Supplementary Table 2

Supplementary Table 2. Examples of marine peptides already characterized at the structural and functional levels that are being evaluated by the pharmaceutical and nutraceutical industries.

Peptide	Source	Activity/target	Properties	Class	Reference
Epinecidin-1	*Epinephelus coioides*	Antimicrobial *Pseudomonas aeruginosa*, *Staphylococcus coagulase*, *Streptococcus pyogenes*, and *Vibrio vulnificus*	Helical peptide	Antimicrobial peptide	(Jheng et al., 2015)
EGFP-epinecidin-1 protein	*Artemia cysts*	Antimicrobial *V. vulnificus*	Recombinant fusion with a green fluorescent protein (EGFP)	Antimicrobial peptide	(Jheng et al., 2015)
Mytichitin-CB	*Mytilus coruscus*	Antifungal and antibacterial activities *B. subtilis*, *S. aureus*, *S. luteus;* *Bacillus. Megaterium* and *C. albicans*	6621-Da chitotriosidase-like peptide with three disulfide bonds	Antimicrobial peptide	(Qin et al., 2014)
NK-lysin NKLP27	*Cynoglossus semilaevis*	Antimicrobial *E. coli*, *Vibrio anguillarum*, *Vibrio harveyi*, *Pseudomonas fluorescens*, *Streptococcus iniae*, *S. aureus*, and *M. luteus.*	Structurally unique. Bactericidal activity dependent on the 5 *C*-terminal residues NKLP27. Causes cell and DNA disruption	Antimicrobial peptide	(Zhang et al., 2014)
Piscidin 4	*Oreochromis niloticus*	Antimicrobial *Helicobacter pylori*	Causes cell wall and membrane lysis	Antimicrobial peptide	(Narayana et al., 2015)
H-P-6 (Pro-Gln-Pro-Lys-Val-Leu-Asp-Ser)	*Chlamydomonas* sp.	Antimicrobial *Helicobacter pylori*	Causes cell wall and membrane lysis	Antimicrobial peptide	(Himaya et al., 2013)
Theonellamide G	*Theonella swinhoei*	Antifungal activity against wild and amphotericin B-resistant strains of *C.*	bicyclic glycopeptide	Antimicrobial peptide	(Youssef et al., 2014)

		albicans and cytotoxicity against human colon adenocarcinoma cell line (HCT-16)		Antitumor peptide	
Cyclic lipopeptide	Mangrove *Bacillus amyloliquefaciens* anti-CA	Antifungal *C. albicans*, *Candida tropicalis*, *Metschnikowia bicuspidata*, *Saccharomyces cerevisiae* and *Yarrowia lipolytica*.	heptapeptide linked to a 15-carbon 3-hydroxy fatty acid	Antimicrobial peptide	(Sperstad et al., 2011)
Mirabamide A	*Siliquariaspongia mirabilis*	Antiviral, antifungal and antimicrobial HIV-1 and *C. albicans* and *B. subtilis*	cyclic depsipeptide with 4-chlorohomoproline and unusual glycosylated amino acid, β-methoxytyrosine 4′-*O*-α-L-rhamnopyranoside and *N*-terminal aliphatic hydroxy acid	Antimicrobial peptide Antiviral peptide	(Plaza et al., 2007)
Mirabamide B	*S. mirabilis*	Antiviral, antifungal and antimicrobial HIV-1 and *C. albicans* and *B. subtilis*	cyclic depsipeptide with 4-chlorohomoproline and unusual glycosylated amino acid, β-methoxytyrosine 4′-*O*-α-L-rhamnopyranoside and *N*-terminal aliphatic hydroxy acid	Antimicrobial peptide Antiviral peptide	(Plaza et al., 2007)
Mirabamide C	*S. mirabilis*	Viricide and antimicrobial HIV-1 and *C. albicans* and *B. subtilis*	cyclic depsipeptide with 4-chlorohomoproline	Antimicrobial peptide Antiviral peptide	(Plaza et al., 2007)
Mirabamide D	*S. mirabilis*	Viricide HIV-1	cyclic depsipeptide with unusual glycosylated amino acid, β-methoxytyrosine 4′-*O*-α-	Antiviral peptide	(Plaza et al., 2007)

			L-rhamnopyranoside and *N*-terminal aliphatic hydroxy acid		
Celebeside A	*S. mirabilis*	Viricide HIV-1	cyclic depsipeptides linked to a polyketide moiety including a phosphoserine and an uncommon 3-carbamoyl threonine	Antiviral peptide	(Plaza et al., 2009)
Theopapuamides	*S. mirabilis*	Antitumor HCT-116 human colon carcinoma cells and anti-*Candida albicans*	undecapeptides with an *N*-terminal fatty acid moiety with 3-acetamido-2-aminopropanoic acid and 4-amino-2,3-dihydroxy-5-methylhexanoic acid	Antimicrobial peptide Antiviral peptide	(Plaza et al., 2009)
Homophymine A	*Homophymia* sp.	Viricide HIV-1	11 amino acid residue cyclodepsipeptide with an amide-linked 3-hydroxy-2,4,6-trimethyloctanoic acid moiety and four unusual amino acid residues: L-ThrOMe, (2*R*,3*R*,4*R*)-2-amino-3-hydroxy-4,5-dimethylhexanoic acid, (2*S*,3*S*,4*R*)-3,4-diMe-Gln and (2*R*,3*R*,4*S*)-4-amino-2,3-dihydroxy-1,7-heptandioic acid	Antiviral peptide	(Zampella et al., 2008)
Dolastatin 10	*D. auricularia*	Antitumor activity against diverse types of solid tumors	linear depsipeptides	Antitumor peptide	(Newman and Cragg, 2004)
Dolastatin 15	*D. auricularia*	Antitumor activity against diverse types of solid tumors	linear depsipeptides	Antitumor peptide	(Bai et al., 1990)
Hemiasterlin	*H. minor*	Antitumor activity against P388	linear depsipeptides	Antitumor	(Talpir et al.,

		leukemia cell line		peptide	1994)
Monomethyl auristatin E	derivative	Antitumor activity against lymphoma	linear depsipeptides	Antitumor peptide	(Bai et al., 1990)
HTI-286	derivative	Antitumor activity against orthotopic tumor and bladder cancer	linear depsipeptides	Antitumor peptide	(Matsui et al., 2009)
Didemnin B	*A. albicans*	Antitumor activity against diverse types of cancer	cyclic depsipeptide	Antitumor peptide	(Mittelman et al., 1999)
Kahalalide F	*E. rufescens*	Antitumor activity against solid tumors. *In vitro* activity against breast, colon, pancreas, prostate and lung	cyclic tridecapeptide	Antitumor peptide	(Teixidó et al., 2013)
Pardaxin	hydrolysates from oyster extract	Antitumor activity against canine perianal gland adenomas	33-amino acid apoptosis inducer	Antitumor peptide	(Pan et al., 2015)
BEPT II	*Bullacta exarata*	Apoptotic activity toward PC-3 cells	cyclic depsipeptides	Antitumor peptide	(Ma et al., 2013)
BEPT II-1	*B. exarata*	Apoptotic activity toward PC-3 cells	cyclic depsipeptides	Antitumor peptide	(Ma et al., 2013)
Reniochalistatin E	*Reniochalina stalagmites*	Cytotoxic activity against HL-60, HepG2, HeLa, MGC-803, and RPMI-8226 cancer cell lines	cyclic octapeptide	Antitumor peptide	(Zhan et al., 2014)
MVGSAPGVL	*Okamejei kenojei*	Potent antihypertensive	produced by hydrolysis of skate gelatin	Cardiovascular protective peptide	(Ngo et al., 2014)
Ala-His-Ile-Ile-Ile	*Styela clava*	Antihypertensive	angiotensin I converting enzyme inhibiting peptide	Cardiovascular protective peptide	(Ko et al., 2012)
P1	*Spirulina maxima*	Antihypertensive	obtained from an enzymatic cells hydrolysate	Cardiovascular protective peptide	(Vo and Kim, 2013)

P2	*S. maxima*	Antihypertensive	obtained from an enzymatic cells hydrolysate	Cardiovascular protective peptide	(Vo and Kim, 2013)
LGPLGHQ	*O. kenojei*	Antioxidant activity	produced by hydrolysis of skate gelatin	Antioxidant peptide	(Ngo et al., 2014)
PC-1	*Pseudosciaena crocea*	Antioxidant activity	obtained from muscle using pepsin and alcalase hydrolysis	Antioxidant peptide	(Chi et al., 2015)
PC-2	*P. crocea*	Antioxidant activity	obtained from muscle using pepsin and alcalase hydrolysis	Antioxidant peptide	(Chi et al., 2015)
PC-3	*P. crocea*	Antioxidant activity	obtained from muscle using pepsin and alcalase hydrolysis	Antioxidant peptide	(Chi et al., 2015)
Gly-Gly-Phe-Asp-Met-Gly	*Palatichtys olivaceus*	Antioxidant activity	obtained from the peptic digest of skin gelatin	Antioxidant peptide	(Himaya et al., 2012)
Thalassospirami des A	*Thalassospira* sp	Antioxidant activity	suppressed nitric oxide production by murine macrophage RAW 264.7 cells	Antioxidant peptide	(Um et al., 2013)
Thalassospirami des D	*Thalassospira* sp	Antioxidant activity	suppressed nitric oxide production by murine macrophage RAW 264.7 cells	Antioxidant peptide	(Um et al., 2013)
(HTP-1) Gly-Thr-Glu-Asp-Glu-Leu-Asp-Lys	*Hippocampus trimaculatus*	Neurone protection	protection of PC12 cells against Alzheimer's disease amyloid β42	Neuroprotective peptide	(Pangestuti et al., 2013)
Av3	*Anemonia viridis*	Neurotoxin	specific for arthropod sodium channels	Analgesic peptide	(Gur Barzilai et al., 2014)

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