Klebsiella	pneumoniae	Yes	Yes	[35,36]
Gram-	Photobacterium	damselae	Yes	Yes	[37]
Gram-	Proteus	mirabilis	Yes	Yes	[38,39]
Gram-	Proteus	vulgaris	Yes	Yes	[40,41]
Gram-	Pseudomonas	aeruginosa	Yes	Yes	[42,43]
Gram-	Pseudomonas	putida	Yes	Yes	[44,45]
Gram-	Pseudomonas	stutzeri	Yes	Yes	[46,47]
Gram-	Salmonella	choleraesuis	Yes	Yes	[48,49]
Gram-	Salmonella	enterica	Yes	Yes	[50,51]
Gram-	Salmonella	typhimurium	Yes	Yes	[52,53]
Gram-	Serratia	marcescens	Yes	Yes	[54,55]
Gram-	Shewanella	algae	Yes	Yes	[56,57]
Gram-	Shigella	flexneri	Yes	Yes	[58,59]
Gram-	Vibrio	alginolyticus	Yes	Yes	[60,61]
Gram-	Vibrio	anguillarum	Yes	Yes	[62,63]
Gram-	Vibrio	cholerae	Yes	Yes	[64,65]
Gram-	Vibrio	fluvialis	Yes	Yes	[66,67]
Gram-	Vibrio	harveyi	Yes	Yes	[68,69]
Gram-	Vibrio	parahaemolyticus	Yes	Yes	[70,71]
Gram-	Vibrio	vulnificus	Yes	Yes	[72,73]
Gram-	Yersinia	enterocolitica	Yes	Yes	[74,75]
Gram+	Aerococcus	viridans	Yes	Yes	[76,77]
Gram+	Bacillus	cereus	Yes	Yes	[78,79]
Gram+	Bacillus	mycoides	Yes	Yes	[80,81]
Gram+	Bacillus	subtilis	Yes	Yes	[82,83]
Gram+	Clostridium	perfringens	Yes	Yes	[84,85]
Gram+	Enterococcus	faecalis	Yes	Yes	[86,87]
Gram+	Enterococcus	faecium	Yes	Yes	[88,89]
Gram+	Kocuria	rhizophila	Yes	Yes	[90,91]
Gram+	Lactococcus	garvieae	Yes	Yes	[92,93]
Gram+	Lactococcus	lactis	Yes	Yes	[94,95]
Gram+	Micrococcus	luteus	Yes	Yes	[90,96]
Gram+	Mycobacterium	smegmatis	Yes	Yes	[97,98]
Gram+	Rhodococcus	sp.	Yes	Yes	[99,100]
Gram+	Staphylococcus	aureus	Yes	Yes	[101,102]
Gram+	Staphylococcus	epidermidis	Yes	Yes	[103,104]
Gram+	Staphylococcus	haemolyticus	Yes	Yes	[105,106]
Gram+	Staphylococcus	saprophyticus	Yes	Yes	[107,108]
Gram+	Streptococcus	agalactiae	Yes	Yes	[109,110]
Gram+	Streptococcus	iniae	Yes	Yes	[109,111]
Gram+	Streptococcus	parauberis	Yes	Yes	[112,113]
Gram+	Streptococcus	suis	Yes	Yes	[114,115]
Fungi	Saprolegnia	parasitica	Yes	No	[116]
Gram-	Aeromonas	salmonicida	Yes	No	[117]
Gram-	Aliivibrio	fischeri	Yes	No	[118]
Gram-	Aliivibrio	logei	Yes	No	[119]
Gram-	Edwardsiella	piscicida	Yes	No	[25]
Gram-	Pseudomonas	fluorescens	Yes	No	[120]
Gram-	Vibrio	aestuarianus	Yes	No	[121]
Gram-	Vibrio	bivalvicida	Yes	No	[122]
Gram-	Vibrio	campbellii	Yes	No	[123]
Gram-	Vibrio	coralliilyticus	Yes	No	[124]
Gram-	Vibrio	ichthyoenteri	Yes	No	[125]
Gram-	Vibrio	nigripulchritudo	Yes	No	[126]
Gram-	Vibrio	ordalii	Yes	No	[127]
Gram-	Vibrio	owensii	Yes	No	[128]
Gram-	Vibrio	penaeicida	Yes	No	[129]
Gram-	Vibrio	splendidus	Yes	No	[130]
Gram-	Vibrio	tapetis	Yes	No	[131]

Gram-	Vibrio	tasmaniensis	Yes	No	[132]
Gram-	Yersinia	ruckeri	Yes	No	[133]
Gram+	Carnobacterium	maltaromaticum	Yes	No	[134]
Gram+	Kurthia	gibsonii	Yes	No	[135]
Gram+	Planococcus	citreus	Yes	No	[52]
Parasite	Scuticociliatia		Yes	No	[136]
Virus	OsHV-1		Yes	No	[137]
Virus	WSSV		Yes	No	[138]
Fungi	Aureobasidium	pullulans	No	Yes	[139]
Fungi	Candida	auris	No	Yes	[140]
Fungi	Clavispora	lusitaniae	No	Yes	[141]
Fungi	Cryptococcus	neoformans	No	Yes	[142]
Fungi	Geotrichum	candidum	No	Yes	[143]
Fungi	Nakaseomyces	glabratus	No	Yes	[144]
Fungi	Pichia	inconspicua	No	Yes	[145]
Fungi	Pichia	kudriavzevii	No	Yes	[146]
Fungi	Rhizopus	arrhizus	No	Yes	[147]
Fungi	Rhodotorula	sp.	No	Yes	[148]
Fungi	Saccharomyces	cerevisiae	No	Yes	[149]
Fungi	Trichoderma	viride	No	Yes	[150]
Fungi	Trichophyton	mentagrophytes	No	Yes	[151]
Fungi	Trichophyton	rubrum	No	Yes	[152]
Gram-	Haemophilus	influenzae	No	Yes	[153]
Gram-	Neisseria	gonorrhoeae	No	Yes	[154]
Gram-	Providencia	stuartii	No	Yes	[155]
Gram-	Salmonella	enteritidis	No	Yes	[156]
Gram-	Salmonella	newport	No	Yes	[157]
Gram-	Shigella	sonnei	No	Yes	[158]
Gram+	Arthrobacter	sp.	No	Yes	[159]
Gram+	Bacillus	licheniformis	No	Yes	[160]
Gram+	Bacillus	megaterium	No	Yes	[161]
Gram+	Bacillus	thuringiensis	No	Yes	[162]
Gram+	Corynebacterium	stationis	No	Yes	[163]
Gram+	Cutibacterium	acnes	No	Yes	[164]
Gram+	Dermacoccus	nishinomiyaensis	No	Yes	[165]
Gram+	Exiguobacterium	sp.	No	Yes	[166]
Gram+	Listeria	ivanovii	No	Yes	[167]
Gram+	Listeria	monocytogenes	No	Yes	[168]
Gram+	Microbacterium	maritypicum	No	Yes	[169]
Gram+	Micrococcus	tetragenus	No	Yes	[170]
Gram+	Mycobacterium	phlei	No	Yes	[171]
Gram+	Streptococcus	mutans	No	Yes	[172]
Gram+	Streptococcus	pyogenes	No	Yes	[173]
Gram+	Streptococcus	vestibularis	No	Yes	[174]
Parasite	Leishmania	donovani	No	Yes	[175]
Parasite	Nippostrongylus	brasiliensis	No	Yes	[176]
Parasite	Trichomonas	vaginalis	No	Yes	[177]
Parasite	Trypanosoma	cruzi	No	Yes	[178]
Virus	HIV-1		No	Yes	[179]
Virus	HSV-1		No	Yes	[180]
Virus	HSV-2		No	Yes	[181]
Virus	SARS-CoV-2		No	Yes	[182]
Virus	ZIKV		No	Yes	[183]
Fungi	Malassezia	furfur	No	Yes	[184,185]
Fungi	Alternaria	brassicicola	No	No	
Fungi	Botrytis	cinerea	No	No	
Fungi	Colletotrichum	orbiculare	No	No	
Fungi	Cordyceps	tenuipes	No	No	
Fungi	Fusarium	culmorum	No	No	
Fungi	Fusarium	graminearum	No	No	
Fungi	Komagataella	pastoris	No	No	
Fungi	Neocosmospora	haematococca	No	No	
Fungi	Neofabraea	vagabunda	No	No	
Fungi	Neurospora	crassa	No	No	
Fungi	Parastagonospora	nodorum	No	No	
Fungi	Penicillium	crustosum	No	No	
Fungi	Penicillium	roqueforti	No	No	
Fungi	Pyricularia	grisea	No	No	
Fungi	Rhizopus	stolonifer	No	No	
Fungi	Trichoderma	beigelii	No	No	
Fungi	Verticillium	dahliae	No	No	
Fungi	Yarrowia	lipolytica	No	No	
Gram-	Oceanisphaera	donghaensis	No	No	
Gram-	Pectobacterium	carotovorum	No	No	
Gram-	Pseudoalteromonas	carrageenovora	No	No	
Gram-	Salmonella	minnesota	No	No	
Gram-	Salmonella	pullorum	No	No	
Gram-	Vibrio	diabolicus	No	No	
Gram+	Bifidobacterium	bifidum	No	No	
Gram+	Carnobacterium	divergens	No	No	

Gram+	Carnobacterium	funditum	No	No
Gram+	Carnobacterium	mobile	No	No
Gram+	Corynebacterium	glutamicum	No	No
Gram+	Peribacillus	simplex	No	No

Table S2. Database of the AMPs obtained from aquatic invertebrates. (Please check excel file "TableS2")

Table S3. Antimicrobial activities of AMPs from aquatic invertebrate annelids against pathogens relevant to aquaculture and human health (Pathogens specific to aquaculture species are shown in bold; those specific to humans are in italic; pathogens affecting both are in bold italic. Non-pathogenic bacteria are shown in regular text).

Protein Family	Compound	Species	Class	Microorganism	MIC	MLC	Ref.
Class Clitellata							
Lumbricin	Hm-lumbricin	*H. medicinalis*	Gram+	*D. nishinomiyaensis*	NV		[186]
Macin	Hirudomacin	*H. nipponica*	Gram+	***B. subtilis***		0.39 μg mL^{-1}	[187]
				L. monocytogenes		6.25 μg mL^{-1}	
				S. aureus		1.56 μg mL^{-1}	
			Gram-	***E. coli***		6.25 μg mL^{-1}	
	Neuromacin	*H. medicinalis*	Gram+	*D. nishinomiyaensis*	1.95–3.8 μM	7.8–15.6 μM	[186]
			Gram+	*B. megaterium*		0.2 μg mL^{-1}	[188]
				S. aureus		6.25 μg mL^{-1}	
			Gram-	***E. coli***		25 μg mL^{-1}	
	TtTheromacin	*T. tessulatum*	Gram+	***M. luteus***	0.0165–0.033 μM	0.26–0.52 μM	[189]
			Gram+	*B. megaterium*		0.39 μg mL^{-1}	[188]
				S. aureus		100 μg mL^{-1}	
			Gram-	***E. coli***		25 μg mL^{-1}	
Theromyzin	Theromyzin	*T. tessulatum*	Gram+	***M. luteus***	0.25–0.5 μM		[189]
Class Polychaeta							
BRICHOS-AMPs	AA139	*A. marina*	Gram-	***E. coli***	0.125 μg mL^{-1}		[190]
				K. pneumoniae	1 μg mL^{-1}		
			Gram+	*B. licheniformis*	8 μM		[191]
				B. subtilis	8 μM		
				S. aureus	1 μM		
			Gram-	***A. baumannii***	0.125 μM		
				E. cloacae	1 μM		
				E. coli	0.25 μM		
				K. pneumoniae	2 μM		
				P. aeruginosa	0.25-1 μM		
				P. mirabilis	1 μM		
	Abarenicin-1	*A. pacifica*	Gram+	*B. licheniformis*	4 μM		[191]
				B. subtilis	2 μM		
				S. aureus	2 μM		
			Gram-	***A. baumannii***	0.125 μM		
				E. cloacae	2 μM		
				E. coli	0.25-0.5 μM		
				K. pneumoniae	2 μM		
				P. aeruginosa	0.25/0.5 μM		
				P. mirabilis	0.5 μM		
	Alvinellacin	*A. pompejana*	Gram+	*B. megaterium*	0.012–0.024 μM	0.024 μM	[192]
				S. aureus	0.048–0.096 μM	>0.0.19 μM	
			Gram-	***E. coli***	0.012–0.024 μM	0.048 μM	[192]
				Pseudomonas sp.	0.001–0.003 μM	0.012 μM	
				V. diabolicus	0.048–0.096 μM	>0.0.19 μM	
			Gram-	O. donghaensis	0.625 μM	1.25 μM	[193]
				Pseudomonas sp.	0.07 μM	0.31 μM	
				V. alginolyticus	0.31 μM	0.625 μM	
				V. diabolicus	2.5 μM	20 μM	
				V. fluvialis	0.625 μM	10 μM	
	AmBRI-44a	*A. marina*	Gram+	*B. licheniformis*	0.25-1 μM		[194]
				B. mycoides	8 μM		
				B. subtilis	0.25-2 μM		
				M. phlei	0.5-4 μM		
				M. luteus	4-32 μM		
			Fungi	***C. albicans***	16 μM		
	Arenicin-1	*A. marina*	Gram+	*L. monocytogenes*	0.6 μg mL^{-1}		[195]
				S. aureus	2 μM		
				S. epidermidis	4 μM		
			Gram-	***E. coli***	4 μg mL^{-1}		
			Fungi	***C. albicans***	4.5 μg mL^{-1}		
			Gram-	***E. coli***	8 μM		[196]
				P. aeruginosa	2 μM		
			Gram-	O. donghaensis	0.15 μM	0.625 μM	[193]
				Pseudomonas sp.	0.15 μM	1.25 μM	
				S. algae	40 μM	>40 μM	
				V. alginolyticus	0.15 μM	0.31 μM	
				V. diabolicus	5 μM	20 μM	
				V. fluvialis	0.31 μM	1.25 μM	
	Arenicin-1-S	*A. marina*	Gram+	***S. aureus***	4 μM		[196]
				S. epidermidis	8 μM		
			Gram-	***E. coli***	16 μM		
				P. aeruginosa	8 μM		

Arenicin-2	*A. marina*	Gram+	*B. megaterium*	2.6 μg mL^{-1}	[195]
			L. monocytogenes	0.6 μg mL^{-1}	
			M. luteus	2.6 μg mL^{-1}	
		Gram-	***E. coli***	4 μg mL^{-1}	
Arenicin-3	*A. marina*	Gram+	***B. subtilis***	8 μg mL^{-1}	[197]
			S. aureus	64 μg mL^{-1}	
		Gram-	***A. baumannii***	0.5 μg mL^{-1}	
			E. coli	0.125-0.5 μg mL^{-1}	
			K. pneumoniae	1-4 μg mL^{-1}	
Capitellacin	*C. teleta*	Gram+	***B. subtilis***	16 μM	[191]
			M. luteus	4 μM	
			S. aureus	8 μM	
		Gram-	***A. baumannii***	0.25 μM	
			E. cloacae	4 μM	
			E. coli	0.5-1 μM	
			K. pneumoniae	4 μM	
			P. aeruginosa	2 μM	
HfBRI-25	*H. filiformis*	Gram+	*B. licheniformis*	1 μM	[198]
			B. mycoides	0.5 μM	
			B. subtilis	1 μM	
			M. phlei	2 μM	
			M. smegmatis	1 μM	
			S. aureus	2 μM	
		Gram-	***A. baumannii***	0.125 μM	
			E. cloacae	1 μM	
			E. coli	0.25-0.5 μM	
			K. pneumoniae	2 μM	
			P. aeruginosa	2 μM	
			V. harveyi	1 μM	
HfBRI-28	*H. filiformis*	Gram+	*B. licheniformis*	8 μM	[198]
			B. mycoides	0.5 μM	
			B. subtilis	1 μM	
			M. phlei	2 μM	
			M. smegmatis	1 μM	
			S. aureus	8 μM	
		Gram-	***A. baumannii***	2 μM	
			E. cloacae	0.5 μM	
			E. coli	2 μM	
			K. pneumoniae	16 μM	
			P. aeruginosa	32 μM	
			V. harveyi	0.06 μM	
N1 (NZ17074)	*A. marina*	Gram+	***B. subtilis***	0.25 μg mL^{-1}	[199]
			L. ivanovii	128 μg mL^{-1}	
			S. aureus	0.5-16 μg mL^{-1}	
			S. suis	16 μg mL^{-1}	
		Gram-	***E. coli***	0.25-1 μg mL^{-1}	
			P. aeruginosa	2-4 μg mL^{-1}	
			S. choleraesuis	0.5 μg mL^{-1}	
			S. enteritidis	0.25 μg mL^{-1}	
			S. pullorum	0.25 μg mL^{-1}	
			S. typhimurium	0.5 μg mL^{-1}	
		Fungi	***C. albicans***	16 μg mL^{-1}	
N2	*A. marina*	Gram+	***B. subtilis***	0.5 μg mL^{-1}	[199]
			L. ivanovii	4 μg mL^{-1}	
			S. aureus	0.25-16 μg mL^{-1}	
			S. suis	16 μg mL^{-1}	
		Gram-	***E. coli***	0.25-0.5 μg mL^{-1}	
			P. aeruginosa	2 μg mL^{-1}	
			S. choleraesuis	0.5 μg mL^{-1}	
			S. enteritidis	0.125 μg mL^{-1}	
			S. pullorum	0.25-0.5 μg mL^{-1}	
			S. typhimurium	1 μg mL^{-1}	
		Fungi	***C. albicans***	32 μg mL^{-1}	
N3	*A. marina*	Gram+	***B. subtilis***	2 μg mL^{-1}	[199]
			L. ivanovii	8 μg mL^{-1}	
			S. aureus	0.25 μg mL^{-1}	
			S. suis	16 μg mL^{-1}	
		Gram-	***E. coli***	1 μg mL^{-1}	
			P. aeruginosa	16 μg mL^{-1}	
			S. choleraesuis	4 μg mL^{-1}	
			S. enteritidis	0.5 μg mL^{-1}	
			S. pullorum	1-2 μg mL^{-1}	
			S. typhimurium	4 μg mL^{-1}	
N4	*A. marina*	Gram+	***B. subtilis***	1 μg mL^{-1}	[199]
			S. aureus	1-8 μg mL^{-1}	
		Gram-	***E. coli***	1 μg mL^{-1}	
			P. aeruginosa	4 μg mL^{-1}	
			S. enteritidis	0.25 μg mL^{-1}	
			S. pullorum	1-2 μg mL^{-1}	
			S. typhimurium	2 μg mL^{-1}	
N5	*A. marina*	Gram+	***B. subtilis***	64 μg mL^{-1}	[199]
			L. ivanovii	128 μg mL^{-1}	
			S. aureus	2 μg mL^{-1}	

			Gram-	***E. coli***	64-128 μg mL^{-1}		
				S. enteritidis	4 μg mL^{-1}		
				S. typhimurium	128 μg mL^{-1}		
	N6	*A. marina*	Gram+	***B. subtilis***	0.5 μg mL^{-1}		[199]
				S. aureus	0.25-16 μg mL^{-1}		
				S. suis	16 μg mL^{-1}		
			Gram-	***E. coli***	0.5-1 μg mL^{-1}		
				P. aeruginosa	4-8 μg mL^{-1}		
				S. choleraesuis	2 μg mL^{-1}		
				S. enteritidis	0.25 μg mL^{-1}		
				S. pullorum	0.5 μg mL^{-1}		
				S. typhimurium	2 μg mL^{-1}		
			Fungi	***C. albicans***	64 μg mL^{-1}		
	N7	*A. marina*	Gram+	***B. subtilis***	2 μg mL^{-1}		[199]
				L. ivanovii	2 μg mL^{-1}		
				S. aureus	0.5 μg mL^{-1}		
				S. suis	8 μg mL^{-1}		
			Gram-	***E. coli***	2 μg mL^{-1}		
				S. choleraesuis	16 μg mL^{-1}		
				S. enteritidis	0.5 μg mL^{-1}		
				S. pullorum	4 μg mL^{-1}		
				S. typhimurium	8 μg mL^{-1}		
	N8	*A. marina*	Gram+	***B. subtilis***	4 μg mL^{-1}		[199]
				S. aureus	2 μg mL^{-1}		
			Gram-	***E. coli***	16-32 μg mL^{-1}		
				S. enteritidis	1 μg mL^{-1}		
				S. pullorum	32 μg mL^{-1}		
	Nicomicin-1	*N. minor*	Gram+	*B. licheniformis*	0.125 μM		[200]
				B. subtilis	0.062 μM		
				M. luteus	0.125 μM		
				Rhodococcus sp.	0.125 μM		
				S. aureus	2 μM		
			Gram-	***A. baumannii***	32 μM		
				E. coli	2-32 μM		
				P. aeruginosa	32 μM		
	NZ17125	*A. marina*	Gram-	***E. coli***	0.125 μg mL^{-1}		[190]
				K. pneumoniae	2 μg mL^{-1}		
	NZ17126	*A. marina*	Gram-	***E. coli***	0.125 μg mL^{-1}		[190]
				K. pneumoniae	1 μg mL^{-1}		
	NZ17143	*A. marina*	Gram-	***E. coli***	0.25 μg mL^{-1}		[190]
				K. pneumoniae	4 μg mL^{-1}		
	NZ17160	*A. marina*	Gram-	***E. coli***	0.125 μg mL^{-1}		[190]
				K. pneumoniae	2 μg mL^{-1}		
	NZ17211	*A. marina*	Gram-	***E. coli***	0.5 μg mL^{-1}		[190]
				K. pneumoniae	8 μg mL^{-1}		
	NZ17224	*A. marina*	Gram-	***E. coli***	0.06 μg mL^{-1}		[190]
				K. pneumoniae	0.5 μg mL^{-1}		
	NZ17228	*A. marina*	Gram-	***E. coli***	0.125 μg mL^{-1}		[190]
				K. pneumoniae	0.5 μg mL^{-1}		
	NZ17230	*A. marina*	Gram-	***E. coli***	0.25 μg mL^{-1}		[190]
				K. pneumoniae	1 μg mL^{-1}		
	Polaricin	*Amphitritides sp.*	Gram-	O. donghaensis	5 μM	20 μM	[193]
				Pseudomonas sp.	0.31 μM	5 μM	
				V. alginolyticus	0.625 μM	5 μM	
				V. fluvialis	40 μM	>40 μM	
	UuBRI-21	*U. unicinctus*	Gram+	*B. licheniformis*	2 μM		[191]
				B. subtilis	2 μM		
				S. aureus	2 μM		
			Gram-	***A. baumannii***	0.5 μM		
				E. cloacae	2 μM		
				E. coli	0.25-0.5 μM		
				K. pneumoniae	4 μM		
				P. aeruginosa	0.5-1 μM		
				P. mirabilis	1 μM		
Hedistin	Hedistin	*H. diversicolor*	Gram+	*D. nishinomiyaensis*	0.4-0.8 μM	1.6 μM	[201]
				M. luteus	0.4-0.8 μM	1.6 μM	
				S. aureus	3-6 μM	12.5 μM	
				S. epidermidis	3-6 μM	12.5 μM	
				S. haemolyticus	3-6 μM	12.5 μM	
				S. saprophyticus	3-6 μM	12.5 μM	
			Gram-	***V. alginolyticus***	0.8-1.6 μM		
Macin	PlTM	*P. linea*	Gram+	***S. iniae***	31.3 μM		[202]
			Gram-	**E. piscicida**	62.5 μM		
				E. coli	31.3 μM		
				V. alginolyticus	15.6 μM		
				V. campbelii	7.8 μM		
				V. harveyi	62.5 μM		
				V. ordalii	1.0 μM		
Perinerin	Perinerin	*P. aibuhitensis*	Gram+	***A. viridans***	6.2-17 μg mL^{-1}		[203]
				Arthrobacter sp.	50-100 μg mL^{-1}		
				B. megaterium	1.5-5 μg mL^{-1}		
				M. luteus	25-50 μg mL^{-1}		
				S. aureus	25-50 μg mL^{-1}		

Gram-	***E. coli***	12.5-25 μg mL^{-1}	
	P. vulgaris	50-100 μg mL^{-1}	
	P. aeruginosa	3.1-9.2 μg mL^{-1}	
Fungi	C. tenuipes	12.5-25 μg mL^{-1}	

Concentration ranges may reflect differences in strain susceptibility, peptide origin (native or synthetic), or variations in pH and salinity. Refer to the original source for more details. NV (No value) indicates that MIC or related metrics are not available; antimicrobial activity was confirmed through disk diffusion assay or gene expression analysis following an antimicrobial challenge.

Table S4. Antimicrobial activities of AMPs from aquatic invertebrate arthropods against pathogens relevant to aquaculture and human health (Pathogens specific to aquaculture species are shown in bold; those specific to humans are in italic; pathogens affecting both are in bold italic. Non-pathogenic bacteria are shown in regular text).

Protein Family	Compound	Species	Class	Microorganism	MIC	MLC	Reference
Class Chelicerata							
ALF	ALFSp	*S. paramamosain*	Gram+	***A. viridans***	1.56-3.125 μM		[204]
				B. megaterium	6.25-12.5 μM		
				M. luteus	0.195-0.93 μM	1.56 μM	
				S. aureus	25-50 μM		
				S. haemolyticus	1.56-3.12 μM		
			Gram-	***E. coli***	12.5-25 μM		
				V. harveyi	0.195-0.93 μM		
	ALFSp2	*S. paramamosain*	Gram+	***A. viridans***	3.13-6.25 μM		[205]
				M. luteus	3.13-6.25 μM		
			Gram-	***V. anguillarum***	12.5-25 μM		
				V. harveyi	12.5-25 μM		
	Anti-LPS factor	*L. polyphemus*	Gram-	S. minnesota	0.12-7.45 μg mL^{-1}		[206]
				S. typhimurium	1.3-10 μg mL-1		
	PtALF1	*P. trituberculatus*	Gram-	***P. aeruginosa***	1.01-2.01 μM		[207]
				V. alginolyticus	0.50-1.01 μM		
	PtALF3	*P. trituberculatus*	Gram+	***M. luteus***	9.26-18.52 μM		[207]
				S. aureus	37.04-74.09 μM		
			Gram-	***P. aeruginosa***	0.29-0.58 μM		
				V. alginolyticus	0.29-0.58 μM		
	PtALF4	*P. trituberculatus*	Gram-	***P. aeruginosa***	26.57-53.14 μM		[207]
				V. alginolyticus	1.66-3.32 μM		
	PtALF5	*P. trituberculatus*	Gram-	***E. tarda***	7.78-15.54 μM		[208]
				P. aeruginosa	15.54-31.08 μM		
				V. alginolyticus	3.89-7.78 μM		
	PtALF6	*P. trituberculatus*	Gram+	***M. luteus***	9.32-18.64 μM		[209]
				S. aureus	9.32-18.64 μM		
			Gram-	***P. aeruginosa***	9.32-18.64 μM		
				V. alginolyticus	1.17-2.33 μM		
	PtALF7	*P. trituberculatus*	Gram+	***M. luteus***	32.59-65.19 μM		[210]
				S. aureus	8.15-16.3 μM		
			Gram-	***E. tarda***	2.04-4.07 μM		
				P. aeruginosa	1.02-2.04 μM		
				V. alginolyticus	0.51-1.02 μM		
	Sp-ALF1	*S. paramamosain*	Gram+	***B. subtilis***	<1.6 μM	<3.1 μM	[211]
				C. glutamicum	<6.2 μM	<12.5 μM	
				M. luteus	<1.6 μM	<1.6 μM	
			Gram-	***E. coli***	<1.6 μM	<3.1 μM	
				P. aeruginosa	<6.2 μM	<6.2 μM	
				P. fluorescens	<1.6 μM	<3.1 μM	
				P. stutzeri	<1.6 μM	<3.1 μM	
				S. flexneri	<3.1 μM	<1.6 μM	
				V. alginolyticus	<1.6 μM	<3.1 μM	
				V. harveyi	<1.6 μM	<1.6 μM	
				V. parahaemolyticus	<1.6 μM	<3.1 μM	
	Sp-ALF2	*S. paramamosain*	Gram+	***B. subtilis***	<3.1 μM	<6.2 μM	[211]
				C. glutamicum	<3.1 μM	<12.5 μM	
				M. luteus	<1.6 μM	<3.1 μM	
			Gram-	***E. coli***	<1.6 μM	<12.5 μM	
				P. aeruginosa	<6.2 μM	<12.5 μM	
				P. fluorescens	<3.1 μM	<3.1 μM	
				P. stutzeri	<3.1 μM	<3.1 μM	
				S. flexneri	<3.1 μM	<3.1 μM	
				V. alginolyticus	<3.1 μM	<3.1 μM	
				V. harveyi	<3.1 μM	<6.2 μM	
				V. parahaemolyticus	<3.1 μM	<3.1 μM	
	SsALF	*S. serrata*	Gram+	*S. pyogenes*	100-200 μg mL^{-1}		[212]
			Gram-	***E. coli***	50–100 μg mL^{-1}		
				P. aeruginosa	25–50 μg mL^{-1}		
Defensin	Big defensin	*Limulus sp.*	Gram+	***S. aureus***	<2.5 μg mL^{-1}		[213]
			Gram-	***E. coli***	2.5 μg mL^{-1}		
				K. pneumoniae	1.3 μg mL^{-1}		
				S. minnesota	<0.6 μg mL^{-1}		
				S. typhimurium	<1.3 μg mL^{-1}		
			Fungi	***C. albicans***	10-20 μg mL^{-1}		
			Gram+	***S. aureus***	<2.5 μg mL^{-1*}		[214]
			Gram-	***E. coli***	2.5 μg mL^{-1*}		
			Fungi	***C. albicans***	20 μg mL^{-1*}		

				K. pastoris	42 μg mL^{-1*}		
Polyphemusin	Polyphemusin I	*L. polyphemus*	Gram+	***S. aureus***	6.3 μg mL^{-1}		[215]
			Gram-	***E. coli***	6.3 μg mL^{-1}		
				S. minnesota	3.1-6.3 μg mL^{-1}		
				S. typhimurium	3.1 μg mL^{-1}		
			Fungi	***C. albicans***	6.3 μg mL^{-1}		
			Gram+	***E. faecalis***	0.25 μg mL^{-1}		[216]
				S. aureus	0.5 μg mL^{-1}		
				S. epidermidis	0.25 μg mL^{-1}		
			Gram-	***E. coli***	0.125 μg mL^{-1}		
				P. aeruginosa	0.25 μg mL^{-1}		
				S. typhimurium	0.25 μg mL^{-1}		
			Fungi	***C. albicans***	1 μg mL^{-1}		
			Gram+	***B. subtilis***	0.25 μM		[217]
				M. luteus	0.5 μM		
				S. aureus	0.5-4 μM		
			Gram-	***E. coli***	0.062 μM		
				K. pneumoniae	0.5 μM		
				P. aeruginosa	0.5 μM		
	Polyphemusin II	*L. polyphemus*	Gram+	***S. aureus***	6.3-12.5 μg mL^{-1}		[215]
			Gram-	***E. coli***	12.5 μg mL^{-1}		
				S. minnesota	3.1-12.5 μg mL^{-1}		
				S. typhimurium	3.1-6.3 μg mL^{-1}		
			Fungi	***C. albicans***	6.3 μg mL^{-1}		
			Gram+	***B. subtilis***	0.5 μM		[217]
				M. luteus	1 μM		
				S. aureus	0.5-4 μM		
			Gram-	***E. coli***	0.031 μM		
				K. pneumoniae	0.5 μM		
				P. aeruginosa	0.5 μM		
	Polyphemusin III	*L. polyphemus*	Gram+	***B. subtilis***	0.5 μM		[217]
				M. luteus	0.5 μM		
				S. aureus	2-16 μM		
			Gram-	***E. coli***	0.25 μM		
				K. pneumoniae	2 μM		
				P. aeruginosa	0.5 μM		
	PV5	*L. polyphemus*	Gram+	***E. faecalis***	0.5 μg mL^{-1}		[216]
				S. aureus	1 μg mL^{-1}		
				S. epidermidis	0.25 μg mL^{-1}		
			Gram-	***E. coli***	0.25 μg mL^{-1}		
				P. aeruginosa	0.5-1 μg mL^{-1}		
				S. typhimurium	0.5 μg mL^{-1}		
			Fungi	***C. albicans***	2 μg mL^{-1}		
	PV7	*L. polyphemus*	Gram+	***E. faecalis***	0.25 μg mL^{-1}		[216]
				S. aureus	1 μg mL^{-1}		
				S. epidermidis	0.5 μg mL^{-1}		
			Gram-	***E. coli***	0.125-0.25 μg mL^{-1}		
				P. aeruginosa	0.5-1 μg mL^{-1}		
				S. typhimurium	0.5 μg mL^{-1}		
			Fungi	***C. albicans***	4 μg mL^{-1}		
	PV8	*L. polyphemus*	Gram+	***E. faecalis***	0.5 μg mL^{-1}		[216]
				S. aureus	1 μg mL^{-1}		
				S. epidermidis	0.5 μg mL^{-1}		
			Gram-	***E. coli***	0.25 μg mL^{-1}		
				P. aeruginosa	2 μg mL^{-1}		
				S. typhimurium	0.5 μg mL^{-1}		
			Fungi	***C. albicans***	16 μg mL^{-1}		
Tachycitin	Tachycitin	*T. tridentatus*	Gram+	***S. aureus***	56 μg mL^{-1*}		[218]
			Gram-	***E. coli***	2-33 μg mL^{-1*}		
				K. pneumoniae	32 μg mL^{-1*}		
				S. minnesota	41 μg mL^{-1*}		
				S. typhimurium	44 μg mL^{-1*}		
			Fungi	***C. albicans***	52 μg mL^{-1*}		
			Fungi	***C. albicans***	52 μg mL^{-1*}		[214]
				K. pastoris	41 μg mL^{-1*}		
Tachyplesin	Tachyplesin I	*T. tridentatus*	Gram+	***B. subtilis***	3.13 μg mL^{-1}		[215]
				S. aureus	3.1-6.3 μg mL^{-1}		
			Gram-	***E. coli***	1.6-3.1 μg mL^{-1}		
				P. aeruginosa	12.5 μg mL^{-1}		
				S. minnesota	1.6-3.1 μg mL^{-1}		
				S. typhimurium	0.8-3.1 μg mL^{-1}		
			Fungi	***C. albicans***	3.1 μg mL^{-1}		
				C. neoformans	1.56 μg mL^{-1}		
			Fungi	***C. albicans***	0.2 μg mL^{-1*}		[214]
				K. pastoris	0.1 μg mL^{-1*}		
			Gram+	***S. aureus***	3.1-6.3 μg mL-1		[219]
			Gram-	***E. coli***	6.3-12.5 μg mL^{-1}		
				S. minnesota	3.1-12.5 μg mL^{-1}		
				S. typhimurium	0.8-6.3 μg mL^{-1}		
			Fungi	*N. brasiliensis*		12.5 μM	[220]
				T. cruzi		12.5 μM	
			Gram+	***B. subtilis***	0.5 μM		[217]
				M. luteus	1 μM		

				S. aureus	0.5-8 μM		
			Gram-	***E. coli***	0.062 μM		
				K. pneumoniae	0.5 μM		
				P. aeruginosa	0.5 μM		
			Parasite	*L. donovani*	NV		[221]
	Tachyplesin II	*T. tridentatus*	Gram+	***S. aureus***	1.6-6.3 μg mL^{-1}		[215]
			Gram-	***E. coli***	3.1 μg mL^{-1}		
				S. minnesota	1.6-3.1 μg mL^{-1}		
				S. typhimurium	1.6-3.1 μg mL^{-1}		
			Fungi	***C. albicans***	3.1 μg mL^{-1}		
			Gram+	***B. subtilis***	0.5 μM		[217]
				M. luteus	1 μM		
				S. aureus	0.5-8 μM		
			Gram-	***E. coli***	0.062 μM		
				K. pneumoniae	1 μM		
				P. aeruginosa	0.5 μM		
	Tachyplesin III	*T. tridentatus*	Gram+	***B. subtilis***	1 μM		[217]
				M. luteus	2 μM		
				S. aureus	0.5-16 μM		
			Gram-	***E. coli***	0.062 μM		
				K. pneumoniae	0.5 μM		
				P. aeruginosa	0.5 μM		
Tachystatin	Tachystatin A1	*T. tridentatus*	Gram+	***S. aureus***	4.2 μg mL^{-1*}		[214]
			Gram-	***E. coli***	25 mL^{-1*}		
			Fungi	***C. albicans***	3 μg mL^{-1*}		
				K. pastoris	0.5 μg mL^{-1*}		
	Tachystatin A2	*T. tridentatus*	Gram+	***B. subtilis***	1.96 μg mL^{-1*}		[222]
				S. aureus	15.63 μg mL^{-1*}		
				S. epidermidis	1.96 μg mL^{-1*}		
			Gram-	***E. coli***	0.98 μg mL^{-1*}		
				S. typhimurium	1.96 μg mL^{-1*}		
	Tachystatin B	*T. tridentatus*	Gram+	***S. aureus***	7.4 μg mL^{-1*}		[214]
			Fungi	***C. albicans***	3 μg mL^{-1*}		
				K. pastoris	0.1 μg mL^{-1*}		
	Tachystatin C	*T. tridentatus*	Gram+	***S. aureus***	0.8 μg mL^{-1*}		[214]
			Gram-	***E. coli***	1.2 μg mL^{-1*}		
			Fungi	***C. albicans***	0.9 μg mL^{-1*}		
				K. pastoris	0.3 μg mL^{-1*}		
Tatritin	6His-tatritin	*T. tridentatus*	Gram+	***A. hydrophila***	31 μg mL^{-1}		[223]
				S. aureus	62 μg mL^{-1}		
				S. agalactiae	15.6 μg mL^{-1}		
			Gram-	***E. coli***	125 μg mL^{-1}		
				K. pneumoniae	62 μg mL^{-1}		
	Tatritin	*T. tridentatus*	Gram+	***A. hydrophila***	8-16 μM^{*}		[224]
				S. aureus	2-4 μM^{*}		
				S. agalactiae	8 μM^{*}		
			Gram-	***E. coli***	2 μM^{*}		
				K. pneumoniae	4-8 μM^{*}		
Class Crustacea							
ALF	ALFFc-LBD7	*P. chinensis*	Gram+	***A. hydrophila***	2-4 μM		[225]
				M. luteus	1-2 μM		
				P. simplex	32-64 μM		
			Gram-	***E. coli***	32-64 μM		
	ALFPm3	*P. monodon*	Gram+	***A. viridans***	1.56-3.12 μM		[226]
				B. megaterium	0.19-0.39 μM		
				M. luteus	1.56-3.12 μM		
				S. aureus	50-100 μM		
			Gram-	***E. cloacae***	3.12-6.25 μM		
				E. coli	0.095-0.19 μM		
				K. pneumoniae	3.12-6.25 μM		
				P. carotovorum	1.56-3.12 μM		
				S. typhimurium	6.25-12.5 μM		
				V. alginolyticus	0.39-0.78 μM		
				V. anguillarum	0.78-1.56 μM		
				V. harveyi	0.78-1.56 μM		
				V. penaeicida	25-50 μM		
			Fungi	***F. oxysporum***	1.56–3.12 μM		
				B. cinerea	3.12–6.25 μM		
				P. crustosum	12.5–25 μM		
			Virus	**WSSV**			[227]
			Virus	**WSSV**			[228]
	ALFPm3-LBD	*P. monodon*	Gram+	***Bacillus sp.***	2 μM		[229]
				Exiguobacterium sp.	2 μM		
				S. aureus	64 μM		
			Gram-	***Acinetobacter sp.***	16 μM		
				Vibrio sp.	64 μM		
	ALFPm11-LBD	*P. monodon*	Gram+	***Bacillus sp.***	2 μM		[229]
				Exiguobacterium sp.	4 μM		
				S. aureus	16 μM		
			Gram-	***Acinetobacter sp.***	4 μM		
				E. coli	128 μM		
				Vibrio sp.	64 μM		
	ALFPm6#29–52	*P. monodon*	Gram+	***A. viridans***		25-50 μM	[230]

			B. megaterium		25-50 μM	
			M. luteus		25-50 μM	
		Gram-	***E. coli***		25-50 μM	
Cf-ALF2	*C. feriatus*	Gram+	***S. aureus***	5 μM	5 μM	[231]
		Gram-	***E. coli***	10 μM	20 μM	
csSALF$_{55–76}$	*P. monodon*	Parasite	*T. vaginalis*	100-200 μg mL^{-1}		[232]
EcLBD1	*P. carinicauda*	Gram+	***M. luteus***	4-8 μM		[233]
		Gram-	***V. anguillarum***	2-4 μM		
			V. harveyi	16-32 μM		
		Virus	**WSSV**			
EcLBD2	*P. carinicauda*	Gram-	***V. harveyi***	32-64 μM		[234]
EcLBD3	*P. carinicauda*	Gram+	***K. rhizophila***	32-64 μM		[234]
		Gram-	***P. damselae***	32-64 μM		
			V. harveyi	8-16 μM		
		Virus	**WSSV**			
EcLBD4	*P. carinicauda*	Gram+	***S. epidermidis***	32-64 μM		[234]
		Gram-	***V. alginolyticus***	16-32 μM		
		Virus	**WSSV**			
EcLBD5	*P. carinicauda*	Gram-	***V. alginolyticus***	16-32 μM		[234]
		Virus	**WSSV**			
EsALF-3	*E. sinensis*	Gram+	***B. subtilis***	135 μg mL^{-1}		[235]
		Gram-	***E. coli***	270 μg mL^{-1}		
			V. anguillarum	33.75 μg mL^{-1}		
FcALF1-LBD1	*P. chinensis*	Gram+	***M. luteus***	16-32 μM		[225]
		Gram-	***E. coli***	16-32 μM		
FcALF2-LBD2	*P. chinensis*	Gram+	***M. luteus***	1-4 μM		[236]
		Gram-	***V. anguillarum***	32-64 μM		
		Gram+	***A. hydrophila***	32-64 μM		[225]
			M. luteus	2-4 μM		
			P. simplex	1-2 μM		
FcALF4-LBD4	*P. chinensis*	Gram-	***E. coli***	8-16 μM		[225]
FcALF5-LBD5	*P. chinensis*	Gram+	P. simplex	16-32 μM		[225]
FcALF6-LBD6	*P. chinensis*	Gram-	***E. coli***	16-32 μM		[225]
FcALF8-LBD8	*P. chinensis*	Gram+	***M. luteus***	4-8 μM		[237]
			S. epidermidis	32-64 μM		
		Gram-	***E. coli***	32-64 μM		
			P. damselae	1-2 μM		
			V. alginolyticus	0.5-1 μM		
			V. harveyi	1-2 μM		
LitstyALF-B1	*P. stylirostris*	Gram+	***A. viridans***	2.5 μM		[238]
			B. megaterium	1.25-2.5 μM		
			M. luteus	1.25 μM		
			S. aureus	10 μM		
		Gram-	***E. coli***	2.5 μM		
			S. enterica	5 μM		
		Fungi	B. cinerea	10 μM		
			C. albicans	10 μM		
			F. oxysporum	2.5 μM		
			P. nodorum	2.5 μM		
			R. stolonifer	10 μM		
LitstyALF-D1	*P. stylirostris*	Gram+	*B. megaterium*	2.5 μM		[238]
		Gram-	***E. coli***	2.5 μM		
Litvan ALF-E	*P. vannamei*	Gram+	*C. stationis*	20-40 μM		[239]
			M. maritypicum	20-40 μM		
Litvan ALF-G	*P. vannamei*	Gram+	***B. cereus***	20-40 μM	20-40 μM	[239]
			B. subtilis	10-20 μM	>40 μM	
			C. stationis	5-10 μM	20-40 μM	
			M. maritypicum	5-10 μM	10-20 μM	
			M. luteus	10-20 μM	>40 μM	
			S. aureus	10-20 μM	>40 μM	
		Gram-	**V. nigripulchritudo**	20-40 μM	>40 μM	
lsSALF$_{55–76}$	*P. monodon*	Parasite	*T. vaginalis*	25-200 μg mL^{-1}		[232]
LvALF1	*P. vannamei*	Virus	**WSSV**			[240]
LvALF8-LBD	*P. vannamei*	Gram+	**K. gibsonii**	4-8 μM	4-8 μM	[241]
			S. aureus	4-8 μM	>64 μM	
			S. epidermidis	2-4 μM	32-64 μM	
		Gram-	***E. coli***	4-8 μM	>64 μM	
			P. damselae	2-4 μM	8-16 μM	
			V. alginolyticus	1-2 μM	4-8 μM	
			V. harveyi	1-2 μM	4-8 μM	
			V. owensii	1-2 μM	4-8 μM	
			V. parahaemolyticus	1-2 μM	4-8 μM	
MjALF-D2	*P. japonicus*	Virus	**WSSV**			[242]
Penmon ALF-B1	*P. monodon*	Gram+	***A. viridans***	1.25 μM		[238]
			B. megaterium	0.15-1.25 μM		
			M. luteus	10 μM		
		Gram-	***E. coli***	0.15 μM		
			S. enterica	2.5 μM		
			V. alginolyticus	0.6 μM		
			V. harveyi	10 μM		
		Fungi	B. cinerea	10 μM		
			C. albicans	10 μM		
			F. oxysporum	10 μM		

Arasin	Arasin 1	*H. araneus*	Gram+	C. glutamicum	0.8 μM	1.6-3.1 μM	[243]
				S. aureus	11.7 μM	>100 μM	
			Gram-	***E. coli***	7.5-12.5 μM	16.7-25 μM	
				V. anguillarum	4.1-6.3 μM	20.8-25 μM	
	Arasin-likeSp	*S. paramamosain*	Gram+	***A. viridans***	0.195-0.39 μM	12.5 μM	[244]
				B. subtilis	6.25-12.5 μM		
				M. luteus	0.39-0.78 μM		
				S. haemolyticus	6.25-12.5 μM		
			Gram-	***V. anguillarum***	3.125-6.25 μM	3.125 μM	
				V. harveyi	0.78-1.56 μM		
	Callinectin	*C. sapidus*	Gram-	***E. coli***		1.44 μM	[245]
	LvArasin-like	*P. vannamei*	Gram+	***A. hydrophila***	50 μM*		[246]
				B. subtilis	50 μM*		
				E. faecalis	50 μM*		
				M. luteus	12.5 μM*		
				S. aureus	25 μM*		
			Gram-	***E. coli***	25 μM*		
				P. aeruginosa	25 μM*		
				V. parahaemolyticus	6.25 μM*		
	Pc-arasin1	*P. clarkii*	Gram+	***A. hydrophila***	25 μM		[247]
				M. luteus	6.25 μM		
				S. aureus	12.5 μM		
			Gram-	***E. coli***	12.5 μM		
				V. anguillarum	6.25 μM		
	Pc-arasin2	*P. clarkii*	Gram+	***A. hydrophila***	25 μM		[247]
				B. subtilis	50 μM		
				M. luteus	25 μM		
				S. aureus	25 μM		
			Gram-	***E. coli***	12.5 μM		
				V. anguillarum	12.5 μM		
	Ss-arasin	*S. serrata*	Gram+	***S. aureus***	10 μM*		[248]
			Gram-	***E. coli***	20 μM*		
				P. aeruginosa	40 μM*		
Astacidin	Astacidin 1	*P. leniusculus*	Gram+	*B. megaterium*	1.9 μM		[249]
				B. subtilis	15 μM		
				M. luteus	12.8 μM		
			Gram-	***E. coli***	15 μM		
				S. flexneri	15 μM		
			Fungi	***C. albicans***	6.3 μM		[250]
				M. furfur	12.5 μM		
				T. beigelii	6.3 μM		
				T. rubrum	25 μM		
	Astacidin 2	*P. leniusculus*	Gram+	*B. megaterium*	1.03 μM		[251]
				B. subtilis	1.06 μM		
				M. luteus	5.44 μM		
				S. aureus	4.24 μM		
			Gram-	***E. coli***	2.12 μM		
				P. vulgaris	4.24 μM		
				P. aeruginosa	4.24 μM		
				S. flexneri	0.5 μM		
	PcAst-1a	*P. clarkii*	Gram+	***S. aureus***	32 μM	>32 μM	[252]
			Gram-	***E. coli***	32 μM	>32 μM	
	PcAst-1b/c	*P. clarkii*	Gram+	***S. aureus***	2 μM	4 μM	[252]
			Gram-	***A. baumannii***	2 μM	4 μM	
				E. coli	1-2 μM	8 μM	
	PcAst-2	*P. clarkii*	Gram+	***S. aureus***	32 μM	32 μM	[252]
			Gram-	***A. baumannii***	8 μM	8 μM	
				E. coli	32 μM	>32 μM	
Crustin	Amk1	*P. monodon*	Gram+	***E. faecalis***	35.6-230 μM		[253]
				M. luteus	11.1-1.7 μM		
				S. aureus	6.6-26 μM		
			Gram-	***V. harveyi***	6.6-53 μM		
	CruFc	*P. chinensis*	Gram+	***A. hydrophila***	16 μM		[254]
				B. cereus	4 μM		
				B. megaterium	2 μM		
				B. subtilis	8 μM		
				M. luteus	4 μM		
				S. aureus	2 μM		
			Gram-	***E. coli***	32 μM		
				K. pneumoniae	16 μM		
				V. anguillarum	32 μM		
			Fungi	***A. niger***	32 μM		
				R. arrhizus	32 μM		
	CrusEs	*E. sinensis*	Gram+	*B. thuringiensis*	0.11		[255]
				B. subtilis	0.23		
				M. luteus	0.11		
	Crus-likePm	*P. monodon*	Gram+	***A. viridans***	0.312-0.625 μM		[256]
				B. megaterium	1.25-2.5 μM		
				M. luteus	2.5-5 μM		
				S. aureus	5-10 μM		
				S. haemolyticus	2.5-5 μM		
			Gram-	***E. coli***	2.5-5 μM		
				K. pneumoniae	10-20 μM		

				V. harveyi	2.5-5 μM	
	Crustin-3	*P. monodon*	Virus	**WSSV**		[257]
	CshFc	*P. chinensis*	Gram+	***B. cereus***	16 μM	[254]
				B. megaterium	16 μM	
				B. subtilis	32 μM	
				M. luteus	32 μM	
				S. aureus	16 μM	
	SpCrus2	*S. paramamosain*	Gram+	*B. megaterium*	0.35-0.7 μM	[258]
				B. subtilis	0.7-1.4 μM	
				S. aureus	0.7-1.4 μM	
			Gram-	***E. coli***	2.8-5.6 μM	
				V. alginolyticus	1.4-2.8 μM	
				V. harveyi	0.7-1.4 μM	
				V. parahaemolyticus	0.7-1.4 μM	
			Fungi	***C. albicans***	2.8-5.6 μM	
	SpCrus3	*S. paramamosain*	Gram+	*B. megaterium*	<6.25 μM	[259]
				B. subtilis	<12.5 μM	
				S. aureus	<6.25 μM	
			Gram-	***V. parahaemolyticus***	<25 μM	
			Fungi	***C. albicans***	<25 μM	
	SpCrus4	*S. paramamosain*	Gram+	*B. megaterium*	<0.8 μM	[259]
				B. subtilis	<0.8 μM	
				S. aureus	<1.6 μM	
			Gram-	***V. alginolyticus***	<12.5 μM	
				V. harveyi	<25 μM	
				V. parahaemolyticus	<12.5 μM	
			Fungi	***C. albicans***	<12.5 μM	
	SpCrus5	*S. paramamosain*	Gram+	*B. megaterium*	<0.4 μM	[260]
				B. subtilis	<0.8 μM	
				S. aureus	<0.4 μM	
			Gram-	***E. coli***	<25 μM	
				V. harveyi	<25 μM	
				V. parahaemolyticus	<12.5 μM	
			Fungi	***C. albicans***	<1.6 μM	
	SpCrus6	*S. paramamosain*	Gram+	*B. megaterium*	<0.8 μM	[261]
				B. subtilis	<3.12 μM	
				S. aureus	<1.6 μM	
			Fungi	***C. albicans***	<6.25 μM	
	SWDPm2	*P. monodon*	Gram+	***A. viridans***	3.125-6.25 μM	[262]
				B. megaterium	12.5-25 μM	
				M. luteus	1.56-3.125 μM	
				S. aureus	25-50 μM	
Defensin	LvDBD	*P. vannamei*	Gram+	***A. hydrophila***	50 μM	[263]
				B. subtilis	25 μM	
				E. faecalis	25 μM	
				M. luteus	25 μM	
				S. aureus	25 μM	
			Gram-	***E. coli***	25 μM	
				P. aeruginosa	25 μM	
				V. parahaemolyticus	12.5 μM	
	Panusin	*P. argus*	Gram+	***B. subtilis***	2.3 μM*	[264]
				S. aureus	0.7 μM*	
			Gram-	***E. coli***	0.9 μM*	
				K. pneumoniae	1 μM*	
Glycine-rich	GRPSp	*S. paramamosain*	Gram+	***A. viridans***	6.25-12.5 μM	[244]
				M. luteus	12.5-25 μM	
	Spgly-AMP$_{26-62}$	*S. paramamosain*	Gram+	***B. subtilis***	NV	[265]
				S. aureus	NV	
			Gram-	***E. coli***	NV	
				V. parahaemolyticus	NV	
Hyastatin	Hyastatin	*H. araneus*	Gram+	C. glutamicum	0.4 μM	[266]
			Gram-	***E. coli***	12.5 μM μM	
			Fungi	***C. albicans***	6.3-12.5 μM	
				S. cerevisiae	12.5 μM	
	SpHyastatin	*S. paramamosain*	Gram+	***A. hydrophila***	1.25-2.5 μM	[267]
				C. glutamicum	1.25-2.5 μM	
				M. luteus	1.25-2.5 μM	
				S. aureus	0.63-1.25 μM	
			Gram-	**P fluorescens**	1.25-2.5 μM	
				P. stutzeri	0.63-1.25 μM	
Paralithocin	Paralithocin 1	*P. camtschaticus*	Gram+	C. divergens	200 μM	[268]
				C. funditum	200 μM	
				C. maltaromaticum	200 μM	
				C. mobile	100 μM	
				C. glutamicum	50 μM	
			Gram-	**A. salmonicida**	200 μM	
	Paralithocin 2	*P. camtschaticus*	Gram+	C. divergens	50 μM	[268]
				C. funditum	25 μM	
				C. maltaromaticum	50 μM	
				C. mobile	50 μM	
				C. glutamicum	12.5 μM	
	Paralithocin 3	*P. camtschaticus*	Gram+	C. divergens	25 μM	[268]
				C. funditum	12.5 μM	

				C. maltaromaticum	25 μM	
				C. mobile	12.5 μM	
				C. glutamicum	12.5 μM	
			Gram-	**A. salmonicida**	100 μM	
				V. anguillarum	50 μM	
				Y. ruckeri	100 μM	
Penaeidin	FenchiPEN5-1	*P. chinensis*	Gram+	***B. cereus***	1.56-12.5 μM	[269]
				B. megaterium	6.25-25 μM	
				B. subtilis	6.25-25 μM	
				B. thuringiensis	1.56-6.3 μM	
				M. luteus	0.78-6.25 μM	
				S. aureus	6.25-25 μM	
			Gram-	***E. coli***	25-50 μM	
				K. pneumoniae	3.13-12.5 μM	
			Fungi	***F. oxysporum***	3.13-6.25 μM	
				F. solani	3.13-6.25 μM	
				N. vagabunda	6.25-12.5 μM	
				V. dahliae	3.13-6.25 μM	
	FmPEN3	*P. merguiensis*	Gram+	***M. luteus***	6.25 μM	[270]
	FmPEN5	*P. merguiensis*	Gram+	***M. luteus***	12.5 μM	[270]
			Gram-	***V. parahaemolyticus***	50 μM	
	Litset Pen3-4	*P. setiferus*	Gram+	*B. megaterium*	12.5-25 μM	[271]
				B. subtilis	1.6-3.12 μM	
				M. luteus	0.4-0.8 μM	
			Gram-	***E. coli***	25-50 μM	
			Fungi	*C. neoformans*	0.8-6.25 μM	
				C. albicans	6.25-12.5 μM	
				C. lusitaniae	6.25-12.5 μM	
				Y. lipolytica	6.25-12.5 μM	
				N. glabratus	6.25-12.5 μM	
				P. inconspicua	3.12-6.25 μM	
				P. kudriavzevii	6.25-12.5 μM	
			Gram+	*B. megaterium*	12.5-25 μM	[272]
				B. subtilis	1.6-3.12 μM	
				M. luteus	0.4-0.8 μM	
			Gram-	***E. coli***	25-50 μM	
	Litset Pen4-1	*P. setiferus*	Gram+	***A. viridans***	1.9-2.92 μM	[273]
				M. luteus	1.9-2.92 μM	
			Gram-	***E. coli***	22-33 μM	
			Fungi	B. cinerea	4.38-6.57 μM	
				F. oxysporum	0.84-1.26 μM	
				P. crustosum	1.26-1.9 μM	
			Gram+	***B. subtilis***	12.5-25 μM	[271]
				M. luteus	1.9-2.2 μM	
			Gram-	***E. coli***	25-50 μM	
			Fungi	*C. neoformans*	0.8-12.5 μM	
				C. albicans	6.25-12.5 μM	
				C. lusitaniae	6.25-12.5 μM	
				Y. lipolytica	1.6-3.12 μM	
				N. glabratus	6.25-12.5 μM	
				P. inconspicua	6.25-12.5 μM	
				P. kudriavzevii	6.25-12.5 μM	
			Gram+	***B. subtilis***	12.5-25 μM	[272]
				M. luteus	1.9-2.25 μM	
			Gram-	***E. coli***	25-50 μM	
	LvBigPEN	*P. vannamei*	Virus	**WSSV**		[274]
			Gram+	***A. hydrophila***	25 μM	[275]
				B. subtilis	50 μM	
				E. faecalis	25 μM	
				M. luteus	25 μM	
				S. aureus	25 μM	
			Gram-	***E. coli***	25 μM	
				P. aeruginosa	25 μM	
				V. parahaemolyticus	12.5 μM	
	MjPen-II	*P. japonicus*	Gram+	*B. megaterium*	0.7 μM	[276]
				B. subtilis	0.7 μM	
				B. thuringiensis	0.35 μM	
				S. aureus	1.4 μM	
			Gram-	***E. coli***	0.7 μM	
				K. pneumoniae	0.35 μM	
				P. aeruginosa	0.35 μM	
				V. anguillarum	0.7 μM	
	Pen-2	*P. vannamei*	Gram+	***A. viridans***	1.25-2.5 μM	[277]
				B. megaterium	2.5-5 μM	
				M. luteus	2.5-5 μM	
			Gram-	***E. coli***	5-10 μM	
			Fungi	A. brassicicola	2.5-5 μM	
				B. cinerea	5-10 μM	
				N. haematococca	1.25-2.5 μM	
				F. oxysporum	5-10 μM	
				N. crassa	2.5-5 μM	
			Virus	**WSSV**		[274]
	Pen-3a	*P. vannamei*	Gram+	***M. luteus***	0.6–2.5 μM	[278]

			Gram+	***M. luteus***	0.6-1.25 μM		[277]
			Gram-	***E. coli***	2.5-5 μM		
			Fungi	***F. oxysporum***	5-10 μM		
			Gram+	***A. viridans***	0.8-1.6 μM		[273]
				B. megaterium	3.12-6.25 μM		
				M. luteus	0.8-1.6 μM		
			Gram-	***E. coli***	6.25-12.5 μM		
			Fungi	***F. oxysporum***	3.12-6.25 μM		
	Pen-3aQ	*P. vannamei*	Gram+	***A. viridans***	0.3-0.6 μM		[277]
				B. megaterium	2.5-5 μM		
				M. luteus	1.25-2.5 μM		
			Gram-	***E. coli***	5-10 μM		
			Fungi	A. brassicicola	2.5-5 μM		
				B. cinerea	5-10 μM		
				N. haematococca	1.25-2.5 μM		
				F. oxysporum	5-10 μM		
				N. crassa	1.25-2.5 μM		
Proline-rich	SpPR-AMP1	*S. paramamosain*	Gram+	***M. luteus***	0.78-1.56 μM	1.56 μM	[279]
			Gram-	***E. coli***	12.5 μM	50 μM	
				S. typhimurium	3.13-6.25 μM	50 μM	
				V. harveyi	0.195-0.39 μM	3.13 μM	
				V. parahaemolyticus	3.13-6.25 μM	6.25 μM	
Scygonadin	Scygonadin	*S. serrata*	Gram+	***M. luteus***	125 μg mL^{-1}		[280]
			Gram+	***A. hydrophila***	30-60 μM		[281]
				C. glutamicum	15-30 μM		
				M. luteus	7.5-15 μM		
				S. aureus	7.5-30 μM		
			Gram+	***A. hydrophila***	12.5-25 μM	25-50 μM	[282]
				B. subtilis	25-50 μM	>50 μM	
				C. glutamicum	12.5-25 μM	12.5-25 μM	
				M. luteus	6.25-12.5 μM	6.25-12.5 μM	
				S. aureus	6.25-12.5 μM	6.25-12.5 μM	
			Gram-	**P. fluorescens**	12.5-25 μM	25-50 μM	
				S. flexneri	25-50 μM	25-50 μM	
	SSAP	*S. serrata*	Gram+	***S. aureus***	50-100 μg mL^{-1}		[283]
				S. pyogenes	25-50 μg mL^{-1}		
			Gram-	***E. coli***	25-50 μg mL^{-1}		
				P. aeruginosa	12.5-25 μg mL^{-1}		
Scyreprocin	SCY2	*S. paramamosain*	Gram+	***B. subtilis***	12.5-25 μM		[284]
				C. glutamicum	25-50 μM		
				M. luteus	25-50 μM		
	Scyreprocin	*S. paramamosain*	Gram+	***B. subtilis***	1-2 μM	4-8 μM	[284]
				C. glutamicum	2-4 μM	2-4 μM	
				M. luteus	<0.5 μM	<0.5 μM	
				S. aureus	<0.5 μM	2-4 μM	
			Gram-	***E. coli***	2-4 μM	4-15 μM	
				P. fluorescens	<0.5 μM	1-2 μM	
				P. stutzeri	0.5-1 μM	1-2 μM	
				S. flexneri	<0.5 μM	>15 μM	
				V. alginolyticus	4-8 μM	16-32 μM	
				V. fluvialis	1-2 μM	2-4 μM	
				V. harveyi	2-4 μM	8-16 μM	
				V. parahaemolyticus	8-16 μM	>32 μM	
			Fungi	***A. niger***	4-8 μM	>32 μM	
				A. ochraceus	4-8 μM	>32 μM	
				A. fumigatus	4-8 μM	>32 μM	
				C. albicans	2-4 μM	16-32 μM	
				C. parapsilosis	16-32 μM	>32 μM	
				C. tropicalis	16-32 μM	>32 μM	
				C. neoformans	1-2 μM	8-16 μM	
				F. graminearum	8-16 μM	>32 μM	
				F. oxysporum	16-32 μM	>32 μM	
				F. solani	8-16 μM	>32 μM	
				K. pastoris	4-8 μM	>32 μM	
				N. crassa	16-32 μM	>32 μM	
				P. kudriavzevii	8-16 μM	>30 μM	
Sparanegtin	Sparanegtin	*S. paramamosain*	Gram+	***A. hydrophila***	12-24 μM	>48 μM	[285]
				B. subtilis	24-48 μM	>48 μM	
				S. aureus	12-24 μM	>48 μM	
				S. epidermidis	24-48 μM	>48 μM	
			Gram-	***E. coli***	24-48 μM	24-48 μM	
				P. aeruginosa	12-24 μM	24-48 μM	
				P. fluorescens	12-24 μM	>48 μM	
				S. flexneri	12-24 μM	>48 μM	
			Fungi	*C. neoformans*	24-48 μM	>48 μM	
				K. pastoris	24-48 μM	>48 μM	
Stylicin	Ls-Stylicin1	*P. stylirostris*	Gram-	**V. nigripulchritudo**	80 μM		[286]
				V. penaeicida	40 μM		
				V. splendidus	80 μM		
			Fungi	***F. oxysporum***	2.5 μM		
			Virus	**WSSV**			[287]

Concentration ranges may reflect differences in strain susceptibility, peptide origin (native or synthetic), or variations in pH and salinity. Refer to the original source for more details. NV (No value) indicates that MIC or related metrics are not available; antimicrobial activity was confirmed through disk diffusion assay or gene expression analysis following an antimicrobial challenge. *Values represent the IC50.

Table S5. Antimicrobial activities of AMPs from aquatic invertebrate chordates against pathogens relevant to aquaculture and human health (Pathogens specific to aquaculture species are shown in bold; those specific to humans are in italic; pathogens affecting both are in bold italic. Non-pathogenic bacteria are shown in regular text).

Protein Family	Compound	Species	Class	Microorganism	MIC	MLC	Reference
Subphylum Cephalochordata							
Bjamp1	IARR-Anal1	*B. japonicum*	Gram-	***A. baumannii***	16 μM		[288]
				K. pneumoniae	16 μM		
				P. aeruginosa	16 μM		
	IARR-Anal2	*B. japonicum*	Gram-	***A. baumannii***	4 μM		[288]
				K. pneumoniae	8 μM		
				P. aeruginosa	4 μM		
	IARR-Anal3	*B. japonicum*	Gram-	***A. baumannii***	4 μM		[288]
				K. pneumoniae	4 μM		
				P. aeruginosa	8 μM		
	IARR-Anal4	*B. japonicum*	Gram-	***A. baumannii***	4 μM		[288]
				K. pneumoniae	8 μM		
				P. aeruginosa	4 μM		
	IARR-Anal5	*B. japonicum*	Gram-	***A. baumannii***	4 μM		[288]
				K. pneumoniae	8 μM		
				P. aeruginosa	1 μM		
	IARR-Anal6	*B. japonicum*	Gram-	***A. baumannii***	4 μM		[288]
				K. pneumoniae	4 μM		
				P. aeruginosa	2 μM		
	IARR-Anal7	*B. japonicum*	Gram-	***A. baumannii***	32 μM		[288]
				K. pneumoniae	8 μM		
				P. aeruginosa	2 μM		
	IARR-Anal8	*B. japonicum*	Gram-	***A. baumannii***	16 μM		[288]
				K. pneumoniae	8 μM		
				P. aeruginosa	2 μM		
	IARR-Anal9	*B. japonicum*	Gram-	***A. baumannii***	8 μM		[288]
				K. pneumoniae	2 μM		
				P. aeruginosa	16 μM		
	IARR-Anal10	*B. japonicum*	Gram-	***A. baumannii***	4 μM		[288]
				K. pneumoniae	2 μM		
				P. aeruginosa	8 μM		
	IARR-mBjAMP1	*B. japonicum*	Gram-	***A. baumannii***	16 μM		[288]
				K. pneumoniae	8 μM		
				P. aeruginosa	8 μM		
	mBjAMP1	*B. japonicum*	Gram+	***M. luteus***	6.3 μg mL^{-1}		[287]
				S. aureus	6.3 μg mL^{-1}		
			Gram-	***E. coli***	6.3 μg mL^{-1}		
				V. anguillarum	12.5 μg mL^{-1}		
			Gram-	***A. baumannii***	16 μM		[288]
				K. pneumoniae	16 μM		
				P. aeruginosa	32 μM		
	mBjAMP-re	*B. japonicum*	Gram+	***B. subtilis***	12.5 μM		[289]
				S. aureus	12.5 μM		
				S. epidermidis	12.5 μM		
			Gram-	***E. coli***	12.5 μM		
				P. aeruginosa	12.5 μM		
				S. typhimurium	12.5 μM		
	mBjAMP-ox	*B. japonicum*	Gram+	***B. subtilis***	12.5 μM		[289]
				S. aureus	12.5 μM		
				S. epidermidis	12.5 μM		
			Gram-	***E. coli***	12.5 μM		
				P. aeruginosa	12.5 μM		
				S. typhimurium	12.5 μM		
	mBjAMP-ser	*B. japonicum*	Gram+	***B. subtilis***	12.5 μM		[289]
				S. aureus	12.5 μM		
				S. epidermidis	6.3 μM		
			Gram-	***E. coli***	6.3 μM		
				P. aeruginosa	6.3 μM		
				S. typhimurium	6.3 μM		
	mBjAMP-del	*B. japonicum*	Gram+	***B. subtilis***	6.3 μM		[289]
				S. aureus	12.5 μM		
				S. epidermidis	6.3 μM		
			Gram-	***E. coli***	6.3 μM		
				P. aeruginosa	6.3 μM		
				S. typhimurium	6.3 μM		
Defensin	BjBD	*B. japonicum*	Gram+	***S. aureus***	62.5 μg mL^{-1}		[290]
			Gram-	***A. hydrophila***	125 μg mL^{-1}		
				E. coli	125 μg mL^{-1}		
Subphylum Tunicata							
Clavanin	Clavanin-A	*S. clava*	Gram+	***E. faecalis***	0.8-1.4 μg mL^{-1}		[291]
				E. faecium	0.2-0.6 μg mL^{-1}		
				S. aureus	0.8-5.3 μg mL^{-1}		

			Gram-	***E. coli***	0.6-1.7 μg mL^{-1}	
				K. pneumoniae	1.5-4.1 μg mL^{-1}	
				L. monocytogenes	0.1-0.3 μg mL^{-1}	
				P. aeruginosa	0.5-1.3 μg mL^{-1}	
				S. typhimurium	0.9-1.9 μg mL^{-1}	
			Gram+	***S. aureus***	45 μM	[292]
			Gram-	***E. coli***	24 μM	
			Gram+	***B. subtilis***	6 μM	[293]
				E. faecalis	6 μM	
				S. aureus	12-48 μM	
				S. pyogenes	12 μM	
			Gram-	***E. coli***	12-48 μM	
				K. pneumoniae	6 μM	
				P. mirabilis	12 μM	
				P. aeruginosa	12 μM	
				S. enterica	6 μM	
			Gram+	***E. faecalis***	256 μg mL^{-1}	[294]
			Fungi	***C. albicans***	128 μg mL^{-1}	
			Gram+	***S. aureus***	10 μM	[295]
			Gram-	***A. hydrophila***	10 μM	
				E. coli	44 μM	
				S. pullorum	60 μM	
	Clavanin AK	*S. clava*	Gram+	***E. faecalis***	0.7-4.5 μg mL^{-1}	[291]
				E. faecium	0.3-0.6 μg mL^{-1}	
				S. aureus	2.4-6 μg mL^{-1}	
			Gram-	***E. coli***	0.6-1.7 μg mL^{-1}	
				K. pneumoniae	1.5-4.1 μg mL^{-1}	
				L. monocytogenes	0.4 μg mL^{-1}	
				P. aeruginosa	0.5-1.3 μg mL^{-1}	
				S. typhimurium	0.9-1.9 μg mL^{-1}	
	Clavanin-B	*S. clava*	Gram+	***E. faecalis***	256 μg mL^{-1}	[294]
			Gram-	***E. coli***	256 μg mL^{-1}	
			Fungi	***C. albicans***	64 μg mL^{-1}	
	Clavanin-C	*S. clava*	Gram+	***E. faecalis***	128 μg mL^{-1}	[294]
				S. aureus	128 μg mL^{-1}	
			Gram-	***E. coli***	128 μg mL^{-1}	
			Fungi	***C. albicans***	64 μg mL^{-1}	
	Clavanin-D	*S. clava*	Gram+	***E. faecalis***	128 μg mL^{-1}	[294]
				S. aureus	128 μg mL^{-1}	
			Gram-	***E. coli***	64 μg mL^{-1}	
			Fungi	***C. albicans***	16 μg mL^{-1}	
	Clavanin-E	*S. clava*	Gram+	***S. aureus***	4 μM	[295]
			Gram-	***A. hydrophila***	4 μM	
				E. coli	38 μM	
				S. pullorum	35 μM	
			Fungi	***C. albicans***	32 μg mL^{-1}	
	Clavanin MO	*S. clava*	Gram+	***B. subtilis***	1.5 μM	[293]
				E. faecalis	1.5 μM	
				S. aureus	6-24 μM	
				S. pyogenes	6 μM	
			Gram-	***E. coli***	6-12 μM	
				K. pneumoniae	3 μM	
				P. mirabilis	6 μM	
				P. aeruginosa	3 μM	
				S. enterica	3 μM	
	ClavF	*S. clava*	Gram+	***S. aureus***	4 μM	[295]
			Gram-	***A. hydrophila***	4 μM	
				E. coli	2 μM	
				S. pullorum	2 μM	
Clavaspirin	Clavaspirin	*S. clava*	Gram+	***S. aureus***	1-3 μg mL^{-1}	[296]
			Gram-	***E. coli***	1-3 μg mL^{-1}	
				L. monocytogenes	1-3 μg mL^{-1}	
				P. aeruginosa	1-3 μg mL^{-1}	
			Fungi	***C. albicans***	1-3 μg mL^{-1}	
			Gram+	***B. subtilis***	16-64 μM	[297]
				S. aureus	16-64 μM	
				S. epidermidis	4-32 μM	
			Gram-	***E. coli***	2-64 μM	
				L. monocytogenes	16-64 μM	
				P. vulgaris	8-64 μM	
				P. aeruginosa	32-64 μM	
				S. typhimurium	32-64 μM	
	CSP-1	*S. clava*	Gram+	***B. subtilis***	16-64 μM	[297]
				S. aureus	16-64 μM	
				S. epidermidis	4-16 μM	
			Gram-	***E. coli***	4-8 μM	
				L. monocytogenes	16-64 μM	
				P. vulgaris	8-64 μM	
				P. aeruginosa	32 μM	
				S. typhimurium	32-64 μM	
	CSP-2	*S. clava*	Gram+	***B. subtilis***	4 μM	[297]
				S. aureus	8-16 μM	
				S. epidermidis	4-32 μM	

			Gram-	***E. coli***	2-4 μM	
				L. monocytogenes	4-8 μM	
				P. vulgaris	4-8 μM	
				P. aeruginosa	16-32 μM	
				S. typhimurium	4-64 μM	
	CSP-3	*S. clava*	Gram+	***B. subtilis***	8-16 μM	[297]
				S. aureus	8 μM	
				S. epidermidis	4-8 μM	
			Gram-	***E. coli***	2-4 μM	
				L. monocytogenes	8-16 μM	
				P. vulgaris	4-8 μM	
				P. aeruginosa	32 μM	
				S. typhimurium	4-64 μM	
	CSP-4	*S. clava*	Gram+	***B. subtilis***	4 μM	[297]
				S. aureus	8 μM	
				S. epidermidis	4-8 μM	
			Gram-	***E. coli***	2-4 μM	
				L. monocytogenes	4 μM	
				P. vulgaris	4-8 μM	
				P. aeruginosa	32 μM	
				S. typhimurium	4-64 μM	
Dicynthaurin	Dicynthaurin	*H. aurantium*	Gram+	***S. aureus***	100 μg mL^{-1*}	[298]
			Gram-	***E. coli***	10-100 μg mL^{-1*}	
				L. monocytogenes	100 μg mL^{-1*}	
Halocidin	17Hc	*H. aurantium*	Gram+	***B. subtilis***	32-64 μg mL^{-1}	[299]
			Gram-	***E. coli***	16-32 μg mL^{-1}	
	18Hc	*H. aurantium*	Gram+	***B. subtilis***	8-16 μg mL^{-1}	[299]
			Gram-	***E. coli***	8-16 μg mL^{-1}	
	18HcKK	*H. aurantium*	Gram+	***B. subtilis***	8-16 μg mL^{-1}	[299]
			Gram-	***E. coli***	8-16 μg mL^{-1}	
	Di-16Hc	*H. aurantium*	Gram+	***B. subtilis***	32-64 μg mL^{-1}	[299]
			Gram-	***E. coli***	8-16 μg mL^{-1}	
	Di-17Hc	*H. aurantium*	Gram+	***B. subtilis***	2-4 μg mL^{-1}	[299]
			Gram-	***E. coli***	<1 μg mL^{-1}	
			Fungi	***C. albicans***	2-4 μg mL^{-1}	[299]
	Di-18Hc	*H. aurantium*	Gram+	***B. subtilis***	2-4 μg mL^{-1}	[299]
				Enterococcus sp.	2-4 μg mL^{-1}	
				S. aureus	2-8 μg mL^{-1}	
			Gram-	***E. coli***	<1 μg mL^{-1}	
				P. aeruginosa	2-16 μg mL^{-1}	
	Di-18HcKK	*H. aurantium*	Gram+	***B. subtilis***	2-4 μg mL^{-1}	[299]
				Enterococcus sp.	1-2 μg mL^{-1}	
				S. aureus	4-16 μg mL^{-1}	
			Gram-	***E. coli***	4-8 μg mL^{-1}	
				P. aeruginosa	2-8 μg mL^{-1}	
	Di-K19Hc	*H. aurantium*	Gram+	***B. subtilis***	2-4 μg mL^{-1}	[299]
				Enterococcus sp.	1-2 μg mL^{-1}	
				S. aureus	2-8 μg mL^{-1}	
			Gram-	***E. coli***	<1 μg mL^{-1}	
				P. aeruginosa	1-8 μg mL^{-1}	
			Fungi	***A. niger***	8-16 μg mL^{-1}	[300]
				A. terreus	8-16 μg mL^{-1}	
				C. albicans	1-4 μg mL^{-1}	
				C. neoformans	16-32 μg mL^{-1}	
				F. oxysporum	4-8 μg mL^{-1}	
				G. candidum	8-16 μg mL^{-1}	
				P. grisea	4-8 μg mL^{-1}	
				T. beigelii	2-4 μg mL^{-1}	
			Gram+	***Enterococcus sp.***	4 μg mL^{-1}	[301]
				S. aureus	4 μg mL^{-1}	
			Gram-	*L. monocytogenes*	4 μg mL^{-1}	
	Di-K19HcKK	*H. aurantium*	Gram+	***B. subtilis***	2-4 μg mL^{-1}	[299]
				Enterococcus sp.	1-2 μg mL^{-1}	
				S. aureus	2-16 μg mL^{-1}	
			Gram-	***E. coli***	<1 μg mL^{-1}	
				P. aeruginosa	2-8 μg mL^{-1}	
	Di-PH1	*H. aurantium*	Fungi	***C. albicans***	4-32 μg mL^{-1}	[302]
	Di-PH2	*H. aurantium*	Fungi	***C. albicans***	1-4 μg mL^{-1}	[302]
	Di-WP2	*H. aurantium*	Fungi	***C. albicans***	2-8 μg mL^{-1}	[302]
	Halocidin	*H. aurantium*	Gram+	***S. aureus***	NV	[303]
			Gram-	***P. aeruginosa***	NV	
			Gram+	***Enterococcus sp.***	64 μg mL^{-1}	[301]
				S. aureus	16 μg mL^{-1}	
			Gram-	*L. monocytogenes*	64 μg mL^{-1}	
	HHP1	*H. aurantium*	Fungi	***C. albicans***	2-8 μg mL^{-1}	[302]
	HHP2	*H. aurantium*	Fungi	***C. albicans***	8-32 μg mL^{-1}	[302]
	K19Hc	*H. aurantium*	Gram+	***B. subtilis***	4-8 μg mL^{-1}	[299]
			Gram-	***E. coli***	8-16 μg mL^{-1}	
			Fungi	***C. albicans***	8-32 μg mL^{-1}	[300]
				C. neoformans	16-32 μg mL^{-1}	
				F. oxysporum	8-16 μg mL^{-1}	
				G. candidum	16-32 μg mL^{-1}	
				P. grisea	4-8 μg mL^{-1}	

				T. beigelii	4-8 μg mL^{-1}		
	K19HcKK	*H. aurantium*	Gram+	***B. subtilis***	4-8 μg mL^{-1}		[299]
			Gram-	***E. coli***	8-16 μg mL^{-1}		
	Khal	*H. aurantium*	Gram+	***Enterococcus sp.***	8 μg mL^{-1}		[301]
				S. aureus	8 μg mL^{-1}		
			Gram-	*L. monocytogenes*	4 μg mL^{-1}		
	P113	*H. aurantium*	Fungi	***C. albicans***	4-16 μg mL^{-1}		
	PH1	*H. aurantium*	Fungi	***C. albicans***	8-32 μg mL^{-1}		[302]
	PH2	*H. aurantium*	Fungi	***C. albicans***	1-16 μg mL^{-1}		[302]
	WP1	*H. aurantium*	Fungi	***C. albicans***	4-32 μg mL^{-1}		
Halocyntin	Halocyntin	*H. papillosa*	Gram+	***A. viridans***	3.13-6.25 μM		[304]
				B. megaterium	0.39-1.56 μM		
				E. faecalis	6.25-12.5 μM		
				M. luteus	1.56-3.13 μM		
				S. aureus	1.56-12.5 μM		
			Gram-	***E. coli***	6.25-12.5 μM		
				K. aerogenes	6.25-50 μM		
				K. pneumoniae	1.56-25 μM		
				N. gonorrhoeae	25-50 μM		
				P. aeruginosa	25-50 μM		
				S. typhimurium	12.5-100 μM		
No Family	Ci-MAM-A24	*C. intestinalis*	Gram+	*B. megaterium*	0.02-0.2 μM	0.02-0.2 μM	[305]
				B. subtilis	0.02-0.2 μM	0.02-0.2 μM	
				P. citreus	0.1 μM	0.1 μM	
				S. aureus	0.4-1.6 μM	0.4-3.1 μM	
				S. epidermidis	0.2-0.4 μM	0.2-0.4 μM	
			Gram-	***E. coli***	0.05-0.4 μM	0.05-0.4 μM	
				K. pneumoniae	0.8-1.6 μM	0.8-1.6 μM	
				P. aeruginosa	0.1-0.8 μM	3.1 μM	
				S. marcescens	1.6-3.1 μM	0.1-0.8 μM	
				V. alginolyticus	1.6 μM	1.6-3.1 μM	
				V. anguillarum	3.1 μM	1.6 μM	
				Y. enterocolitica	0.4-0.8 μM	0.4-0.8 μM	
			Fungi	***C. albicans***	3.1-6.3 μM	3.1-6.3 μM	
	Ci-PAP-A22	*C. intestinalis*	Gram+	*B. megaterium*	0.1-0.2 μM	0.1-0.2 μM	[306]
				B. subtilis	0.8-3.1 μM	0.8-3.1 μM	
				S. aureus	6.3 μM	6.3-12.5 μM	
				S. epidermidis	6.3-25 μM	12.5 μM	
			Gram-	***E. coli***	0.8 μM	1.6 μM	
				K. pneumoniae	12.5 μM	12.5 μM	
				P. aeruginosa	6.3-12.5 μM	6.3-12.5 μM	
				Y. enterocolitica	1.6-3.1 μM	3.1-6.3 μM	
			Fungi	***C. albicans***	3.1-6.3 μM	3.1-12.5 μM	
	P-02	*C. intestinalis*	Gram+	*M. tetragenus*	NV		[307]
			Gram-	***E. coli***	NV		
				P. vulgaris			
	P-03	*C. intestinalis*	Gram+	*S. mutans*	NV		[307]
			Gram-	***E. coli***	NV		
	P-04	*C. intestinalis*	Gram+	*M. tetragenus*	NV		[307]
				S. aureus			
				S. mutans			
			Gram-	***E. coli***	NV		
				P. vulgaris			
				P. aeruginosa			
	P-05	*C. intestinalis*	Gram+	*M. tetragenus*	NV		[307]
			Gram-	***E. coli***	NV		
	P-10	*C. intestinalis*	Gram+	*M. tetragenus*	NV		[307]
				S. aureus			
				S. mutans			
			Gram-	***E. coli***	NV		
				P. vulgaris			
Papillosin	Papillosin	*H. papillosa*	Gram+	***A. viridans***	0.19-0.39 μM		[304]
				B. megaterium	0.5-3.13 μM		
				E. faecalis	0.78-1.56 μM		
				M. luteus	0.13-0.39 μM		
				S. aureus	0.05-0.10 μM		
			Gram-	***K. aerogenes***	0.78-1.56 μM		
				K. pneumoniae	0.39-0.78 μM		
				P. aeruginosa	3.13-6.25 μM		
				S. typhimurium	0.78-1.56 μM		
Styelin	Styelin A	*S. clava*	Gram+	***E. faecium***	1 μg mL^{-1}		[308]
				S. aureus	3 μg mL^{-1}		
			Gram-	***E. coli***	1-2 μg mL^{-1}		
				L. monocytogenes	1 μg mL^{-1}		
				P. aeruginosa	2 μg mL^{-1}		
				S. typhimurium	2 μg mL^{-1}		
			Fungi	***C. albicans***	36 μg mL^{-1}		
	Styelin B	*S. clava*	Gram+	***E. faecium***	1 μg mL^{-1}		[308]
				S. aureus	3 μg mL^{-1}		
			Gram-	***E. coli***	1-2 μg mL^{-1}		
				L. monocytogenes	1 μg mL^{-1}		
				P. aeruginosa	2 μg mL^{-1}		
				S. typhimurium	2 μg mL^{-1}		

			Fungi	***C. albicans***	36 μg mL^{-1}	
	Styelin D	*S. clava*	Gram+	***S. aureus***	5-30 μg mL^{-1}	[309]
			Gram-	***P. aeruginosa***	4.2-5.9 μg mL^{-1}	
Turgencin	StAMP-1	*Synoicum turgens*	Gram+	*B. megaterium*	250 μg mL^{-1}	[310]
				C. glutamicum	250 μg mL^{-1}	
	StAMP-2	*Synoicum turgens*	Gram+	*B. megaterium*	3.9 μg mL^{-1}	[310]
				B. subtilis	125 μg mL^{-1}	
				C. glutamicum	31.3 μg mL^{-1}	
				M. luteus	250 μg mL^{-1}	
			Fungi	*A. pullulans*	62.5 μg mL^{-1}	
				C. albicans	125 μg mL^{-1}	
				Rhodotorula sp.	62.5 μg mL^{-1}	
	StAMP-3	*Synoicum turgens*	Gram+	*B. megaterium*	3.9 μg mL^{-1}	[310]
				C. glutamicum	15.6 μg mL^{-1}	
				M. luteus	250 μg mL^{-1}	
			Fungi	*A. pullulans*	62.5 μg mL^{-1}	
				C. albicans	125 μg mL^{-1}	
				Rhodotorula sp.	62.5 μg mL^{-1}	
	StAMP-4	*Synoicum turgens*	Gram+	*B. megaterium*	3.9 μg mL^{-1}	[310]
				B. subtilis	125 μg mL^{-1}	
				C. glutamicum	3.9 μg mL^{-1}	
				M. luteus	125 μg mL^{-1}	
			Fungi	*A. pullulans*	62.5 μg mL^{-1}	
				C. albicans	62.5 μg mL^{-1}	
				Rhodotorula sp.	31.3 μg mL^{-1}	
	StAMP-5	*Synoicum turgens*	Gram+	*B. megaterium*	1 μg mL^{-1}	[310]
				B. subtilis	15.6 μg mL^{-1}	
				C. glutamicum	2 μg mL^{-1}	
				M. luteus	15.6 μg mL^{-1}	
			Gram-	***E. coli***	31.3 μg mL^{-1}	
				P. aeruginosa	250 μg mL^{-1}	
			Fungi	*A. pullulans*	31.3 μg mL^{-1}	
				C. albicans	31.3 μg mL^{-1}	
				Rhodotorula sp.	15.6 μg mL^{-1}	
	StAMP-6	*Synoicum turgens*	Gram+	*B. megaterium*	1 μg mL^{-1}	[310]
				B. subtilis	3.9 μg mL^{-1}	
				C. glutamicum	3.9 μg mL^{-1}	
				M. luteus	62.5 μg mL^{-1}	
				S. aureus	250 μg mL^{-1}	
			Gram-	***E. coli***	62.5 μg mL^{-1}	
			Fungi	*A. pullulans*	62.5 μg mL^{-1}	
				C. albicans	62.5 μg mL^{-1}	
				Rhodotorula sp.	31.3 μg mL^{-1}	
	StAMP-7	*Synoicum turgens*	Gram+	*B. megaterium*	1 μg mL^{-1}	[310]
				B. subtilis	3.9 μg mL^{-1}	
				C. glutamicum	2 μg mL^{-1}	
				M. luteus	31.3 μg mL^{-1}	
				S. aureus	125 μg mL^{-1}	
			Gram-	***E. coli***	31.3 μg mL^{-1}	
				P. aeruginosa	250 μg mL^{-1}	
			Fungi	*A. pullulans*	15.6 μg mL^{-1}	
				C. albicans	31.3 μg mL^{-1}	
				Rhodotorula sp.	15.6 μg mL^{-1}	
	StAMP-8	*Synoicum turgens*	Gram+	*B. megaterium*	3.9 μg mL^{-1}	[310]
				B. subtilis	7.8 μg mL^{-1}	
				C. glutamicum	7.8 μg mL^{-1}	
				M. luteus	15.6 μg mL^{-1}	
				S. aureus	125 μg mL^{-1}	
			Gram-	***E. coli***	62.5 μg mL^{-1}	
				P. aeruginosa	125 μg mL^{-1}	
			Fungi	*A. pullulans*	7.8 μg mL^{-1}	
				C. albicans	15.6 μg mL^{-1}	
				Rhodotorula sp.	15.6 μg mL^{-1}	
	StAMP-9	*Synoicum turgens*	Gram+	*B. megaterium*	1 μg mL^{-1}	[310]
				B. subtilis	3.9 μg mL^{-1}	
				C. glutamicum	2 μg mL^{-1}	
				M. luteus	3.9 μg mL^{-1}	
				S. aureus	7.8 μg mL^{-1}	
			Gram-	***E. coli***	7.8 μg mL^{-1}	
				P. aeruginosa	31.3 μg mL^{-1}	
			Fungi	*A. pullulans*	31.3 μg mL^{-1}	
				C. albicans	31.3 μg mL^{-1}	
				Rhodotorula sp.	15.6 μg mL^{-1}	
	StAMP-10	*Synoicum turgens*	Gram+	*B. megaterium*	3.9 μg mL^{-1}	[310]
				B. subtilis	7.8 μg mL^{-1}	
				C. glutamicum	7.8 μg mL^{-1}	
				M. luteus	15.6 μg mL^{-1}	
				S. aureus	62.5 μg mL^{-1}	
			Gram-	***E. coli***	15.6 μg mL^{-1}	
				P. aeruginosa	31.3 μg mL^{-1}	
			Fungi	*A. pullulans*	62.5 μg mL^{-1}	
				C. albicans	62.5 μg mL^{-1}	
				Rhodotorula sp.	15.6 μg mL^{-1}	

StAMP-11	*Synoicum turgens*	Gram+	*B. megaterium*	7.8 μg mL^{-1}		[310]
			C. glutamicum	31.3 μg mL^{-1}		
			M. luteus	62.5 μg mL^{-1}		
		Fungi	*A. pullulans*	250 μg mL^{-1}		
			C. albicans	125 μg mL^{-1}		
			Rhodotorula sp.	31.3 μg mL^{-1}		
Turgencin A	*Synoicum turgens*	Gram+	*B. megaterium*	0.5 μg mL^{-1}		[310]
			B. subtilis	1.5 μg mL^{-1}		
			C. glutamicum	1.5 μg mL^{-1}		
			M. luteus	8 μg mL^{-1}		
			S. aureus	23.3 μg mL^{-1}		
		Gram-	***E. coli***	3 μg mL^{-1}		
			P. aeruginosa	5.9 μg mL^{-1}		
		Fungi	*A. pullulans*	92.6 μg mL^{-1}		
			C. albicans	46.3 μg mL^{-1}		
			Rhodotorula sp.	23.2 μg mL^{-1}		
Turgencin A_{Mox1}	*Synoicum turgens*	Gram+	***B. subtilis***	0.4 μM		[311]
			C. glutamicum	0.4 μM		
			S. aureus	6.3 μM		
		Gram-	***E. coli***	0.8 μM		
			P. aeruginosa	1.6 μM		
Turgencin B	*Synoicum turgens*	Gram+	***B. subtilis***	1.6 μM		[311]
			C. glutamicum	1.6 μM		
		Gram-	***E. coli***	12.5 μM		
			P. aeruginosa	25 μM		
Turgencin B_{Mox1}	*Synoicum turgens*	Gram+	***B. subtilis***	1.6 μM		[311]
			C. glutamicum	3.1 μM		
		Gram-	***E. coli***	25 μM		
Turgencin B_{Mox2}	*Synoicum turgens*	Gram+	***B. subtilis***	25 μM		[311]
			C. glutamicum	25 μM		

Concentration ranges may reflect differences in strain susceptibility, peptide origin (native or synthetic), or variations in pH and salinity. Refer to the original source for more details. NV (No value) indicates that MIC or related metrics are not available; antimicrobial activity was confirmed through disk diffusion assay or gene expression analysis following an antimicrobial challenge. *Values represent the IC50.

Table S6. Antimicrobial activities of AMPs from cnidaria against pathogens relevant to aquaculture and human health (Pathogens specific to aquaculture species are shown in bold; those specific to humans are in italic; pathogens affecting both are in bold italic. Non-pathogenic bacteria are shown in regular text).

Protein Family	Compound	Species	Class	Microorganism	MIC	MLC	Reference
Subphylum Anthozoa							
AmAMP1	PT07	*A. millepora*	Gram+	*B. megaterium*	0.1 μM		[312]
				S. aureus	47 μM		
			Gram-	***Acinetobacter sp.***	1.5-2.9 μM		
				E. coli	11.7 μM		
	PT07_G	*A. millepora*	Gram+	*B. megaterium*	0.1 μM		[312]
				S. aureus	47 μM		
			Gram-	***Acinetobacter sp.***	2.9-5.9 μM		
				E. coli	11.7-23.5 μM		
				V. coralliilyticus	94 μM		
	PT07_R	*A. millepora*	Gram+	*B. megaterium*	0.1 μM		[312]
				S. aureus	47 μM		
			Gram-	***Acinetobacter sp.***	1.5-11.7 μM		
				A. fischerii	5.9-11.7 μM 23.5 μM		
				E. coli	94 μM		
				V. coralliilyticus			
Crassicorin	Crassicorin-I	*U. crassicornis*	Gram+	***B. subtilis***	11.49 μg mL^{-1}		[313]
			Gram-	***E. coli***	12.21 μg mL^{-1}		
				S. enterica	11.95 μg mL^{-1}		
Damicornin	Damicornin	*P. damicornis*	Gram+	*B. megaterium*	20 μM	>20 μM	[314]
				C. stationis	10 μM	10 μM	
				M. maritypicum	20 μM	>20 μM	
				M. luteus	1.25 μM	2.5 μM	
				S. aureus	5 μM	>20 μM	
Defensin	BDS-I	*A. sulcata*	Virus	MHV-A59	NV		[315]
			Gram-	***E. coli***	10 μM	20 μM	
Equinin	Equinin B	*A. equina*	Gram+	***M. luteus***	250 μg mL^{-1}		[316]
			Gram-	***E. coli***	250 μg mL^{-1}		
				V. alginolyticus	250 μg mL^{-1}		
Pd-AMP1	Pd-AMP1	*P. dilatata*	Gram+	***S. aureus***	NV		[317]
Subphylum Medusozoa							
Arminin	Arminin 1a	*H. vulgaris*	Gram+	*B. megaterium*	0.01 μM**	0.1 μM	[318]
				E. faecalis	0.8 μM**	1.6 μM	
				E. faecium	0.2 μM**	0.4-0.8 μM	
				S. aureus	0.05-0.2 μM**	0.4-0.8 μM	
			Gram-	***E. coli***	0.05-0.1 μM**	0.2-0.4 μM	
				K. pneumoniae	0.2 μM**	0.4-0.8 μM	
Aurelin	Aurelin	*A. aurita*	Gram+	*L. monocytogenes*	22.64 μg mL^{-1}		[319]
			Gram-	***E. coli***	7.66 μg mL^{-1}		
			Gram+	*B. megaterium*	10 μM		[320]
				M. luteus	40 μM		
Macin	Hydramacin-1	*H. vulgaris*	Gram+	***E. faecalis***	7.1 μM**	>14.3 μM	[321]

				S. haemolyticus	0.9 μM**	1.8 μM	
				S. pyogenes	7.1 μM**	>14.3 μM	
			Gram-	***A. baumannii***	1.8 μM**	7.1 μM	[188]
				C. freundii	0.5-0.9 μM**	0.9-7.1 μM	
				E. cloacae	0.5-0.9 μM**	0.9 μM	
				E. coli	0.2 μM**	0.9 μM	
				K. oxytoca	0.5 μM**	0.9 μM	
				K. pneumoniae	0.5 μM**	0.9 μM	
				P. mirabilis	0.9 μM**	14.3 μM	
				P. vulgaris	3.6 μM**	>14.3 μM	
				P. aeruginosa	14.3 μM**	>14.3 μM	
				S. typhimurium	0.5 μM**	0.9 μM	
				S. marcescens	1.8-14.3 μM**	>14.3 μM	
				Y. enterocolitica	0.2 μM**	0.9 μM	
			Gram+	*B. megaterium*	0.39 μg mL^{-1}		[188]
			Gram-	***E. coli***		3.13 μg mL^{-1}	
Periculin	Periculin-1	*H. vulgaris*	Gram+	*B. megaterium*	0.2-0.4 μM**		[322]

Concentration ranges may reflect differences in strain susceptibility, peptide origin (native or synthetic), or variations in pH and salinity. Refer to the original source for more details. NV (No value) indicates that MIC or related metrics are not available; antimicrobial activity was confirmed through disk diffusion assay or gene expression analysis following an antimicrobial challenge. *Values represent the IC50. **Values represent the LD90.

Table S7. Antimicrobial activities of AMPs from echinoderms against pathogens relevant to aquaculture and human health (Pathogens specific to aquaculture species are shown in bold; those specific to humans are in italic; pathogens affecting both are in bold italic. Non-pathogenic bacteria are shown in regular text).

Protein Family	Compound	Species	Class	Microorganism	MIC	Reference
Class Asteroidea						
PpCrAMP	PpCrAMP-1	*P. pectinifera*	Gram+	***B. subtilis***	33.8 μg mL^{-1}	[323]
				S. aureus	32.1 μg mL^{-1}	
			Gram-	***S. enterica***	8 μg mL^{-1}	
				S. flexneri	29.8 μg mL^{-1}	
	PpCrAMP-2	*P. pectinifera*	Gram+	***B. subtilis***	22.9 μg mL^{-1}	[323]
				M. luteus	153 μg mL^{-1}	
				S. aureus	15.6 μg mL^{-1}	
			Gram-	***A. hydrophila***	107.2 μg mL^{-1}	
				S. enterica	4.5 μg mL^{-1}	
				S. flexneri	12.2 μg mL^{-1}	
	PpCrAMP-3	*P. pectinifera*	Gram+	***B. subtilis***	38.3 μg mL^{-1}	[323]
				S. aureus	41.2 μg mL^{-1}	
			Gram-	***S. enterica***	8.1 μg mL^{-1}	
				S. flexneri	41.2 μg mL^{-1}	
	PpCrAMP$_{red}$	*P. pectinifera*	Gram+	***B. subtilis***	42.3 μg mL^{-1}	[323]
				M. luteus	82.9 μg mL^{-1}	
				S. aureus	91.2 μg mL^{-1}	
			Gram-	***S. enterica***	8.4 μg mL^{-1}	
				S. flexneri	24.2 μg mL^{-1}	
Class Echinoidea						
Centrocin	Centrocin 1	*S. droebachiensis*	Gram+	C. glutamicum	1.3 μM	[324]
				S. aureus	2.5 μM	
			Gram-	***E. coli***	1.3 μM	
				V. anguillarum	2.5 μM	
	Centrocin 1 (heavy chain)	*S. droebachiensis*	Gram+	C. glutamicum	0.4 μM	[324]
				S. aureus	3.1 μM	
			Gram-	***E. coli***	1.6 μM	
				V. anguillarum	0.8 μM	
			Fungi	B. cinerea	50 μM	
				C. albicans	6.3 μM	
				P. roqueforti	6.3 μM	
				S. cerevisiae	6.3 μM	
	Centrocin 2	*S. droebachiensis*	Gram+	C. glutamicum	1.3 μM	[324]
				S. aureus	5 μM	
			Gram-	***E. coli***	2.5 μM	
				V. anguillarum	2.5 μM	
	EeCentrocin 1	*E. esculentus*	Gram+	C. glutamicum	0.78 μM	[325]
				S. aureus	0.78 μM	
			Gram-	***E. coli***	0.1 μM	
				P. aeruginosa	0.78 μM	
	EeCentrocin 1 (heavy chain diBr)	*E. esculentus*	Gram+	***B. subtilis***	1.56 μM	[325]
				C. glutamicum	0.78 μM	
				S. aureus	3.13 μM	
				S. epidermidis	3.13-6.25 μM	
			Gram-	***E. coli***	1.56 μM	
				P. aeruginosa	1.56-3.13 μM	
			Fungi	*A. pullulans*	6.25 μM	
				C. albicans	50 μM	
				Rhodotorula sp.	12.5 μM	
	EeCentrocin 1 (heavy chain)	*E. esculentus*	Gram+	***B. subtilis***	1.56 μM	[325]
				C. glutamicum	0.39 μM	
				S. aureus	3.13 μM	
				S. epidermidis	3.13-6.25 μM	
			Gram-	***E. coli***	0.78-1.56 μM	

				P. aeruginosa	1.56-3.13 μM	
			Fungi	*A. pullulans*	12.5 μM	
				C. albicans	100 μM	
				Rhodotorula sp.	12.5 μM	
				S. cerevisiae	50 μM	
	EeCentrocin 2 (heavy chain)	*E. esculentus*	Gram+	***B. subtilis***	6.25 μM	[325]
				C. glutamicum	0.78 μM	
				S. aureus	6.25 μM	
				S. epidermidis	3.13 μM	
			Gram-	***E. coli***	1.56-6.25 μM	
				P. aeruginosa	0.78-6.25 μM	
			Fungi	*A. pullulans*	25 μM	
				C. albicans	50 μM	
				Cladosporium sp.	12.5 μM	
				Rhodotorula sp.	3.13 μM	
				S. cerevisiae	12.5 μM	
	HC(1-16)	*E. esculentus*	Fungi	*A. pullulans*	50 μM	[326]
				C. albicans	100 μM	
				Rhodotorula sp.	25 μM	
	HC(2-16)A7	*E. esculentus*	Fungi	***C. albicans***	100 μM	[326]
				Rhodotorula sp.	100 μM	
	HC(1-12)A8K12	*E. esculentus*	Fungi	*A. pullulans*	12.5 μM	[326]
				C. albicans	6.3 μM	
				Rhodotorula sp.	3.1 μM	
Paracentrin	Paracentrin 1	*P. lividus*	Gram+	***S. aureus***	6200-12500 μg mL^{-1}	[327]
				S. epidermidis	6200 μg mL^{-1}	
			Gram-	***P. aeruginosa***	12500 μg mL^{-1}	
Strongylocin	EeStrongylocin 2	*E. esculentus*	Gram+	C. glutamicum	1.56 μM	[325]
				S. aureus	3.13 μM	
			Gram-	***E. coli***	0.78 μM	
				P. aeruginosa	1.56 μM	
	SpStrongylocin 1	*S. purpuratus*	Gram+	C. glutamicum	7.5 μM	[328]
				S. aureus	15 μM	
			Gram-	***E. coli***	7.5 μM	
				V. anguillarum	15 μM	
	SpStrongylocin 2	*S. purpuratus*	Gram+	C. glutamicum	3.8 μM	[328]
				S. aureus	15 μM	
			Gram-	***E. coli***	7.5 μM	
				V. anguillarum	15 μM	
	Strongylocin 1	*S. droebachiensis*	Gram+	C. glutamicum	2.5 μM	[329]
				S. aureus	2.5 μM	
			Gram-	***E. coli***	5 μM	
				V. anguillarum	2.5 μM	
	Strongylocin 2	*S. droebachiensis*	Gram+	C. glutamicum	2.5 μM	[329]
				S. aureus	2.5 μM	
			Gram-	***E. coli***	5 μM	
				V. anguillarum	1.3 μM	
Class Holothuroidea						
Holothuroidin	H2d	*H. tubulosa*	Gram-	L. monocytogenes	1200-5000 μg mL^{-1}	[330]
	Holothuroidin 1	*H. tubulosa*	Gram+	***S. aureus***	12500 μg mL^{-1}	[331]
				S. epidermidis	12500 μg mL^{-1}	
			Gram-	***P. aeruginosa***	12500 μg mL^{-1}	
	Holothuroidin 2	*H. tubulosa*	Gram+	E. faecalis	12500 μg mL^{-1}	[331]
				S. aureus	12500 μg mL^{-1}	
				S. epidermidis	12500 μg mL^{-1}	
			Gram-	L. monocytogenes	5000 μg mL^{-1}	[330]
				P. aeruginosa	12500 μg mL^{-1}	

Concentration ranges may reflect differences in strain susceptibility, peptide origin (native or synthetic), or variations in pH and salinity. Refer to the original source for more details.

Table S8. Antimicrobial activity of AMPs from mollusks against pathogens relevant to aquaculture and human health (Pathogens specific to aquaculture species are shown in bold; those specific to humans are in italic; pathogens affecting both are in bold italic. Non-pathogenic bacteria are shown in regular text).

Protein Family	Compound	Species	Class	Microorganism	MIC	MLC	Reference
Class Bivalvia							
Defensin	A1	*C. virginica*	Gram+	***B. subtilis***	14 μg mL^{-1}		[332]
				S. mutans	68 μg mL^{-1}		
			Gram-	***A. hydrophila***	17 μg mL^{-1}		
				E. coli	42 μg mL^{-1}		
				P. aeruginosa	15 μg mL^{-1}		
				S. enterica	24 μg mL^{-1}		
				S. sonnei	40 μg mL^{-1}		
	A2	*C. virginica*	Gram+	***B. subtilis***	3.8 μg mL^{-1}		[332]
				S. epidermidis	24 μg mL^{-1}		
				S. mutans	9.9 μg mL^{-1}		
			Gram-	***A. hydrophila***	14 μg mL^{-1}		
				E. coli	2-13 μg mL^{-1}		
				P. aeruginosa	7.6 μg mL^{-1}		
				S. enterica	20 μg mL^{-1}		
				S. sonnei	18 μg mL^{-1}		

A3	*C. virginica*	Gram+	***B. subtilis***	0.4 μg mL^{-1}		[332]
			C. acnes	53.7 μg mL^{-1}		
			S. epidermidis	4.2 μg mL^{-1}		
			S. mutans	1.5 μg mL^{-1}		
		Gram-	***A. hydrophila***	3.3 μg mL^{-1}		
			E. coli	5-6.8 μg mL^{-1}		
			P. aeruginosa	3 μg mL^{-1}		
			S. enterica	6.5 μg mL^{-1}		
			S. sonnei	5.5 μg mL^{-1}		
		Fungi	***C. albicans***	54 μg mL^{-1}		
A4	*C. virginica*	Gram+	***B. subtilis***	2.5 μg mL^{-1}		[332]
			C. acnes	27.1 μg mL^{-1}		
			S. epidermidis	15.8 μg mL^{-1}		
			S. mutans	10.5 μg mL^{-1}		
		Gram-	***E. coli***	2.2-5.7 μg mL^{-1}		
			P. aeruginosa	2 μg mL^{-1}9.5		
		Fungi	***C. albicans***	17.2 μg mL^{-1}		
ApBD1	*A. purpuratus*	Gram+	***M. luteus***	NV		[333]
			S. aureus	NV		
		Gram-	***V. anguillarum***	NV		
			V. splendidus	NV		
AOD	*C. virginica*	Gram+	***L. lactis***	3 μg mL^{-1}		[334]
			S. aureus	2.4 μg mL^{-1}		
		Gram-	***E. coli***	7.6 μg mL^{-1}		
			V. parahaemolyticus	15 μg mL^{-1}		
Cg-Def	*C. gigas*	Fungi	***F. oxysporum***	9 μM		[335]
Cg-Defh1	*C. gigas*	Gram+	*B. megaterium*	0.06 μM		[336]
			C. stationis	4 μM		
			M. maritypicum	2 μM		
			M. luteus	0.03 μM		
			S. aureus	0.5-2 μM		
			S. haemolyticus	6 μM		
		Gram-	***E. coli***	40 μM		
Cg-Defh2	*C. gigas*	Gram+	*B. megaterium*	0.03 μM		[336]
			C. stationis	0.1 μM		
			M. maritypicum	1 μM		
			M. luteus	0.01 μM		
			S. aureus	0.12-0.25 μM		
			S. haemolyticus	2 μM		
		Gram-	***E. coli***	20 μM		
Cg-Defm	*C. gigas*	Gram+	*C. stationis*	0.1-0.2 μM		[335]
			M. luteus	0.005-0.01 μM		
			M. maritypicum	0.5-1 μM		
		Gram-	***E. coli***	35 μM		
		Gram+	*B. megaterium*	0.03 μM		[336]
			C. stationis	0.2 μM		
			M. maritypicum	1 μM		
			M. luteus	0.01 μM		
			S. aureus	0.25-2 μM		
			S. haemolyticus	2 μM		
		Gram-	***E. coli***	20 μM		
MCdef	*R. philippinarum*	Gram+	***S. aureus***	1.25-2.5 μM		[337]
			S. iniae	1.25-2.5 μM		
		Gram-	**A. logei**	10-20 μM		
			A. salmonicida	10-20 μM		
MGD-1	*M. galloprovincialis*	Gram+	***M. luteus***	0.08 μg mL^{-1}	0.16 μg mL^{-1}	[338]
		Gram-	***E. coli***	6.4 μg mL^{-1}	>6.4 μg mL^{-1}	
			V. alginolyticus	6.4 μg mL^{-1}	>6.4 μg mL^{-1}	
			V. splendidus	1.6 μg mL^{-1}	3.2 μg mL^{-1}	
			Vibrio sp.	6.4 μg mL^{-1}	>6.4 μg mL^{-1}	
MgDefdg	*M. gigas*	Gram+	***S. aureus***	25 μg mL^{-1*}		[339]
		Gram-	***A. hydrophila***	3 μg mL^{-1*}		
N-ter ApBD Q13R	*A. purpuratus*	Gram+	*M. maritypicum*	30 μM		[340]
			M. luteus	6.25 μM		
			S. aureus	15 μM		
		Gram-	***E. coli***	30 μM		
			V. bivalvicida	30 μM		
			V. splendidus	3.75-7.5 μM		
			V. tasmaniensis	3.75 μM		
Pv-Def	*P. viridis*	Gram-	***V. parahaemolyticus***	NV		[341]
RPD-1	*R. philippinarum*	Gram+	***B. subtilis***	76.8 μg mL^{-1}		[342]
			M. tetragenus	38.4 μg mL^{-1}		
			S. aureus	9.6 μg mL^{-1}		
		Gram-	***E. coli***	76.8 μg mL^{-1}		
			V. anguillarum	19.2 μg mL^{-1}		
			V. parahaemolyticus	19.2 μg mL^{-1}		
RpdefB	*R. philippinarum*	Gram+	***M. luteus***	1-2 μM		[343]
			S. aureus	4-8 μM		
		Gram-	***E. cloacae***	2-4 μM		
			E. coli	1-2 μM		
			K. aerogenes	4-8 μM		
			P. mirabilis	1-2 μM		
			V. anguillarum	1-2 μM		

				V. harveyi	1-2 μM	
				V. parahaemolyticus	1-2 μM	
				V. splendidus	0.5-1 μM	
	VpBD	*R. philippinarum*	Gram+	***Bacillus sp.***	13.13-26.26 μM	[344]
				S. aureus	1.64-3.28 μM	
			Gram-	***Enterobacter sp.***	13.13-26.26 μM	
				P. putida	1.64-3.28 μM	
				V. anguillarum	13.13-26.26 μM	
				V. ichthyoenteri	3.28-6.56 μM	
	VpDef	*R. philippinarum*	Gram+	***M. luteus***	6.25-12.5 μM	[345]
				S. aureus	25-50 μM	
			Gram-	***E. cloacae***	25-50 μM	
				K. aerogenes	12.5-25 μM	
				V. anguillarum	25-50 μM	
				P. mirabilis	50-100 μM	
				P. putida	25-50 μM	
				V. splendidus	50-100 μM	
Macin	Hc theromacin	*S. cumingii*	Gram+	B. bifidum	NV	[346]
				S. aureus	NV	
			Gram-	***A. hydrophila***	NV	
				E. coli	NV	
	Mytimacin 1	*M. coruscus*	Gram+	*B. megaterium*	2 μM	[347]
				B. subtilis	100 μM	
				M. luteus	100 μM	
				S. aureus	6 μM	
			Gram-	***E. coli***	50 μM	
				P. aeruginosa	50 μM	
				V. alginolyticus	50 μM	
				V. harveyi	100 μM	
				V. parahaemolyticus	100 μM	
	Mytimacin-4	*M. galloprovincialis*	Gram+	***B. subtilis***	0.315 μM	[348]
				M. luteus	1.24 μM	
			Gram-	***K. aerogenes***	1.24 μM	
				V. parahaemolyticus	0.62 μM	
			Gram+	***B. subtilis***	65 μg mL^{-1}	[349]
				L. monocytogenes	45 μg mL^{-1}	
			Gram-	***E. coli***	15 μg mL^{-1}	
				P. aeruginosa	25 μg mL^{-1}	
				S. typhimurium	20 μg mL^{-1}	
	Rp-hdmc	*R. philippinarum*	Gram-	**V. tapetis**	NV	[350]
	SwTheromacin	*S. woodiana*	Gram-	***A. hydrophila***	NV	[351]
	VpMacin	*R. philippinarum*	Gram+	***M. luteus***	4-8 μM	[352]
				S. aureus	8-16 μM	
			Gram-	***E. cloacae***	4-8 μM	
				E. coli	4-8 μM	
				P. mirabilis	2-4 μM	
				V. alginolyticus	1-2 μM	
				V. anguillarum	2-4 μM	
				V. harveyi	1-2 μM	
				V. parahaemolyticus	0.5-1 μM	
				V. splendidus	1-2 μM	
	VpMacin-1	*R. philippinarum*	Gram+	***M. luteus***	3-6 μM	[353]
				S. aureus	12-24 μM	
			Gram-	***E. cloacae***	3-6 μM	
				E. coli	3-6 μM	
				V. anguillarum	2-4 μM	
				V. harveyi	1-2 μM	
				V. parahaemolyticus	2-4 μM	
				V. splendidus	1-2 μM	
			Fungi	K. pastoris	2-8 μM	
	VpMacin-2	*R. philippinarum*	Gram+	***M. luteus***	1-2 μM	[353]
				S. aureus	3-6 μM	
			Gram-	***E. cloacae***	3-6 μM	
				E. coli	1-2 μM	
				V. anguillarum	0.5-1 μM	
				V. harveyi	0.5-1 μM	
				V. parahaemolyticus	1-2 μM	
				V. splendidus	0.5-1 μM	
			Fungi	K. pastoris	1-4 μM	
Molluscidin	ApMolluscidin	*A. pectinata*	Gram+	***B. subtilis***	2.1 μg mL^{-1}	[354]
			Gram-	***E. coli***	0.5 μg mL^{-1}	
	CgMolluscidin	*C. gigas*	Gram+	***B. subtilis***	1.3 μg mL^{-1}	[355]
				M. luteus	3 μg mL^{-1}	
				S. aureus	31.3 μg mL^{-1}	
			Gram-	***S. enterica***	0.4 μg mL^{-1}	
				V. parahaemolyticus	2.3 μg mL^{-1}	
Myticalin	Myticalin A5	*Mytilus spp.*	Gram+	***B. subtilis***	4 μM	[356]
				S. aureus	8-16 μM	
			Gram-	***A. baumannii***	4 μM	
				E. coli	2 μM	
				P. aeruginosa	4-8 μM	
		M. galloprovincialis	Gram-	***E. coli***	2-4 μM	[357]
	Myticalin A8	*Mytilus spp.*	Gram+	***B. subtilis***	4 μM	[356]

				S. aureus	16 μM		
			Gram-	***A. baumannii***	1 μM		
				E. coli	1 μM		
				P. aeruginosa	8 μM		
		M. galloprovincialis	Gram-	***E. coli***	2 μM		[357]
	Myticalin B1	*Mytilus spp.*	Gram+	***B. subtilis***	32 μM		[356]
			Gram-	***A. baumannii***	8 μM		
				E. coli	8-16 μM		
		M. galloprovincialis	Gram-	***E. coli***	16-32 μM		[357]
	Myticalin C6	*Mytilus spp.*	Gram+	***B. subtilis***	32 μM		[356]
				S. aureus	8 μM		
			Gram-	***A. baumannii***	2 μM		
				E. coli	4 μM		
				P. aeruginosa	32 μM		
		M. galloprovincialis	Gram-	***E. coli***	16-32 μM		[357]
	Myticalin C9	*Mytilus spp.*	Gram+	***B. subtilis***	4 μM		[356]
				S. aureus	2 μM		
			Gram-	***A. baumannii***	2 μM		
				E. coli	4 μM		
				P. aeruginosa	8 μM		
		M. galloprovincialis	Gram-	***E. coli***	4-8 μM		[357]
	Myticalin D2	*Mytilus spp.*	Gram+	***B. subtilis***	2 μM		[356]
				S. aureus	16-32 μM		
			Gram-	***A. baumannii***	2 μM		
				E. coli	4 μM		
				P. aeruginosa	4 μM		
		M. galloprovincialis	Gram-	***E. coli***	4-8 μM		[357]
Mytichitin	Mytichitin-CB	*M. coruscus*	Gram+	*B. megaterium*	3.13-6.25 μM		[358]
				B. subtilis	1.56-3.13 μM		
				M. luteus	1.56-3.13 μM		
				S. aureus	3.13-6.25 μM		
			Gram-	***P. aeruginosa***	50-100 μM		
				V. parahaemolyticus	50-100 μM		
			Fungi	***C. albicans***	6.25-12.5 μM		
	Mytichitin-CBD	*M. coruscus*	Gram+				[359]
			Gram-	***E. coli***	NV		
				P. aeruginosa	NV		
				V. harveyi	NV		
			Fungi	***C. albicans***	NV		
			Parasite	**Scuticociliatia**	NV		
Myticin	MytC[1-40]	*M. galloprovincialis*	Gram+	***E. faecalis***	4 μM	>64 μM	[360]
				S. aureus	64 μM	>64 μM	
			Gram-	***E. coli***	32 μM	>64 μM	
	MytC[9-28]	*M. galloprovincialis*	Gram+	***E. faecalis***	16 μM	>64 μM	[360]
	MytC[19-40]	*M. galloprovincialis*	Gram+	***E. faecalis***	8 μM	>64 μM	[360]
				S. aureus	32 μM	64 μM	
			Gram-	***E. coli***	8 μM	8 μM	
				P. aeruginosa	64 μM	>64 μM	
	MytC[29-40]	*M. galloprovincialis*	Gram+	***E. faecalis***	64 μM	>64 μM	[360]
	MytC[19-40]S	*M. galloprovincialis*	Gram+	***E. faecalis***	16 μM	>64 μM	[360]
				S. aureus	32 μM	>64 μM	
			Gram-	***E. coli***	16 μM	32 μM	
				P. aeruginosa	64 μM	>64 μM	
	MytC[19-40]Sox	*M. galloprovincialis*	Gram+	***E. faecalis***	16 μM	64 μM	[360]
				S. aureus	32 μM	>64 μM	
			Gram-	***E. coli***	8 μM	32 μM	
				P. aeruginosa	64 μM	>64 μM	
	Myticin A	*M. galloprovincialis*	Gram+	***A. viridans***	4.5-9 μM		[361]
				B. megaterium	2.25-4.5 μM		
				M. luteus	2.25-4.5 μM		
	Myticin B	*M. galloprovincialis*	Gram+	***A. viridans***	2-4 μM		[361]
				B. megaterium	1-2 μM		
				M. luteus	1-2 μM		
			Gram-	***E. coli***	120-210 μM		
				S. newport	120-210 μM		
			Fungi	***F. oxysporum***	5-10 μM		
	Myt-Cc	*M. galloprovincialis*	Virus	**OsHV-1**	NV		[362]
			Virus	*HSV-1*	NV		
				HSV-2	NV		
	Myt-Tat	*M. galloprovincialis*	Virus	*HSV-1*	3.03-4.91 μM**		[362]
				HSV-2	2.07-4.11 μM**		
Myticusin	Myticusin-1	*M. coruscus*	Gram+	*B. megaterium*	2.5-5 μM		[363]
				B. subtilis	1.2-2.5 μM		
				M. luteus	1.2-2.5 μM		
				S. aureus	2.5-5 μM		
			Gram-	***E. coli***	6.7-12.5 μM		
				V. harveyi	12.5-25 μM		
	Myticusin-beta	*M. coruscus*	Gram+	***B. cereus***	NV		[364]
				B. subtilis	NV		
				C. perfringens	NV		
				S. mutans	NV		
				S. aureus	NV		
				S. mutans	NV		

			Gram-	***E. coli***	NV		
				K. pneumoniae	NV		
				P. aeruginosa	NV		
				V. alginolyticus	NV		
	Myticusin-beta$_{84-93}$	*M. coruscus*	Gram+	***B. subtilis***	NV		[364]
				S. aureus	NV		
			Fungi	***C. albicans***	NV		
	Myticusin-beta$_{84-93}$ analog	*M. coruscus*	Gram+	***B. cereus***	NV		[364]
				B. subtilis	NV		
				E. faecalis	NV		
				L. garvieae	NV		
				S. mutans	NV		
				S. iniae	NV		
				S. parauberis	NV		
				S. vestibularis	NV		
				S. aureus	NV		
			Gram-	***E. tarda***	NV		
				E. coli	NV		
				E. cloacae	NV		
				K. pneumoniae	NV		
				P. mirabilis	NV		
				P. stuartii	NV		
				P. aeruginosa	NV		
				V. alginolyticus	NV		
				V. parahaemolyticus	NV		
			Fungi	***C. albicans***	NV		
Mytilin	Mytilin A	*M. edulis*	Gram+	***A. viridans***	0.6-1.2 μM		[365]
				B. megaterium	0.6-1.2 μM		
				E. faecalis	2.5-5 μM		
				M. luteus	0.6-1.2 μM		
				S. aureus	5-10 μM		
			Gram-	***E. coli***	2.5-10 μM		
				P. carrageenovora	2.5-5 μM		
	Mytilin B	*M. galloprovincialis*	Gram+	***E. faecalis***		0.17-0.35 μM	[366]
				L. monocytogenes		0.35-0.7 μM	
				M. luteus		0.17-0.35 μM	
				S. aureus			
			Gram-	***K. aerogenes***		1.4-2.8 μM	
				E. coli		0.7-1.4 μM	
				V. alginolyticus		1.4-2.8 μM	
				V. splendidus		0.17-0.35 μM	
				V. vulnificus		1.4-2.8 μM	
	Mytilin C	*M. galloprovincialis*	Gram+	***E. faecalis***		2.8-5.6 μM	[366]
				L. monocytogenes		0.7-1.4 μM	
				M. luteus		0.7-1.4 μM	
				S. aureus		0.7-1.4 μM	
			Gram-	***E. coli***		0.35-0.7 μM	
				K. aerogenes		1.4-2.8 μM	
				S. typhimurium		19-38 μM	
				V. alginolyticus		1.4-2.8 μM	
				V. harveyi		1.4-2.8 μM	
				V. splendidus		1.4-2.8 μM	
				V. vulnificus		1.4-2.8 μM	
	Mytilin D	*M. galloprovincialis*	Gram+	*L. monocytogenes*		0.7-1.4 μM	[366]
				M. luteus		0.17-0.35 μM	
				S. aureus		2.8-5.6 μM	
			Gram-	***E. coli***		0.35-0.7 μM	
				V. alginolyticus		0.75-1.5 μM	
			Fungi	***F. oxysporum***	0.7-1.4		
	Mytilin G1	*M. galloprovincialis*	Gram+	***E. faecalis***		1.4-2.8 μM	[366]
				L. monocytogenes		1.4-2.8 μM	
				M. luteus		0.7-1.4 μM	
Mytimycin	Mytimycin	*M. edulis*	Fungi	F. culmorum	NV		[365]
				N. crassa	NV		
Proline-rich	Ap	*A. purpuratus*	Fungi	***F. oxysporum***	2.15 μM		[367]
				S. parasitica	0.85 μM		
	Ap-S	*A. purpuratus*	Fungi	***F. oxysporum***	0.69 μM		[367]
				N. crassa	0.69 μM		
				S. parasitica	0.74 μM		
	Cg-lgPrp	*C. gigas*	Gram+	*B. megaterium*	20 μM		[336]
				M. luteus	80 μM		
	Cg-lgPrp P/Q	*C. gigas*	Gram+	***M. luteus***	80 μM		[336]
	Cg-Prp$_{20-36}$	*C. gigas*	Fungi	B. cinerea	100 μM		[368]
				F. oxysporum	200 μM		
	Cg-Prp$_{22-36}$	*C. gigas*	Gram+	***M. luteus***	100 μM		[368]
			Fungi	B. cinerea	100 μM		
				F. oxysporum	125 μM		
No family	URP20	*C. hongkongensis*	Gram+	***S. aureus***	2.84 μM*		[369]
			Gram-	***E. coli***	1.338 μM*		
				V. alginolyticus	4.21 μM*		
				V. parahaemolyticus	2.572 μM*		
			Fungi	***C. albicans***	3.283 μM*		
Class Cephalopoda							

OctoPartenopin	OctoPartenopin (P0)	*O. vulgaris*	Gram+	***S. aureus***	148-152 μM**		[370]
			Gram-	***P. aeruginosa***	197-203 μM**		
			Fungi	***C. albicans***	197-203 μM**		
	P1	*O. vulgaris*	Gram+	***S. aureus***	147-153 μM**		[370]
			Gram-	***P. aeruginosa***	95-105 μM**		
			Fungi	***C. albicans***	195-205 μM**		
	P2	*O. vulgaris*	Gram+	***S. aureus***	45-55 μM**		[370]
			Gram-	***P. aeruginosa***	48-52 μM**		
			Fungi	***C. albicans***	97-103 μM**		
	P3	*O. vulgaris*	Gram+	***S. aureus***	79-81 μM**		[370]
			Gram-	***P. aeruginosa***	47-53 μM**		
			Fungi	***C. albicans***	96-104 μM**		
	P4	*O. vulgaris*	Gram+	***S. aureus***	75-85 μM**		[370]
			Gram-	***P. aeruginosa***	48-5 μM**		
			Fungi	***C. albicans***	175-185 μM**		
Prohibitin-2	Octoprohibitin	*O. minor*	Gram-	***A. baumannii***	200 μg mL^{-1}	400 μg mL^{-1}	[371]
Protein 3	Octominin	*O. minor*	Fungi	***C. albicans***	50 μg mL^{-1}	200 μg mL^{-1}	[372]
	Octominin II	*O. minor*	Fungi	***C. albicans***	80 μg mL^{-1}	120 μg mL^{-1}	[373]
				C. auris	160 μg mL^{-1}	200 μg mL^{-1}	
				N. glabratus	55 μg mL^{-1}	100 μg mL^{-1}	
Protein 5	Octopromycin	*O. minor*	Gram-	***A. baumannii***	50 μg mL^{-1}	200 μg mL^{-1}	[374]
No family	AV19	*S. officinalis*	Gram-	***V. parahaemolyticus***	10-20 μM	20-50 μM	[375]
				V. splendidus	10-20 μM	10-20 μM	
	GK28	*S. officinalis*	Gram-	***E. coli***	≤5 μM	20-50 μM	[375]
				V. aestuarianus	10-20 μM	>50 μM	
				V. anguillarum	10-20 μM	20-50 μM	
				V. alginolyticus	≤5 μM	20-50 μM	
				V. parahaemolyticus	≤5 μM	10-20 μM	
				V. splendidus	≤5 μM	≤5 μM	
	GR21	*S. officinalis*	Gram+	*B. megaterium*	1-10 μM	1-10 μM	[376]
				E. faecalis	75-100 μM	100-150 μM	
				L. monocytogenes	25-50 μM	25-50 μM	
				S. aureus	5-10 μM	10-25 μM	
			Gram-	**A. salmonicida**	≤5 μM	≥50 μM	
				E. coli	1-10 μM	1-10 μM	
	KT19	*S. officinalis*	Gram+	*B. megaterium*	1-10 μM	1-10 μM	[376]
				E. faecalis	100-150 μM		
				S. aureus	10-25 μM	25-50 μM	
			Gram-	**A. salmonicida**	10-25 μM	10-25 μM	
				E. coli	1-10 μM	1-10 μM	
				S. typhimurium	75-100 μM	75-100 μM	
				V. alginolyticus	25-50 μM	25-50 μM	
	NF19	*S. officinalis*	Gram-	**V. splendidus**	5-10 μM	10-20 μM	[375]
	VA20	*S. officinalis*	Gram-	***E. coli***	25-50 μM	≥100 μM	[376]
Class Gastropoda							
Cecropin	Pom-2	*P. poeyana*	Gram+	*L. monocytogenes*	30 μg mL^{-1}		[377]
			Gram-	***P. aeruginosa***	30 μg mL^{-1}		
Closticin	Pom-1	*P. poeyana*	Gram+	*L. monocytogenes*	<5 μg mL^{-1}		[377]
			Gram-	***K. pneumoniae***	20 μg mL^{-1}		
				P. aeruginosa	<5 μg mL^{-1}		
			Virus	**ZIKV**			
Dolabellanin	Dolabellanin B2	*D. auricularia*	Gram+	***B. subtilis***		2.5 μg mL^{-1}	[378]
				S. aureus		20 μg mL^{-1}	
			Gram-	***E. coli***		20-40 μg mL^{-1}	
				H. influenzae		5 μg mL^{-1}	
				V. vulnificus		5 μg mL^{-1}	
		P. peronii	Gram+	***B. subtilis***	5 μg mL^{-1*}		[379]
				L. monocytogenes	10 μg mL^{-1*}		
				S. aureus			
			Gram-	***E. coli***	20 μg mL^{-1*}		
				K. pneumoniae	12.5 μg mL^{-1*}		
				P. mirabilis	15 μg mL^{-1*}		
				P. aeruginosa	25 μg mL^{-1*}		
				S. marcescens	10 μg mL^{-1*}		
Macin	HdMac	*H. discus hannai*	Gram-	***E. cloacae***	1-2 μM		[380]
				E. coli	1-2 μM		
				P. mirabilis	2-4 μM		
				V. alginolyticus	1-2 μM		
				V. anguillarum	0.5-1 μM		
				V. parahaemolyticus	2-4 μM		
	Mytimacin-6	*H. diversicolor*	Gram-	***V. harveyi***	NV		[381]
Molluscidin	HdMolluscidin	*H. discus*	Gram+	***B. subtilis***	0.8-15 μg mL^{-1}		[382]
				S. aureus	19 μg mL^{-1}		
			Gram-	***A. hydrophila***	3.3 μg mL^{-1}		
				E. coli	1.4-3.6 μg mL^{-1}		
				P. aeruginosa	4 μg mL^{-1}		
				S. enterica	1 μg mL^{-1}		
				S. flexneri	1.5 μg mL^{-1}		
				V. parahaemolyticus	2 μg mL^{-1}		
Proline-rich	Peptide 4	*R. venosa*	Gram-	***K. pneumoniae***	NV		[383]
	Peptide 7	*R. venosa*	Gram-	***K. pneumoniae***	NV		[383]
No family	Bb-AMP4	*F. bengalensis*	Gram+	***S. epidermidis***	8 μg mL^{-1}	16 μg mL^{-1}	[384]
	Cm-p1	*C. muricatus*	Fungi	***A. niger***	41 μM		[385]

				B. cinerea	20 μM	
				C. albicans	7-13 μM	
				C. parapsilosis	105 μM	
				C. neoformans	209 μM	
				F. oxysporum	20 μM	
				T. rubrum	3 μM	
			Fungi	***C. albicans***	32-64 μg mL^{-1}	[386]
				C. parapsilosis	256 μg mL^{-1}	
				C. neoformans	128 μg mL^{-1}	
				T. rubrum	32 μg mL^{-1}	
	Cm-p3	*C. muricatus*	Fungi	***C. albicans***	64-128 μg mL^{-1}	[386]
				T. rubrum	128 μg mL^{-1}	
	Cm-p4	*C. muricatus*	Fungi	***C. albicans***	32 μg mL^{-1}	[386]
				C. parapsilosis	256 μg mL^{-1}	
				T. rubrum	32 μg mL^{-1}	
	Cm-p5	*C. muricatus*	Fungi	***C. albicans***	10 μg mL^{-1}	[386]
				C. parapsilosis	32 μg mL^{-1}	
				C. neoformans	64 μg mL^{-1}	
				T. mentagrophytes	128 μg mL^{-1}	
				T. rubrum	10 μg mL^{-1}	

Concentration ranges may reflect differences in strain susceptibility, peptide origin (native or synthetic), or variations in pH and salinity. Refer to the original source for more details. NV (No value) indicates that MIC or related metrics are not available; antimicrobial activity was confirmed through disk diffusion assay or gene expression analysis following an antimicrobial challenge. *Values represent the IC50. **Values represent the IC80.

Table S9. Antimicrobial activity of AMPs from other invertebrates against microorganisms including pathogens relevant to aquaculture and human health (Pathogens specific to aquaculture species are shown in bold; those specific to humans are in italic; pathogens affecting both are in bold italic. Non-pathogenic bacteria are shown in regular text).

Protein Family	Compound	Species	Class	Microorganism	MIC	MLC	Reference
Phylum Nematoda							
Anisaxin	Anisaxin-1	*Anisakis spp.*	Gram+	***S. aureus***	16-32 μM	16-32 μM	[387]
			Gram-	***A. baumannii***	1 μM	1 μM	
				E. coli	1-2 μM	1-2 μM	
				K. pneumoniae	0.5-4 μM	1-4 μM	
				P. aeruginosa	4-8 μM	4-16 μM	
	Anisaxin-2P	*Anisakis spp.*	Gram+	***S. aureus***	32-64 μM	64 μM	[387]
			Gram-	***A. baumannii***	0.5-1 μM	0.5-1 μM	
				E. coli	0.5-2 μM	0.5-2 μM	
				K. pneumoniae	0.5-2 μM	0.5-2 μM	
				P. aeruginosa	4-16 μM	8-32 μM	
	Anisaxin-2S	*Anisakis spp.*	Gram+	***S. aureus***	4 μM	4 μM	[387]
			Gram-	***A. baumannii***	0.25-0.5 μM	0.5 μM	
				E. coli	0.5-1 μM	0.5-1 μM	
				K. pneumoniae	0.25-1 μM	0.5-1 μM	
				P. aeruginosa	1-8 μM	2-8 μM	
	Anisaxin-3	*Anisakis spp.*	Gram-	***A. baumannii***	0.25-0.5 μM	0.25-0.5 μM	[387]
				E. coli	0.25-1 μM	0.5-4 μM	
				K. pneumoniae	0.5-2 μM	4-32 μM	
				P. aeruginosa	4-32 μM		
	Anisaxin-4	*Anisakis spp.*	Gram+	***S. aureus***	2 μM	2 μM	[387]
			Gram-	***A. baumannii***	0.5-2 μM	0.5-2 μM	
				E. coli	0.5-2 μM	0.5-2 μM	
				K. pneumoniae	0.5-2 μM	0.5-2 μM	
				P. aeruginosa	2-4 μM	2-4 μM	
Phylum Placozoa							
Trichoplaxin	Trichoplaxin	*T. adhaerens*	Gram+	***E. faecalis***	12.5 μM		[388]
				L. ivanovii	3 μM		
				S. aureus	3 μM		
			Gram-	***A. baumannii***	3 μM		
				E. coli	3-6 μM		
				K. pneumoniae	6 μM		
				P. aeruginosa	6 μM		
			Fungi	***C. albicans***	25 μM		
				C. parapsilosis	50 μM		
	Trichoplaxin-2	*T. adhaerens*	Gram+	***S. aureus***	1-4 μM		[389]
			Gram-	***A. baumannii***	1-8 μM		
				E. coli	0.5-8 μM		
				K. pneumoniae	4-8 μM		
				P. aeruginosa	4-32 μM		
	Trichoplaxin-2A	*T. adhaerens*	Gram+	***S. aureus***	0.5-4 μM		[389]
			Gram-	***A. baumannii***	2-8 μM		
				E. coli	1-4 μM		
				K. pneumoniae	2-4 μM		
				P. aeruginosa	1-8 μM		
Phylum Platyhelminthes							
Dermaseptin	SmDLP	*S. mansoni*	Gram+	***M. luteus***	0.0746 μM	1.18 μM	[390]
			Fungi	***C. albicans***	0.0746 μM	0.0746 μM	
Phylum Porifera							
ASABF_SUBDO	Defensin	*S. domuncula*	Gram+	***B. subtilis***	4.2-5.4 μg mL^{-1}		[391]
				M. luteus	2.6-4.6 μg mL^{-1}		
				S. aureus	1.2-2.2 μg mL^{-1}		

Gram-	***E. coli***	11.4-23.4 μg mL^{-1}	
	P. aeruginosa	6.9-17.9 μg mL^{-1}	

Concentration ranges may reflect differences in strain susceptibility, peptide origin (native or synthetic), or variations in pH and salinity. Refer to the original source for more details. NV (No value) indicates that MIC or related metrics are not available; antimicrobial activity was confirmed through disk diffusion assay or gene expression analysis following an antimicrobial challenge. *Values represent the IC50. **Values represent the IC80.

Table S10. Activity of "non classical AMPs" derived from aquatic invertebrates against pathogens relevant to aquaculture and human health (Pathogens specific to aquaculture species are shown in bold; those specific to humans are in italic; pathogens affecting both are in bold italic. Non-pathogenic bacteria are shown in regular text).

Category	Compound	Species	Bacteria		Fungi/Parasite	Ref.
			Gram+	Gram-		
Phylum Arthropoda						
Hemerythrin	MsHemerycin	*M. sanguínea*				[392]
β-thymosin	CgTβ	*C. gigas*	***B. subtilis*** NV	***E. coli*** NV	***C. abicans*** NV	[393]
Histone	MrHis	*M. rosenbergii*				[394]
Lysozyme	Lysozyme C	*P. merguiensis*				[395]
	PmLyzc	*P. monodon*				[396]
	PmLyzi1	*P. monodon*				[396]
	PmLyzi2	*P. monodon*				[396]
Phylum Chordata						
RPS23	BjRPS23	*B. japonicum*	***M. luteus*** 3.6 μM ***S. aureus***3.6 μM	***A. hydrophila*** 4.8 μM ***E. coli*** 4.8 μM		[397]
	BjRPS23$_{67-84}$	*B. japonicum*	***M. luteus*** 7.2 μM ***S. aureus*** 7.2 μM	***A. hydrophila*** 8.4 μM ***E. coli*** 8.4 μM		[397]
Plicatamide	PL-101	*S. plicata*	***S. aureus*** 1-125 μg mL^{-1}	***E. coli*** 5-95 μg mL^{-1} *L. monocytogenes* 3-40 μg mL^{-1} ***P. aeruginosa*** 10-40 μg mL^{-1}		[398]
	PL-102	*S. plicata*	***S. aureus***50 μg mL^{-1}	***E. coli***130 μg mL^{-1} ***P. aeruginosa***140 μg mL^{-1}		[398]
	PL-103	*S. plicata*	***S. aureus***60-140 μg mL^{-1}	***E. coli***230 μg mL^{-1} ***P. aeruginosa***250 μg mL^{-1}		[398]
	PL-104	*S. plicata*	***S. aureus***50-60 μg mL^{-1}	***E. coli***130 μg mL^{-1} ***P. aeruginosa***250 μg mL^{-1}		[398]
	Plicatamide	*S. plicata*	***S. aureus***1-40 μg mL^{-1}	***E. coli***3-10 μg mL^{-1} *L. monocytogenes*3-11 μg mL^{-1} ***P. aeruginosa***3-5 μg mL^{-1}		[398]
Phylum Cnidaria						
Neuropeptide	Hym-357	*H. vulgaris*				[399]
	Hym-370	*H. vulgaris*				[399]
	NDA-1	*H. vulgaris*				[399]
	RFamide III	*H. vulgaris*				[399]
Toxin	A3	*E. japonica*				[400]
	B1	*E. japonica*				[400]
	B4	*E. japonica*				[400]
	Tau-AnmTx Ueq 12-1	*U. eques*				[401]
Phylum Mollusca						
Aplysianin	Aplysianin-A	*A. kurodai*	***B. subtilis*** 4 μg mL^{-1*}			[402]
	Aplysianin-P	*A. kurodai*	*S. aureus* 0.39 μg mL^{-1*} *S. epidermidis* 0.23 μg mL^{-1*}	***E. coli*** 2.8 μg mL^{-1*} ***E. cloacae*** 1.1 μg mL^{-1*} ***K. pneumoniae*** 0.2 μg mL^{-1*} ***S. typhimurium*** 5.8 μg mL^{-1*} ***S. marcescens*** 0.21 μg mL^{-1*}		[403]
Dolabellanin	Dolabellanin A	*D. auricularia*	***A. hydrophila*** 0.26 μg mL^{-1*} ***S. aureus*** 0.025 μg mL^{-1*} ***S. epidermidis*** 0.018 μg mL^{-1*} ***Streptococcus sp.*** 0.063 μg mL^{-1*}	***E. coli*** 0.025-0.09 μg mL^{-1*} ***E. cloacae*** 0.98 μg mL^{-1*} ***K. pneumoniae*** 0.021 μg mL^{-1*} ***S. typhimurium*** 0.48 μg mL^{-1*} ***S. marcescens*** 0.048 μg mL^{-1*}	***C. albicans*** 0.5 μg mL^{-1} *S. cerevisiae* 1 μg mL^{-1} S. pombe 2 μg mL^{-1}	[404]
Escapin	Escapin	*A. californica*	***B. subtilis*** 2.5 μg mL^{-1} ***S. aureus*** 0.31 μg mL^{-1} *S. pyogenes* 0.62 μg mL^{-1}	***E. coli*** 0.62 μg mL^{-1} ***P. aeruginosa*** 0.31 μg mL^{-1} ***S. typhimurium*** 0.62 μg mL^{-1} ***V. harveyi*** 0.25 μg mL^{-1}	***C. sphaerospermum*** 15-62 μg mL^{-1} *P. kudriavzevii* 5 μg mL^{-1} *S. cerevisiae* 5 μg mL^{-1}	[405]
HDH-LGBP	HDH-LGBP-A1	*H. discus hannai*	***B. cereus*** 1.9 μg mL^{-1} ***S. aureus*** 1.08 μg mL^{-1} ***S. iniae*** 0.57 μg mL^{-1} *S. mutans* 0.008 μg mL^{-1}	***P. aeruginosa*** 2.12 μg mL^{-1}	***C. albicans*** 2.11 μg mL^{-1}	[406]
	HDH-LGBP-A2	*H. discus hannai*	***B. cereus*** 1.8 μg mL^{-1} ***S. aureus*** 1.37 μg mL^{-1} ***S. iniae*** 1.79 μg mL^{-1} *S. mutans* 1.7 μg mL^{-1}	***P. aeruginosa*** 1.92 μg mL^{-1}	***C. albicans*** 2.16 μg mL^{-1}	[406]
Hemocyanin-derived	Haliotisin P1	*H. tuberculata*		P. carotovorum 3-4 μM		[407]
	Haliotisin P2	*H. tuberculata*		P. carotovorum 4-5 μM		[407]
	Haliotisin P3	*H. tuberculata*	***B. subtilis*** 0.3-1 μM			[407]
	Haliotisin P4	*H. tuberculata*		P. carotovorum 1.6-2.6 μM		[407]

	Haliotisin P5	*H. tuberculata*		P. carotovorum 1.2-1.5 μM		[407]
	Haliotisin P6	*H. tuberculata*	***B. subtilis*** 2-3 μM	P. carotovorum 0.5-0.8 μM		[407]
LBP/BPI	Cg-BPI (short-chain)	*C. gigas*	***E. coli*** 0.3 μM			[408]
	$hBPI_{21}$ (short-chain)	*C. gigas*	***E. coli*** 0.3 μM			[408]
	$hBPI_{21}$ (long-chain)	*C. gigas*	***E. coli*** 5 μM			[408]
Lysozyme	MyLysoG	*M. yessoensis*				[409]
Ubiquitin	CgUbiquitin	*C. gigas*	***B. subtilis*** 3.4 μM ***S. aureus*** 40 μM ***S. iniae*** 7.8 μM	***A. hydrophila*** 5.8 μM ***E. coli*** 1.9-12 μM ***P. aeruginosa*** 5 μM ***S. flexneri*** 5.6 μM *S. sonnei* 10 μM ***V. parahaemolyticus*** 9.8 μM		[410]
Phylum Platyhelminthes						
Schistocin	Schistocin-1	*S. mansoni*	Fungi		***C. albicans*** 250 μM ***C. tropicalis***500 μM *P. kudriavzevii* 125 μM	[411]
	Schistocin-2	*S. mansoni*	Fungi		***C. albicans*** 250 μM ***C. tropicalis*** 500 μM *P. kudriavzevii* 62.5 μM	[411]
	Schistocin-3	*S. mansoni*	***S. aureus*** 31.2 μM	***E. coli*** 62.5 μM ***P. aeruginosa*** 62.5 μM	***C. albicans*** 62.5 μM ***C. parapsilosis*** 125 μM ***C. tropicalis*** 31.2 μM *N. glabratus*250 μM *P. kudriavzevii* 62.5 μM	[411]
	Schistocin-3.1	*S. mansoni*	***S. aureus*** 8 μM	***E. coli*** 62.5 μM ***P. aeruginosa*** 31.2 μM	***C. albicans*** 31.2 μM ***C. parapsilosis*** 125 μM ***C. tropicalis*** 31.2 μM *N. glabratus* 125 μM *P. kudriavzevii* 62.5 μM	[411]

Concentration ranges may reflect differences in strain susceptibility, peptide origin (native or synthetic), or variations in pH and salinity. Refer to the original source for more details. NV (No value) indicates that MIC or related metrics are not available; antimicrobial activity was confirmed through disk diffusion assay or gene expression analysis following an antimicrobial challenge. *Values represent the IC50.

Supplementary Material References

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