marine drugs

MDPI

Review

Marine Bioactive Peptides—An Overview of Generation, Structure, and Application with a Focus on Food Sources

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Table S1. – Complete list of peptides from marine organisms and corresponding references.

Sequence	Activity	Source	Taxonomy*	EC50	Length	Note	Reference
AW	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	2	Whole protein hydrolyzate; ribosomal	[1]
CF	ACE inhibitor	marine Pisces	Elasmobranchii	1.96	2	Whole protein hydrolyzate; ribosomal	[2]
DI	ACE inhibitor	marine Pisces	*Scorpaena notata* Rafinesque	0.98	2	Whole protein hydrolyzate; ribosomal	[3]
EI	ACE inhibitor	marine Pisces	*Scorpaena notata* Rafinesque	1.69	2	Whole protein hydrolyzate; ribosomal	[3]
EY	ACE inhibitor	marine Pisces	Elasmobranchii	2.68	2	Whole protein hydrolyzate; ribosomal	[2]

FI	ACE inhibitor	marine Pisces	*Scorpaena notata* Rafinesque	1.44	2	Whole protein hydrolyzate; ribosomal	[3]
FY	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	18.8	2	Whole protein hydrolyzate; ribosomal	[4]
GP	ACE inhibitor	marine Pisces	*Pollachius pollachius* Linnaeus	252.63	2	Whole protein hydrolyzate; ribosomal	[5]
IY	ACE inhibitor	marine Pisces	*Sardina pilchardus* Walbaum	2.1	2	Whole protein hydrolyzate; ribosomal	[6]
IY	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	42.3	2	Whole protein hydrolyzate; ribosomal	[4]
KD	antioxidative	marine Pisces	*Katsuwonus pelamis* Linnaeus	/	2	Whole protein hydrolyzate; ribosomal	[7]
KL	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	50.2	2	Whole protein hydrolyzate; ribosomal	[8]
KP	ACE inhibitor	marine Pisces	*Katsuwonus pelamis* Linnaeus	22	2	Whole protein hydrolyzate; ribosomal	[9]
KW	ACE inhibitor	marine Pisces	*Sardina pilchardus* Walbaum	1.63	2	Whole protein hydrolyzate; ribosomal	[6]
KY	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	61	2	Whole protein hydrolyzate; ribosomal	[4]
LW	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	2	Whole protein hydrolyzate; ribosomal	[1]

LY	ACE inhibitor	marine Pisces	*Sardina pilchardus* Walbaum	18	2	Whole protein hydrolyzate; ribosomal	[6]
MF	ACE inhibitor	marine Pisces	*Sardina pilchardus* Walbaum	45	2	Whole protein hydrolyzate; ribosomal	[6]
MY	ACE inhibitor	marine Pisces	*Sardina pilchardus* Walbaum	193	2	Whole protein hydrolyzate; ribosomal	[6]
MY	antioxidative	marine Pisces	*Sardina pilchardus* Walbaum	/	2	Whole protein hydrolyzate; ribosomal	[10]
NK	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	810	2	Whole protein hydrolyzate; ribosomal	[8]
PL	ACE inhibitor	marine Pisces	*Pollachius pollachius* Linnaeus	337.32	2	Whole protein hydrolyzate; ribosomal	[5]
RY	ACE inhibitor	marine Pisces	*Sardina pilchardus* Walbaum	10.5	2	Whole protein hydrolyzate; ribosomal	[6]
TW	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	2	Whole protein hydrolyzate; ribosomal	[1]
VF	ACE inhibitor	marine Pisces	*Sardina pilchardus* Walbaum	9.2	2	Whole protein hydrolyzate; ribosomal	[6]
VW	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	2	Whole protein hydrolyzate; ribosomal	[1]
YH	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	35.2	2	Whole protein hydrolyzate; ribosomal	[4]

YK	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	610	2	Whole protein hydrolyzate; ribosomal	[8]
AEL	ACE inhibitor	freshwater algae	*Chlorella vulgaris* Beijerinck	/	3	Whole protein hydrolyzate; ribosomal	[11]
AFL	ACE inhibitor	freshwater algae	*Chlorella vulgaris* Beijerinck	/	3	Whole protein hydrolyzate; ribosomal	[11]
AKK	ACE inhibitor	marine Pisces	*Sardina pilchardus* Walbaum	3.2	3	Whole protein hydrolyzate; ribosomal	[6]
EAK	antioxidative	marine Pisces	*Katsuwonus pelamis* Linnaeus	/	3	Whole protein hydrolyzate; ribosomal	[7]
FAL	ACE inhibitor	freshwater algae	*Chlorella vulgaris* Beijerinck	26.3	3	Whole protein hydrolyzate; ribosomal	[12]
FAL	ACE inhibitor	freshwater algae	*Chlorella vulgaris* Beijerinck	/	3	Whole protein hydrolyzate; ribosomal	[11]
FKK	antioxidative	marine Crustacea	*Penaeus japonicus* Spence Bate	/	3	Whole protein hydrolyzate; ribosomal	[13]
FQP	ACE inhibitor	marine Pisces	*Katsuwonus pelamis* Linnaeus	/	3	Whole protein hydrolyzate; ribosomal	[14]
GAH	antioxidative	marine Pisces	*Sardinella aurita* Valenciennes	/	3	Whole protein hydrolyzate; ribosomal	[15]
GGE	antioxidative	marine Pisces	*Sardinella aurita* Valenciennes	/	3	Whole protein hydrolyzate; ribosomal	[15]

GHF	ACE inhibitor	marine Pisces	*Katsuwonus pelamis* Linnaeus	1001	3	Whole protein hydrolyzate; ribosomal	[8]
GLP	ACE inhibitor	marine Pisces	*Pollachius pollachius* Linnaeus	1.62	3	Whole protein hydrolyzate; ribosomal	[5]
GPL	ACE inhibitor	marine Pisces	*Pollachius pollachius* Linnaeus	2.65	3	Whole protein hydrolyzate; ribosomal	[5]
GRP	ACE inhibitor	marine Pisces	*Sardina pilchardus* Walbaum	19.9	3	Whole protein hydrolyzate; ribosomal	[6]
IAE	ACE inhibitor	freshwater algae	*Chlorella vulgaris* Beijerinck	34.7	3	Whole protein hydrolyzate; ribosomal	[12]
IAE	ACE inhibitor	freshwater algae	*Chlorella vulgaris* Beijerinck	/	3	Whole protein hydrolyzate; ribosomal	[11]
IFG	ACE inhibitor	marine Pisces	*Thunnus thynnus* Linnaeus	1001	3	Whole protein hydrolyzate; ribosomal	[8]
IKK	antioxidative	marine Crustacea	*Penaeus japonicus* Spence Bate	/	3	Whole protein hydrolyzate; ribosomal	[13]
IKL	antioxidative	marine Pisces	*Katsuwonus pelamis* Linnaeus	/	3	Whole protein hydrolyzate; ribosomal	[7]
IKP	ACE inhibitor	marine Pisces	*Katsuwonus pelamis* Linnaeus	6.9	3	Whole protein hydrolyzate; ribosomal	[14]
IYK	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	177	3	Whole protein hydrolyzate; ribosomal	[8]

KAI	antioxidative	marine Pisces	*Katsuwonus pelamis* Linnaeus	/	3	Whole protein hydrolyzate; ribosomal	[7]
KFY	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	45	3	Whole protein hydrolyzate; ribosomal	[8]
KVI	antioxidative	marine Pisces	*Katsuwonus pelamis* Linnaeus	/	3	Whole protein hydrolyzate; ribosomal	[7]
KYY	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	79	3	Whole protein hydrolyzate; ribosomal	[8]
LDY	ACE inhibitor	marine algae	*Palmaria palmata* (Linnaeus) F.Weber & D.Mohr	6.1	3	Whole protein hydrolyzate; ribosomal	[16]
LDY	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	3	Whole protein hydrolyzate; ribosomal	[1]
LEQ	ACE inhibitor	marine algae	*Nannochloropsis oculata* (Droop) D.J.Hibberd	173	3	Whole protein hydrolyzate; ribosomal	[17]
LGP	ACE inhibitor	marine Pisces	*Pollachius pollachius* Linnaeus	0.72	3	Whole protein hydrolyzate; ribosomal	[5]
LHY	antioxidative	marine Pisces	*Sardinella aurita* Valenciennes	/	3	Whole protein hydrolyzate; ribosomal	[15]
LKL	ACE inhibitor	marine Pisces	*Sardina pilchardus* Walbaum	188	3	Whole protein hydrolyzate; ribosomal	[18]
LPG	ACE inhibitor	marine Pisces	*Pollachius pollachius* Linnaeus	5.73	3	Whole protein hydrolyzate; ribosomal	[5]

LRY	ACE inhibitor	marine algae	*Pyropia yezoensis* (Ueda) M.S.Hwang & H.G.Choi	5.1	3	Whole protein hydrolyzate; ribosomal	[8]
LRY	ACE inhibitor	marine algae	*Palmaria palmata* (Linnaeus) F.Weber & D.Mohr	0.04	3	Whole protein hydrolyzate; ribosomal	[16]
LTF	ACE inhibitor	marine Pisces	*Thunnus thynnus* Linnaeus	330	3	Whole protein hydrolyzate; ribosomal	[8]
LVE	ACE inhibitor	marine Bivalvia	*Pinctada fucata* Gould	14.2	3	Whole protein hydrolyzate; ribosomal	[19]
MKY	ACE inhibitor	marine algae	*Pyropia yezoensis* (Ueda) M.S.Hwang & H.G.Choi	7.3	3	Whole protein hydrolyzate; ribosomal	[8]
NHK	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	3	Whole protein hydrolyzate; ribosomal	[1]
NKL	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	88	3	Whole protein hydrolyzate; ribosomal	[8]
PGL	ACE inhibitor	marine Pisces	*Pollachius pollachius* Linnaeus	13.93	3	Whole protein hydrolyzate; ribosomal	[5]
PLG	ACE inhibitor	marine Pisces	*Pollachius pollachius* Linnaeus	4.74	3	Whole protein hydrolyzate; ribosomal	[5]
RFH	ACE inhibitor	marine Pisces	*Pollachius pollachius* Linnaeus	331	3	Whole protein hydrolyzate; ribosomal	[6]
TDY	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	3	Whole protein hydrolyzate; ribosomal	[1]

VKL	antioxidative	marine Pisces	*Katsuwonus pelamis* Linnaeus	/	3	Whole protein hydrolyzate; ribosomal	[7]
VKV	antioxidative	marine Pisces	*Katsuwonus pelamis* Linnaeus	/	3	Whole protein hydrolyzate; ribosomal	[7]
YKY	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	43.5	3	Whole protein hydrolyzate; ribosomal	[8]
YNK	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	125	3	Whole protein hydrolyzate; ribosomal	[8]
AEVG	antioxidative	marine Pisces	*Mustelus griseus* Pietschmann	/	4	Whole protein hydrolyzate; ribosomal	[20]
AGSP	ACE inhibitor	marine Cephalopoda	*Sepia officinalis* Linnaeus	37.2	4	Whole protein hydrolyzate; ribosomal	[21]
AGSS	ACE inhibitor	marine Cephalopoda	*Sepia officinalis* Linnaeus	672.1	4	Whole protein hydrolyzate; ribosomal	[21]
AIYK	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	810	4	Whole protein hydrolyzate; ribosomal	[8]
FIKK	antioxidative	marine Crustacea	*Penaeus japonicus* Spence Bate	/	4	Whole protein hydrolyzate; ribosomal	[13]
GAWA	antioxidative	marine Pisces	*Sardinella aurita* Valenciennes	/	4	Whole protein hydrolyzate; ribosomal	[15]
GDAP	ACE inhibitor	marine Cephalopoda	*Sepia officinalis* Linnaeus	22.5	4	Whole protein hydrolyzate; ribosomal	[21]

GWAP	ACE inhibitor	marine Pisces	*Sardinella aurita* Valenciennes	3.86	4	Whole protein hydrolyzate; ribosomal	[15]
IAPG	ACE inhibitor	freshwater algae	*Chlorella vulgaris* Beijerinck	11.4	4	Whole protein hydrolyzate; ribosomal	[12]
IAPG	ACE inhibitor	marine algae	*Arthrospira platensis* Gomont	11.4	4	Whole protein hydrolyzate; ribosomal	[12]
IAPG	ACE inhibitor	freshwater algae	*Chlorella vulgaris* Beijerinck	11.4	4	Whole protein hydrolyzate; ribosomal	[22]
ILAP	antidiabetic	marine algae	*Palmaria palmata* (Linnaeus) F.Weber & D.Mohr	43.46	4	Whole protein hydrolyzate; ribosomal	[23]
IVVE	ACE inhibitor	freshwater algae	*Chlorella vulgaris* Beijerinck	315.3	4	Whole protein hydrolyzate; ribosomal	[22]
KFYG	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	610	4	Whole protein hydrolyzate; ribosomal	[8]
KFYG	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	21	4	Whole protein hydrolyzate; ribosomal	[24]
LARL	antioxidative	marine Pisces	*Sardinella aurita* Valenciennes	/	4	Whole protein hydrolyzate; ribosomal	[15]
LLAP	antidiabetic	marine algae	*Palmaria palmata* (Linnaeus) F.Weber & D.Mohr	53.67	4	Whole protein hydrolyzate; ribosomal	[16]
LVSK	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	4	Whole protein hydrolyzate; ribosomal	[1]

MEMK	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	4	Whole protein hydrolyzate; ribosomal	[1]
MPDW	immunomodulating	marine algae	*Nannochloropsis oculata* (Droop) D.J.Hibberd	/	4	Whole protein hydrolyzate; ribosomal	[25]
NIGK	antithrombotic	marine algae	*Palmaria palmata* (Linnaeus) F.Weber & D.Mohr	/	4	Whole protein hydrolyzate; ribosomal	[7]
PAGE	antioxidative	marine Pisces	*Thunnus thynnus* Linnaeus	/	4	Whole protein hydrolyzate; ribosomal	[26]
PHYL	antioxidative	marine Pisces	*Sardinella aurita* Valenciennes	/	4	Whole protein hydrolyzate; ribosomal	[15]
PKAV	antioxidative	marine Pisces	*Katsuwonus pelamis* Linnaeus	/	4	Whole protein hydrolyzate; ribosomal	[7]
VDYP	antioxidative	marine Pisces	*Thunnus albacares* Bonnaterre	/	4	Whole protein hydrolyzate; ribosomal	[26]
VEGY	ACE inhibitor	freshwater algae	*Chlorella vulgaris* Beijerinck	128.4	4	Whole protein hydrolyzate; ribosomal	[22]
VGEY	ACE inhibitor	freshwater algae	*Chlorella ellipsoidea* Gerneck	128.4	4	Whole protein hydrolyzate; ribosomal	[11]
VVKL	antioxidative	marine Pisces	*Katsuwonus pelamis* Linnaeus	/	4	Whole protein hydrolyzate; ribosomal	[7]
VWIG	ACE inhibitor	marine Pisces	*Thunnus thynnus* Linnaeus	110	4	Whole protein hydrolyzate; ribosomal	[12]

YKYY	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	64.2	4	Whole protein hydrolyzate; ribosomal	[8]
YKYY	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	90.5	4	Whole protein hydrolyzate; ribosomal	[24]
YNKL	ACE inhibitor	marine algae	*Undaria pinnatifida* (Harvey) Suringar	64.2	4	Whole protein hydrolyzate; ribosomal	[24]
YRPY	ACE inhibitor	marine Pisces	*Pollachius pollachius* Linnaeus	320	4	Whole protein hydrolyzate; ribosomal	[8]
ALPHA	ACE inhibitor	marine Pisces	*Katsuwonus pelamis* Linnaeus	10	5	Whole protein hydrolyzate; ribosomal	[14]
ALSAF	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	5	Whole protein hydrolyzate; ribosomal	[1]
BELYP	ACE inhibitor	marine Cephalopoda	*Sepia officinalis* Linnaeus	5.22	5	Whole protein hydrolyzate; ribosomal	[21]
FDEQE	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	5	Whole protein hydrolyzate; ribosomal	[1]
FGHPY	antioxidative	marine Bivalvia	*Mytilus edulis* Linnaeus	/	5	Whole protein hydrolyzate; ribosomal	[27]
FQPSF	ACE inhibitor	marine Pisces	*Raja clavata* Linnaeus	12.56	5	Whole protein hydrolyzate; ribosomal	[27/28]
FVAGK	antioxidative	marine Pisces	*Katsuwonus pelamis* Linnaeus	/	5	Whole protein hydrolyzate; ribosomal	[7]

GAERP	antioxidative	marine Pisces	*Mustelus griseus* Pietschmann	/	5	Whole protein hydrolyzate; ribosomal	[20]
IITNW	ACE inhibitor	marine Pisces	*Raja clavata* Linnaeus	30.96	5	Whole protein hydrolyzate; ribosomal	[28]
IWHHT	ACE inhibitor	marine Pisces	*Katsuwonus pelamis* Linnaeus	5.8	5	Whole protein hydrolyzate; ribosomal	[14]
IYEGY	ACE inhibitor	marine Pisces	*Raja clavata* Linnaeus	79.42	5	Whole protein hydrolyzate; ribosomal	[28]
LKYPI	ACE inhibitor	marine Pisces	*Raja clavata* Linnaeus	27.07	5	Whole protein hydrolyzate; ribosomal	[28]
LYEGY	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	5	Whole protein hydrolyzate; ribosomal	[1]
MILMR	antioxidative	marine Pisces	*Larimichthys crocea* Richardson	/	5	Whole protein hydrolyzate; ribosomal	[29]
MMLDF	immunomodulating	marine algae	*Limnospira maxima* (Setchell & N.L.Gardner) Nowicka-Krawczyk, Mühlsteinová & Hauer	/	5	Whole protein hydrolyzate; ribosomal	[30]
MMLDF	ACE inhibitor	marine algae	*Limnospira maxima* (Setchell & N.L.Gardner) Nowicka-Krawczyk, Mühlsteinová & Hauer	/	5	Whole protein hydrolyzate; ribosomal	[30]

TEFTK	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	5	Whole protein hydrolyzate; ribosomal	[1]
TERGY	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	5	Whole protein hydrolyzate; ribosomal	[1]
TLKYP	ACE inhibitor	marine Pisces	*Raja clavata* Linnaeus	170	5	Whole protein hydrolyzate; ribosomal	[28]
VLYEE	antioxidative	marine Pisces	*Larimichthys crocea* Richardson	/	5	Whole protein hydrolyzate; ribosomal	[29]
VPSGK	antioxidative	marine Pisces	*Katsuwonus pelamis* Linnaeus	/	5	Whole protein hydrolyzate; ribosomal	[7]
VVPPA	ACE inhibitor	freshwater algae	*Chlorella vulgaris* Beijerinck	79.5	5	Whole protein hydrolyzate; ribosomal	[22]
YLMSR	antioxidative	marine Pisces	*Larimichthys crocea* Richardson	/	5	Whole protein hydrolyzate; ribosomal	[29]
DYGLYP	ACE inhibitor	marine Pisces	*Katsuwonus pelamis* Linnaeus	62	6	Whole protein hydrolyzate; ribosomal	[14]
ESAGIH	ACE inhibitor	marine Pisces	*Raja clavata* Linnaeus	371.6	6	Whole protein hydrolyzate; ribosomal	[28]
FHNMEK	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	6	Whole protein hydrolyzate; ribosomal	[1]
GALAAH	antioxidative	marine Pisces	*Sardinella aurita* Valenciennes	/	6	Whole protein hydrolyzate; ribosomal	[15]

GVYPHK	ACE inhibitor	marine Pisces	*Katsuwonus pelamis* Linnaeus	/	6	Whole protein hydrolyzate; ribosomal	[31]
HMPVTK	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	6	Whole protein hydrolyzate; ribosomal	[1]
IKPLNY	ACE inhibitor	marine Pisces	*Katsuwonus pelamis* Linnaeus	43	6	Whole protein hydrolyzate; ribosomal	[14]
IVGRPR	ACE inhibitor	marine Pisces	*Raja clavata* Linnaeus	1000	6	Whole protein hydrolyzate; ribosomal	[28]
KNGDGY	ACE inhibitor	marine Cephalopoda	*Sepia officinalis* Linnaeus	51.63	6	Whole protein hydrolyzate; ribosomal	[32]
LDAVNR	immunomodulating	marine algae	*Limnospira maxima* (Setchell & N.L.Gardner) Nowicka-Krawczyk, Mühlsteinová & Hauer	/	6	Whole protein hydrolyzate; ribosomal	[30]
LDAVNR	ACE inhibitor	marine algae	*Limnospira maxima* (Setchell & N.L.Gardner) Nowicka-Krawczyk, Mühlsteinová & Hauer	/	6	Whole protein hydrolyzate; ribosomal	[30]
LNGDVW	antioxidative	freshwater algae	*Chlorella ellipsoidea* Gerneck	/	6	Whole protein hydrolyzate; ribosomal	[11]
LPHSGY	antioxidative	marine Pisces	*Gadus chalcogrammus* Pallas	/	6	Whole protein hydrolyzate; ribosomal	[33]

PHHADS	antioxidative	marine Pisces	*Thunnus albacares* Bonnaterre	/	6	Whole protein hydrolyzate; ribosomal	[26]
PKAVHE	antioxidative	marine Pisces	*Thunnus albacares* Bonnaterre	/	6	Whole protein hydrolyzate; ribosomal	[26]
RSIKGF	ACE inhibitor	marine Cephalopoda	*Sepia officinalis* Linnaeus	32.74	6	Whole protein hydrolyzate; ribosomal	[32]
STHGVY	ACE inhibitor	marine Cephalopoda	*Sepia officinalis* Linnaeus	19.3	6	Whole protein hydrolyzate; ribosomal	[32]
WDDMEK	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	6	Whole protein hydrolyzate; ribosomal	[1]
YALPHA	ACE inhibitor	marine Cephalopoda	*Todarodes pacificus* Steenstrup	9.8	6	Whole protein hydrolyzate; ribosomal	[34]
ASFSPWG	immunomodulatory	marine Crustacea	*Penaeus vannamei* Boone	/	6	Whole protein hydrolyzate; ribosomal	[35]
DMIPAQK	ACE inhibitor	marine Pisces	*Katsuwonus pelamis* Linnaeus	45	7	Whole protein hydrolyzate; ribosomal	[14]
EKSYELP	ACE inhibitor	marine Cephalopoda	*Sepia officinalis* Linnaeus	14.41	7	Whole protein hydrolyzate; ribosomal	[32]
FEQDWAS	ACE inhibitor	marine algae	*Palmaria palmata* (Linnaeus) F.Weber & D.Mohr	2.8	7	Whole protein hydrolyzate; ribosomal	[16]
GIHETTY	ACE inhibitor	marine Cephalopoda	*Sepia officinalis* Linnaeus	25.66	7	Whole protein hydrolyzate; ribosomal	[32]

GMNNLTP	ACE inhibitor	marine algae	*Nannochloropsis oculata* (Droop) D.J.Hibberd	123	7	Whole protein hydrolyzate; ribosomal	[17]
GWNQWFL	antioxidative	marine algae	*Navicula salinicola* Hustedt	/	7	Whole protein hydrolyzate; ribosomal	[36]
GYALPHA	ACE inhibitor	marine Cephalopoda	*Todarodes pacificus* Steenstrup	27.3	7	Whole protein hydrolyzate; ribosomal	[34]
HFGDPFH	antioxidative	marine Bivalvia	*Mytilus edulis* Linnaeus	/	7	Whole protein hydrolyzate; ribosomal	[37]
HGPLGPL	antioxidative	marine Pisces	*Johnius belangerii* Cuvier	/	7	Whole protein hydrolyzate; ribosomal	[38]
LGPLGHQ	ACE inhibitor	marine Pisces	*Okamejei kenojei* Müller & Henle	4.22	7	Whole protein hydrolyzate; ribosomal	[39]
MAGVDHI	antidiabetic	marine algae	*Palmaria palmata* (Linnaeus) F.Weber & D.Mohr	159.37	7	Whole protein hydrolyzate; ribosomal	[23]
NGLEGLK	antioxidative	marine Cephalopoda	*Dosidicus gigas* d'Orbigny	/	7	Whole protein hydrolyzate; ribosomal	[37]
PMDYMVT	antioxidative	marine Pisces	*Thunnus tonggol* Bleeker	/	7	Whole protein hydrolyzate; ribosomal	[40]
PMDYMVT	immunomodulating	marine Pisces	*Thunnus tonggol* Bleeker	/	7	Whole protein hydrolyzate; ribosomal	[40]
SHDAHPE	antioxidative	marine Pisces	*Thunnus albacares* Bonnaterre	/	7	Whole protein hydrolyzate; ribosomal	[26]

VDHDHPE	antioxidative	marine Pisces	*Thunnus albacares* Bonnaterre	/	7	Whole protein hydrolyzate; ribosomal	[26]
VPAAPPK	ACE inhibitor	marine Pisces	*Channa striata* Bloch	0.45	7	Whole protein hydrolyzate; ribosomal	[41]
WPRGYFL	ACE inhibitor	freshwater algae	*Tetradesmus obliquus* (Turpin) M.J.Wynne	/	7	Whole protein hydrolyzate; ribosomal	[42]
WPRGYFL	antioxidative	freshwater algae	*Tetradesmus obliquus* (Turpin) M.J.Wynne	/	7	Whole protein hydrolyzate; ribosomal	[42]
AFVGYVLP	ACE inhibitor	marine Cephalopoda	*Sepia officinalis* Linnaeus	18.02	8	Whole protein hydrolyzate; ribosomal	[32]
ASFSPWGG	immunomodulatory	marine Crustacea	*Penaeus vannamei* Boone	/	8	Whole protein hydrolyzate; ribosomal	[35]
FGASTRGA	ACE inhibitor	marine Pisces	*Gadus chalcogrammus* Pallas	14.7	8	Whole protein hydrolyzate; ribosomal	[43]
GEREANVM	antioxidative	marine Pisces	*Mustelus griseus* Pietschmann	/	8	Whole protein hydrolyzate; ribosomal	[20]
LQPGQGQQ	antioxidative	marine Pisces	*Sardina pilchardus* Walbaum	/	8	Whole protein hydrolyzate; ribosomal	[44]
NGTWFEPP	ACE inhibitor	marine Pisces	*Channa striata* Bloch	0.63	8	Whole protein hydrolyzate; ribosomal	[41]
PSHDAHPE	antioxidative	marine Pisces	*Thunnus albacares* Bonnaterre	/	8	Whole protein hydrolyzate; ribosomal	[26]

PTHIKWGD	ACE inhibitor	marine Pisces	*Thunnus thynnus* Linnaeus	1.5	8	Whole protein hydrolyzate; ribosomal	[45], [46]
SFHPYFSY	ACE inhibitor	marine Cephalopoda	*Sepia officinalis* Linnaeus	82.71	8	Whole protein hydrolyzate; ribosomal	[32]
VEGKSPNV	antioxidative	marine Pisces	*Scorpaena notata* Rafinesque	/	8	Whole protein hydrolyzate; ribosomal	[3]
VEGKSPNV	ACE inhibitor	marine Pisces	*Scorpaena notata* Rafinesque	/	8	Whole protein hydrolyzate; ribosomal	[3]
WHNVSGSP	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	8	Whole protein hydrolyzate; ribosomal	[1]
YSEMPPGK	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	8	Whole protein hydrolyzate; ribosomal	[1]
YWVTSGPK	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	8	Whole protein hydrolyzate; ribosomal	[1]
APSGFLGMR	immunomodulatory	marine Crustacea	*Penaeus vannamei* Boone	/	9	Whole protein hydrolyzate; ribosomal	[35]
FDSGPAGVL	antioxidative	marine Cephalopoda	*Dosidicus gigas* d'Orbigny	/	9	Whole protein hydrolyzate; ribosomal	[47]
GQKSVPEVR	antioxidative	marine Pisces	*Scorpaena notata* Rafinesque	/	9	Whole protein hydrolyzate; ribosomal	[3]
GQKSVPEVR	ACE inhibitor	marine Pisces	*Scorpaena notata* Rafinesque	/	9	Whole protein hydrolyzate; ribosomal	[3]

IVGRPRHQG	ACE inhibitor	marine Pisces	*Katsuwonus pelamis* Linnaeus	2.4	9	Whole protein hydrolyzate; ribosomal	[14]
LGLNGDDVN	antioxidative	marine Pisces	*Conger myriaster* Brevoort	/	9	Whole protein hydrolyzate; ribosomal	[48]
LPTSEAAKY	antioxidative	marine Pisces	*Thunnus tonggol* Bleeker	/	9	Whole protein hydrolyzate; ribosomal	[40]
LPTSEAAKY	immunomodulating	marine Pisces	*Thunnus tonggol* Bleeker	/	9	Whole protein hydrolyzate; ribosomal	[40]
MIFPGGPQL	ACE inhibitor	marine Pisces	*Limanda aspera* Pallas	22.3	9	Whole protein hydrolyzate; ribosomal	[49]
MVGSAPGVL	ACE inhibitor	marine Pisces	*Okamejei kenojei* Müller & Henle	3.09	9	Whole protein hydrolyzate; ribosomal	[39]
PGPLGLTGP	ACE inhibitor	marine Pisces	*Okamejei kenojei* Müller & Henle	95	9	Whole protein hydrolyzate; ribosomal	[50]
VAMVPPFET	antioxidative	marine Bivalvia	*Mactra quadrangularis* Reeve	/	9	Whole protein hydrolyzate; ribosomal	[1]
VEVLPPAEL	antioxidative	marine algae	*Navicula salinicola* Hustedt	/	9	Whole protein hydrolyzate; ribosomal	[36]
APSGFLGMRG	immunomodulatory	marine Crustacea	*Penaeus vannamei* Boone	/	10	Whole protein hydrolyzate; ribosomal	[35]
DLGLGLPGAH	antioxidative	marine animal (Rotifera)	*Brachionus rotundiformis* Tschugunoff	/	10	Whole protein hydrolyzate; ribosomal	[51]

LLGPGLTNHA	antioxidative	marine animal (Rotifera)	*Brachionus rotundiformis* Tschugunoff	/	10	Whole protein hydrolyzate; ribosomal	[51]
PTAEGVYMVT	immunomodulating	marine Pisces	*Thunnus tonggol* Bleeker	8.8	10	Whole protein hydrolyzate; ribosomal	[52]
RPDFDLEPPY	antioxidative	marine Pisces	*Limanda aspera* Pallas	/	10	Whole protein hydrolyzate; ribosomal	[53]
WYGPDRPKFL	ACE inhibitor	freshwater algae	*Tetradesmus obliquus* (Turpin) M.J.Wynne	/	10	Whole protein hydrolyzate; ribosomal	[42]
WYGPDRPKFL	antioxidative	freshwater algae	*Tetradesmus obliquus* (Turpin) M.J.Wynne	/	10	Whole protein hydrolyzate; ribosomal	[42]
GPDRPKFLGPF	ACE inhibitor	freshwater algae	*Tetradesmus obliquus* (Turpin) M.J.Wynne	/	11	Whole protein hydrolyzate; ribosomal	[42]
GPDRPKFLGPF	antioxidative	freshwater algae	*Tetradesmus obliquus* (Turpin) M.J.Wynne	/	11	Whole protein hydrolyzate; ribosomal	[42]
LNLPTAVYMVT	antioxidative	marine Pisces	*Thunnus obesus* Lowe	/	11	Whole protein hydrolyzate; ribosomal	[54]
MIFPGAGGPEL	ACE inhibitor	marine Pisces	*Limanda aspera* Pallas	0.03	11	Whole protein hydrolyzate; ribosomal	[12]
VECYGPNRPQF	antioxidative	freshwater algae	*Chlorella vulgaris* Beijerinck	/	11	Whole protein hydrolyzate; ribosomal	[55]
VECYGPNRPQF	immunomodulating	freshwater algae	*Chlorella vulgaris* Beijerinck	/	11	Whole protein hydrolyzate; ribosomal	[55]

VECYGPNRPQF	antithrombotic	freshwater algae	*Chlorella vulgaris* Beijerinck	/	11	Whole protein hydrolyzate; ribosomal	[55]
VECYGPNRPQF	ACE inhibitor	freshwater algae	*Chlorella vulgaris* Beijerinck	29.6	11	Whole protein hydrolyzate; ribosomal	[55]
NGPLQAGQPGER	antioxidative	marine Cephalopoda	*Dosidicus gigas* d'Orbigny	/	12	Whole protein hydrolyzate; ribosomal	[47]
QQPHSRKGFPGP	antioxidative	marine Pisces	*Scorpaena notata* Rafinesque	/	12	Whole protein hydrolyzate; ribosomal	[3]
QQPHSRKGFPGP	ACE inhibitor	marine Pisces	*Scorpaena notata* Rafinesque	/	12	Whole protein hydrolyzate; ribosomal	[3]
SPGSSGPQGFTG	antidiabetic	marine Pisces	*Hippoglossus stenolepis* Schmidt	101.6	12	Whole protein hydrolyzate; ribosomal	[56]
CAYQWQRPVDRIR	antidiabetic	marine Pisces	*Thunnus albacares* Bonnaterre	78	13	Whole protein hydrolyzate; ribosomal	[57]
IPGDPGPPGPPGP	antidiabetic	marine Pisces	*Oreochromis niloticus* Linnaeus	65.4	13	Whole protein hydrolyzate; ribosomal	[56]
IRLIIVLMPILMA	ACE inhibitor	marine algae	*Palmaria palmata* (Linnaeus) F.Weber & D.Mohr	3300	13	Whole protein hydrolyzate; ribosomal	[58]
IRLIIVLMPILMA	antioxidative	marine algae	*Palmaria palmata* (Linnaeus) F.Weber & D.Mohr	/	13	Whole protein hydrolyzate; ribosomal	[58]
LKQELEDLLEKQE	antioxidative	marine Bivalvia	*Crassostrea gigas* Thunberg	/	13	Whole protein hydrolyzate; ribosomal	[59]

LPGERGRPGAPGP	antidiabetic	marine Pisces	*Oreochromis niloticus* Linnaeus	76.8	13	Whole protein hydrolyzate; ribosomal	[56]
NADFGLNGLEGLA	antioxidative	marine Cephalopoda	*Dosidicus gigas* d'Orbigny	/	13	Whole protein hydrolyzate; ribosomal	[60]
PACGGFWISGRPG	antidiabetic	marine Pisces	*Thunnus albacares* Bonnaterre	96.4	13	Whole protein hydrolyzate; ribosomal	[57]
VKAGFAWTANQQLS	antioxidative	marine Pisces	*Thunnus albacares* Bonnaterre	/	14	Whole protein hydrolyzate; ribosomal	[61]
GPLGLLGFLGPLGLS	antioxidative	marine Cephalopoda	*Dosidicus gigas* d'Orbigny	/	15	Whole protein hydrolyzate; ribosomal	[62]
GPLGLLGFLGPLGLS	ACE inhibitor	marine Cephalopoda	*Dosidicus gigas* d'Orbigny	90.03	15	Whole protein hydrolyzate; ribosomal	[62]
GPVGPAGNPGANGLN	antidiabetic	marine Pisces	*Hippoglossus stenolepis* Schmidt	81.3	15	Whole protein hydrolyzate; ribosomal	[56]
PGVGGPLGPIGPCYE	antidiabetic	marine Pisces	*Thunnus albacares* Bonnaterre	116.1	15	Whole protein hydrolyzate; ribosomal	[57]
RVAPEEHPVEGRYLV	immunomodulating	marine Bivalvia	*Cyclina sinensis* Gmelin	/	15	Whole protein hydrolyzate; ribosomal	[63]
TDGSEDYGILEIDSR	antithrombotic	marine Pisces	*Limanda aspera* Pallas	/	15	Whole protein hydrolyzate; ribosomal	[64]
ESTVPERTHPACPDFN	antioxidative	marine Pisces	*Johnius belangerii* Cuvier	/	16	Whole protein hydrolyzate; ribosomal	[65]

GPKGDRGLPGPPGRDG	antidiabetic	marine Pisces	*Oreochromis niloticus* Linnaeus	89.6	16	Whole protein hydrolyzate; ribosomal	[56]
PPGPTGPRGQPGNIGF	antidiabetic	marine Pisces	*Hippoglossus stenolepis* Schmidt	146.7	16	Whole protein hydrolyzate; ribosomal	[56]
KWCFRVCYRGICYRRCR	immunomodulating	marine animal (Xiphosurida)	*Limulus* O.F. Müller	/	17	Whole protein hydrolyzate; ribosomal	[66]
RWCFRVCYRGICYRRCR	immunomodulating	marine animal (Xiphosurida)	*Limulus* O.F. Müller	/	17	Whole protein hydrolyzate; ribosomal	[66]
EADIDGDGQVNYEEFVAMMTSK	antithrombotic	marine Bivalvia	*Mytilus edulis* Linnaeus	/	22	Whole protein hydrolyzate; ribosomal	[67]
GWGSFFKKAAHVGKHVGKAALTHYLG	antimicrobial	marine Pisces	*Pseudopleuronectes americanus* Walbaum	2.5	26	Whole protein hydrolyzate; ribosomal	[68]
GWGSFFKKAAHVGKHVGKAALTHYLG	immunomodulating	marine Pisces	*Pseudopleuronectes americanus* Walbaum	2.5	26	Whole protein hydrolyzate; ribosomal	[68]
RWRSFFKKAAHRGKHVGKRARTHYLG	antimicrobial	marine Pisces	*Pseudopleuronectes americanus* Walbaum	5	26	Whole protein hydrolyzate; ribosomal	[68]
RWRSFFKKAAHRGKHVGKRARTHYLG	immunomodulating	marine Pisces	*Pseudopleuronectes americanus* Walbaum	5	26	Whole protein hydrolyzate; ribosomal	[68]
SWSSFFKKAAHSGKHVGKSASTHYLG	antimicrobial	marine Pisces	*Pseudopleuronectes americanus* Walbaum	10	26	Whole protein hydrolyzate; ribosomal	[68]
SWSSFFKKAAHSGKHVGKSASTHYLG	immunomodulating	marine Pisces	*Pseudopleuronectes americanus* Walbaum	10	26	Whole protein hydrolyzate; ribosomal	[68]

SCASRCKSRCRARRCRYYVSVRYGGFCYCRC	antimicrobial	marine Bivalvia	*Mytilus edulis* Linnaeus	/	31	Whole protein hydrolyzate; ribosomal	[69]
GFFALIPKIISSPLFKTLLSAVGSALSSSGEQE	immunomodulatory	marine Pisces	*Pardachirus pavoninus* Lacepède	/	33	Whole protein hydrolyzate; ribosomal	[66]
GFFALIPKIISSPLFKTLLSAVGSALSSSGEQE	antimicrobial	marine Pisces	*Pardachirus pavoninus* Lacepède	/	33	Whole protein hydrolyzate; ribosomal	[66]
GCASRCKAKCAGRRCKGWASASFRGRCYCKCFRC	antimicrobial	marine Bivalvia	*Mytilus edulis* Linnaeus	/	34	Whole protein hydrolyzate; ribosomal	[69]
GCASRCKAKCAGRRCKGWASASFRRRCYCKCFRC	antimicrobial	marine Bivalvia	*Mytilus edulis* Linnaeus	/	34	Whole protein hydrolyzate; ribosomal	[69]
SCASRCKGHCRARRCGYYVSVLYRGRCYCKCLRC	antimicrobial	marine Bivalvia	*Mytilus edulis* Linnaeus	/	34	Whole protein hydrolyzate; ribosomal	[69]
GFGCPNNYACHQHCKSIRGYCGGYCAGWFRLRCTCYRCG	antimicrobial	marine Bivalvia	*Mytilus edulis* Linnaeus	/	39	Whole protein hydrolyzate; ribosomal	[69]
GFGCPNNYQCHRHCKSIPGRCGGYCGGWHRLRCTCYRGC	antimicrobial	marine Bivalvia	*Mytilus edulis* Linnaeus	/	39	Whole protein hydrolyzate; ribosomal	[69]
HPHVCTSYYCSKFCGTAGCTRYGCRNLHRGKLCFCLHCSR	antimicrobial	marine Bivalvia	*Mytilus edulis* Linnaeus	/	40	Whole protein hydrolyzate; ribosomal	[69]
HSHACTSYWCGKFCGTASCTHYLCRVLHPGKMCACVHCSR	antimicrobial	marine Bivalvia	*Mytilus edulis* Linnaeus	/	40	Whole protein hydrolyzate; ribosomal	[69]

*All taxonomical identifiers and authority have been verified for the most recent accepted form in the following databases: World Register of Marine Species [http://www.marinespecies.org]; AlgaeBase [www.algaebase.org]; FishBase [www.fishbase.se]. The reported species name might differ from the one reported in the original paper. Where the species name was not available a different taxonomical indicator has been employed.

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Table S2: Brief overview of principal mechanisms behind different bioactivities and quick comparison between different bioassays used to assess these activities, with related references

Bioactivities	Main mechanism(s)	Brief comparison of bioassays	References
ACE inhibitors	Both competitive and noncompetitive inhibitors of angiotensin-converting enzyme (ACE).	*In vitro* measurement of ACE-inhibition: quick, relatively cheap, but sensitivity is affected by the type of compound used as a substrate (since type of substrate would dictate method of product detection). *In vivo* detections of changes in systolic and diastolic blood pressures: slow and highly dependent of age and hormonal status.	[1-8]
antioxidative	Scavenging of free radicals, prevention of lipid peroxidation and/or metal chelation.	Testing is usually done *in vitro,* but direct comparison between different tests' specificity and sensitivity is hampered by three factors: 1. Different tests are measuring different parameters (for example, certain tests, such as oxygen radical absorbance detect transfer of hydrogen ions, others like DPPH (1,1-diphenyl-2-picrylhydrazyl) and ABTS (2,2'-azino-bis-3ethylbenzthiazoline-6-sulfonic acid) measure transfer of electrons, β-carotene bleaching assay determine rate of lipid oxidation, etc.); 2. Due to the usage of different substrates, results of certain assays (especially DPPH and ABTS) could be expressed in different units; 3. Sensitivity of tests that measure electron transfer is also depended on polarity (for example, DPPH shows higher sensitivity and reproducibility when hydrophilic substrates are detected).	[9-16]
immunomodulating	The highest number of possible mechanisms – changes in gene expression (especially genes coding for caspases and genes coding for proteins involved in signaling transduction pathways such as MAPK and NF-kB), inhibition of cell proliferation (often through microtubule inhibition), inhibition of protein synthesis (sometimes through direct interaction with ribosome), antinflammatory effect through inhibition of monocytes binding to endothelia, regulation of cytokine levels (especially TNF), cytotoxic effect through	Both *in vitro* and *in vivo* tests are used for assessing immunomodulatory effect. In both *in vivo* and *in vitro* testing different activities are assessed with different assays (for example, cytotoxic activity *in vitro* can be assessed using staining tests, such as acid phosphatase assay, neutral red uptake assay, lactate dehydrogenase assay, etc; apoptosis can be measured by caspase assay and monitoring changes in mitochondrial transmembrane potential or DNA synthesis); cytokine release in vitro is often monitored by ELISA (enzyme-linked immunosorbant assay), etc.; *in vivo* experiments include monitoring in weight changes, changes in cytokine profiles, occurrence of swelling, measuring indexes of spleen and thymus status, monitoring hemolysin content and release of histamine, etc. Similar as with monitoring antihypertensive effect *in vivo*, immunological effect *in vivo* depends of variety of factors (age, sex, nutrition, etc.). Therefore, reproducibility of results is low.	[17-24]

	opening of voltage-gated membrane channels, etc.	Additionally, since *in vivo* experiments are done in rats, comparison of rat and human immune response is debatable.	
antidiabetic	Usually competitive inhibitors of dipeptidyl peptidase IV (DPPIV); however interaction with glucagon-like peptide (GLP) receptor and glucose-dependent insulinotropic polypeptide (*GIP*) were also reported, as well as changes in gene expression (in particular up-regulation of genes encoding glucose transporters –GLUT4).	*In vitro* tests usually include measurement of enzymatic activities of enzyme such as dipeptidyl peptidase IV, α-glucosidase, α-amylase, N-acetyl-glucosaminidase, etc. Percentage of inhibition of these enzymes is usually determined using spectrometry (due to the usage of colored substrates and forming of colored products). These methods are fast, relatively inexpensive and have relatively high reproducibility. *In vivo* assays either determine concentration of glucose in blood (with HPLC (high performance liquid chromatography) being method of choice, due to its high sensitivity and reproducibility) or formation of AGE (advanced glycosylated end products). Recently, technique that employs gold labeled monoclonal and polyclonal antibodies against AGE products is becoming popular due to low detection limit, specificity and high reproducibility of results.	[25-32]
antimicrobial	Several mechanisms are employed (often simultaneously): binding to specific compounds in bacterial membrane (for example, callinectin binds to anti-callinectin-like peptides) which results in formation of pores and cell lysis; phagocytosis as result of binding to compounds in cell wall (as in case of certain mytilins), lysis as result of changes in bacterial membrane potential (by, for example, blocking K^+ channels), inhibition of basic metabolic pathways (such as inhibition of protein and nucleic acid synthesis and oxidative phosphorylation) usually by binding to proteins crucial for these processes, inhibition of cell growth through direct targeting of bacterial membrane molecules (for example, lectins inhibit growth by binding to	Testing for antimicrobial activity is usually done *in vitro*. Two main categories of antimicrobial tests are assays measuring cell growth (like agar diffusion (inhibition zone) assay) and assays measuring cell viability (like MTT test, apoptosis assay, etc.). Inhibition zone assay is cheap, easy to perform, but gives no data about minimum inhibitory concentration (MIC) that serves as principal parameter of antimicrobial activity. This problem can be solved by so-called agar dilution methods where various concentrations of compound are incorporated into agar, allowing for calculation of MIC. MTT test assesses cell viability by measuring activity of NAD(P)H-dependent oxidoreductase enzymes. It is characterized by high sensitivity, but it is more costly and harder to perform compared to agar dilution test. Novel methods like qPCR, flow cytometry, fluorescence-based assays, etc. have good reproducibility and high sensitivity, but their high price limits their usage.	[33-43]

	mannans), inhibition of cell-cell signaling and formation of biofilms, activation of immune response (usually through activation of proinflammatory response).		
antithrombotic	Inhibition of platelet aggregation, due to inhibition of coagulation factors. This inhibition can be achieved either through formation of complexes (this is particular true for interactions with thrombin) or through enzymatic action (peptides acting like proteases and cleaving specific clotting factors in cascade). Additionally, peptides can cause depletion of Ca^{2+} ions from blood (thus interfering with signaling cascade).	Most commonly used *in vitro* assay is so-called APTT (activated partial thromboplastin time) assay that measures time necessary for a blood clot to form. Although this test is quick and easy to perform there are several issues that could affect reliability of results. First, quality of reagents and instrumentation can affect both sensitivity and reproducibility of results. Second, there is a number of interfering compounds (such as cholesterol, vitamin C, etc.) that falsely prolong clotting time. During *in vivo* tests, percentage of thrombosis inhibition is determined by firstly inducing lesions in endothelium (usually by using lasers) and then intravenously introducing bioactive peptide. Like previously stated, main problems with such *in vivo* tests are great variability between subjects, as well as difficulty of correlating results obtained with animal models with those obtained for humans.	[44-51]

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