



## Correction

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## Correction

**Article title:** Antihypertensive activity of orally consumed ACE-I inhibitory peptides

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When the article was first published online, the Table 1 was missing and Table 2 was divided into two Tables as Table 1 and Table 2.

Now, this error had been corrected and republished online as below:

**Table 1.** Peptides of specific amino acid chain length exhibiting ACE-I inhibitory activity.

Chain length	Amino acid sequence	Source	Enzyme	IC <sub>50</sub>	Molecular weight	References
Single amino acid	M	Chickpea	Alcalase	20 µg/ml	–	(Yust et al., 2003)
	Y	Salmon	Alcalase,	182.84 µM	–	(Neves et al., 2017)
	F		Alcalase + Flavourzyme	125.15 µM	–	
Dipeptide	MF	Sardine muscle	Alkaline protease	44.7 µM	–	(Matsufuji et al., 2014)
	RY			51 µM	–	
	MY			193 µM	–	
	LY			38.5 µM	–	
	YL			82 µM	–	
	IY			10.5 µM	–	
	VF			43.7 µM	–	
	KW			1.63 µM	–	
	MD	Chickpea	Alcalase	0.18 mg/ml	–	(Yust et al., 2003)
	LY	Rapeseed protein	Alcalase	0.107 mM	295.1 Da	(He, Malomo, Alashi, et al., 2013)
	TF			0.810 mM	267.3 Da	
	GW	Soybean	Fermentation	0.03 µM	–	(Nakahara et al., 2010)
	AY			0.05 µM	–	
	SY			0.07 µM	–	
	GY			0.10 µM	–	
	AF			0.19 µM	–	
	VP			0.48 µM	–	
	AI			0.69 µM	–	
	VG			1.1 µM	–	
	DG			12.3 µM	–	
	FL	Canola	Alcalase	1.33 µM	–	(Jianping Wu et al., 2008)
	FK	Sweet potato		265.43 µM	–	(W. H. Huang et al., 2011)
	LR	Sweet Potato-	Trypsin	746.4 µM	–	(G. Huang et al., 2008)
	RF	Trypsin inhibitor		392.2 µM	–	
	AF			523.5 µM	–	
	PP	Salmon	Alcalase,	1912.46 µM	–	(Neves et al., 2017)
	FF		Alcalase + Flavourzyme	59.15 µM	–	
	CF	Shark muscle	Protease	1.96 µM	–	(H. Wu et al., 2008)
	EY			2.68 µM	–	
	FE			1.45 µM	–	
Tripeptide	AP	Atlantic salmon	Alcalase, papain	60 µg/ml	186.11 Da	(Gu et al., 2011)
	VR			330 µg/ml	273.18 Da	
	MRW	Spinach rubisco		0.6 µM	–	(Ang et al., 2003)
	GHS	Rapeseed protein	Pepsin + pancreatin	520µg/ml	–	(He, Malomo, Girgih, et al., 2013)
	LVY	Sesame protein	Thermolysin	1.80 µM	–	(Nakano et al., 2006)
	LSA			7.81 µM	–	
	LQP			1.04 µM	–	
	LKY			0.78 µM	–	
	IVY			14.74 µM	–	
	VIY			4.50 µM	–	
	VNP	Rice protein	Alcalase	6.4 µM	–	(Jiawang Chen et al., 2013)
	VWP			4.5 µM	–	
	VAP	Grass carp fish	Alcalase	18.6 µM	–	(Jiawang Chen et al., 2012)
	GRP	Sardine muscle	Alkaline protease	20.0 µM	–	(Matsufuji et al., 2014)
	RFH			330 µM	–	
	AKK			3.13 µM	–	
	RVY			205.6 µM	–	
	LKA	Chicken muscle	Thermolysin	8.5µM	–	(Fujita et al., 2000)
	LKP			0.32 µM	–	
	LAP			3.5 µM	–	
	IKW			0.21 µM	–	
	MAW	Cuttlefish	Pepsin, trypsin, chymotrypsin	16.32 µM	407.2 Da	(Balti et al., 2010)
	VIF			8.7 µM	491.1 Da	
	IPP	Yoghurt	Fermentation	3.77 µM	–	(Donkor et al., 2007)
	VPP			2.61 µM	–	
	IVF	Egg	Pepsin	33.9 µM	–	(Miguel et al., 2004)
	FSL			172.9 µM	–	
	MDL	Chickpea	Alcalase	21µg/ml	–	(M. M. Yust et al., 2003)
	LAK	Broccoli		48.0 µM	–	(Dang et al., 2019)
	DLP	Soybean	Alcalase	4.8 µM	–	(J Wu et al., 2002)
	ITP	Sweet potato	–	9.5 µM	–	(Ishiguro et al., 2012)
	IIP	protein isolate		80.8 µM	–	
	GQY			52.3 µM	–	
Tetra peptide	VRL	Sweet potato tuber trypsin inhibitor	Trypsin	208.6 µM	–	(Guan Zhong Huang, Chen, et al., 2011)
	VSV	Canola	Alcalase	0.15 µM	–	(Jianping Wu et al., 2008)
	TLS	Sweet sorghum protein	Alcalase	102.1 µM	–	(Q. Wu et al., 2016)
	DLP	Soybean protein	Alcalase	4.8 µM	–	(J Wu et al., 2002)
	LPHF	Soybean	Acid proteinase	670 µM	–	(M Kuba et al., 2005)
	GWAP	Sardine muscle	Alkaline protease	3.86 µM	–	(Matsufuji et al., 2014)

(continued)

Table 1. Continued.

Chain length	Amino acid sequence	Source	Enzyme	IC <sub>50</sub>	Molecular weight	References
Pentapeptide	RALP	Rapeseed	Alcalase, proteinase, thermolysin, flavourzyme, pepsin and pancreatin	0.648 mM	445.1 Da	(He, Malomo, Alashi, et al., 2013)
	VYAP	Cuttlefish	Pepsin, trypsin, chymotrypsin	6.1 µM	448.2 Da	(Balti et al., 2010)
	MFDL	Chickpea	Alcalase	13 µg/ml	–	(M. M. Yust et al., 2003)
	MDLA			13 µg/ml	–	
	FQPS	Goat	Endo-proteinase and protease	27 µM	–	(Mirdhayati et al., 2016)
	KPLL	Chicken	Pepsin and pancreatin	11.98 µM	–	(Sangsawad et al., 2017)
	SNIP	Sweetpotato tuber	–	228.3 µM	–	(G. Huang et al., 2008)
	TYCQ	trypsin inhibitor		2.3 µM	–	
	HDHM			276.2 µM	–	
	KIEL			849.7 µM	–	
	MRWRD	Spinach rubisco	Pepsin and pancreatin	2.1 µM	–	(Ang et al., 2003)
	MLPAY	Sesame protein	–	1.58 µM	–	(Nakano et al., 2006)
	KDYRL	Mung bean protein	Alcalase	26.5 µM	–	(G. H. Li et al., 2006)
	VPLYE	Salmon biproduct	Alcalase	7.72 µM	–	(Ahn et al., 2012)
	ELFTT	Chicken	Pepsin and pancreatin	6.35	–	(Sangsawad et al., 2017)
	KAPVA	Pork skeletal muscle	Pepsin and pancreatin	46.56 µM	–	(Escudero et al., 2012)
	PTPVP			256.41 µM	–	
	VIPEL			799.24 µM	–	
	TYKEE	Yoghurt	Fermentation	12.41 µM	–	(Donkor et al., 2007)
	ARHPH			9.64 µM	–	
	SLPQN			5.29 µM	–	
	RINKK			12.05 µM	–	
	YQIGL	Egg	Pepsin	173.8 µM	–	(Miguel et al., 2004)
	SALAM			229.1 µM	–	
Hexapeptide	MDFLI	Chickpea	Alcalase	11 µg/ml	–	(Yust et al., 2003)
	GTEKC	Sweetpotato tuber	–	275.8 µM	–	(Guan Jhong Huang, Chen, et al., 2011)
	VKAGE	trypsin inhibitor	–	141.56 µM	–	
	STYQT	Sweet potato protein hydrolysate	–	300.4 µM	–	(Ishiguro et al., 2012)
	KDYRL	Mung bean protein	Alcalase	26.5 µM	–	(G. H. Li et al., 2006)
	VELYP	Cuttle fish	Pepsin, trypsin, chymotrypsin	5.22 µM	–	(Balti et al., 2010)
	HLALT	Horse mackerel	Subtilisin Pancreatic trypsin	5.11 µM	553 Da	(García-moreno et al., 2015)
	ELSAF			7.08 µM	515 Da	
	ELVGV	Small-spotted catshark	Subtilisin Pancreatic trypsin	0.51 µM	515 Da	
	VAMPF			0.44 µM	563 Da	
	FSGGE	Cutlassfish muscle	Pepsin	33 µg/ml	496.44 Da	(Kim et al., 2020)
	KLYMRP	Peanut	Alcalase	6.42 µM	808.8 Da	(Shi et al., 2014)
	LRIPVA	Spinach rubisco	Pepsin and pancreatin	0.38 µM	–	(Yoshikawa et al., 2003)
	MRWRD			2.1 µM	–	
	VTPALR	Mung bean Protein	Alcalase	82.4 µM	–	(G. H. Li et al., 2006)
	WYPAAP	Duck skin by-product	Alcalase, collagenase, flavourzyme, neutrase, papain, pepsin, protamex, trypsin, and α-chymotrypsin	137 µM	693.90 Da	(Seung-jae Lee et al., 2012)
	FQKPKR	Chicken muscle	Thermolysin	14 µM	–	(Fujita et al., 2000)
	MYPGIA	Pork skeletal muscle	Pepsin and pancreatin	641.02 µM	–	(Scudero et al., 2010)
	KRVITY			6.1 µM	–	(Muguruma et al., 2009)
	VLAQYK	Beef protein	Thermolysin, proteinase and protease type XIII	23.2 µg/ml	–	(Jang & Lee, 2005)
	YQEPVL	Yoghurt	Fermentation	6.09 µM	–	(Donkor et al., 2007)
	KPLLC	Chicken	Pepsin and pancreatin	0.37 µM	–	(Sangsawad et al., 2017)
	VTPALR	Mung bean protein	Alcalase	82.4 µM	–	(G. H. Li et al., 2006)
>Hexapeptide	LVAPAN	Small-spotted catshark	Subtilisin Pancreatic trypsin	0.90 µM	583 Da	(García-moreno et al., 2015)
	KLYMRP	Peanut	Alcalase	6.42 µM	808.8 Da	(Shi et al., 2014)
	TTMPLW	α-casein	Trypsin	12 µM	–	(Tauzin et al., 2002)
	QLLLQQ	Horse gram	Alcalase	75.0 µM	–	(Bhaskar et al., 2019)
	KRVITY	Porcine myosin	Pepsin	6.1 µM	–	(Muguruma et al., 2009)
	NAPHMR	Sea cucumber	Protamix	260.22 µM	–	(Zhong et al., 2018)
	LVLPG	Broccoli		13.5 µM	–	(Dang et al., 2019)
	EKERERQ	Pork skeletal muscle	–	552.5 µM	–	(Katayama et al., 2008)
	KRQKYDI			26.2 µM	–	
	CFCTKPC	Sweetpotato	–	1.31 µM	–	(Guan Jhong Huang, Lu, et al., 2011)
	MCEASASK	tuber defensin		75.93 µM	–	
	IMVAEAR			84.12 µM	–	
	FTDVDFIK	Sweetpotato tuber	–	0.42 µM	–	(G J Huang et al., n.d.)
	MMEPMVK	thioredoxin		1.03 µM	–	
	GVSLPEW	α-Lactalbumin	Thermolysin	30 µM	–	(Otte et al., 2007)
	YGGVSLPEW			16 µM	–	
	LKGYGGVSLPEW			83 µM	–	
	TVGMTAKF	Horse gram	Alcalase	30.3 µM	–	(Bhaskar et al., 2019)
	IPPAYTK	Broccoli	–	23.5 µM	–	(Dang et al., 2019)

(continued)

Table 1. Continued.

Chain length	Amino acid sequence	Source	Enzyme	IC <sub>50</sub>	Molecular weight	References
	LVLPGELAK			180.0 $\mu$ M	–	
	TFQGPPHGIQVER			3.4 $\mu$ M	–	
	GHITVAR	Sesame protein	–	3.60 $\mu$ M	866.0 Da	(Wang et al., 2020)
	IGGIGTVPVGR			6.97 $\mu$ M	1025.2 Da	
	HIGNILSL			36.69 $\mu$ M	866.0 Da	
	FMPGVPGPIQR			11.08 $\mu$ M	1198.4 Da	
	PNYHPSR			18.98 $\mu$ M	967.0 Da	
	AFPAGAAHW			29.0 $\mu$ M	927.0 Da	
	HIITLGR			74.65 $\mu$ M	808.9 Da	
	LAGNPAGR			148.41 $\mu$ M	754.8 Da	
	MPGVPGPIQR			54.79 $\mu$ M	1051.2 Da	
	AGALGDSVTVTR			68.49 $\mu$ M	1146.2 Da	
	INTLSGR			149.63 $\mu$ M	759.8 Da	

Table 2. Amino acid composition of sources commonly used for the production of ACE-I inhibitory peptides

Sources	Protein content (%)	A	R	D	C	E	G	H	I	L	K	M	F	P	S	T	W	Y	V	References
Plant sources (%)																				
Spinach rubisco	2	8.6	6.3	9.8	–	10.5	9.3	3.2	3.9	9.3	5.0	1.7	4.4	5.3	3.1	7.3	–	4.8	7.0	(Barbeau and Kinsella, 1988)
Rapeseed	3.1	4.4	12.2	5.0	1.7	9.7	6.0	4.4	2.8	4.6	6.6	1.1	2.2	4.5	3.8	3.2	–	1.7	4.1	(Dakowski et al., 1996)
Soybean	43.2	4.1	7.3	10.9	1.6	18.3	4.2	2.8	4.7	7.5	6.1	1.4	5.0	5.1	5.2	4.0	–	3.7	4.9	(Ljøkjel et al., 2000)
Walnut	15.6	4.9	13.3	10.1	0.21	24.0	5.2	2.8	4.1	8.7	3.0	1.4	4.4	4.2	5.1	2.2	1.3	2.0	4.9	(Sze-Tao & Sathe, 2000)
Rice protein	6.8	1.0	0.7	1.1	0.09	2.1	0.9	0.3	0.5	1.0	0.4	0.1	0.5	0.6	0.7	0.5	–	0.4	0.8	(J. G. Wu et al., 2002)
Chickpea		4.4	10.3	11.4	1.3	17.3	4.1	3.4	4.1	7.0	7.7	1.6	5.9	4.6	4.9	3.6	1.1	3.7	3.6	(Jukanti et al., 2012)
Mushroom		0.1	0.3	0.2	0.5	0.5	0.08	0.05	0.006	0.1	0.07	0.02	0.07	0.02	0.1	0.1	0.01	0.05	0.09	(Chirinang & Intarapichet, 2009)
Peanut	25.3	3.6	5.9	9.0	1.3	14.9	4.6	2.3	4.2	7.5	4.3	1.4	4.7	3.5	3.3	4.2	–	3.5	4.6	(Andersen et al., 1998)
Sesame protein		1.6	4.6	2.7	0.1	7.4	1.8	0.9	1.3	2.3	0.9	1.0	1.6	1.2	1.6	1.2	–	1.3	1.7	(Nweke, Ubi and Kunert, 2011)
Moong bean	24	3.6	6.4	8.5	0.05	12.5	3.2	2.7	3.9	7.4	6.2	1.2	5.8	3.0	3.8	2.8	0.6	3.2	4.6	(Kudre et al., 2013)
Animal sources																				
Duck skin	29	9.7	7.5	9.2	–	11.5	16.8	1.6	3.1	5.8	6.2	0.9	3.5	9.9	4.0	4.0	–	1.8	4.7	(Essary & Young, 1977)
Beef protein	22.6	7.4	0.3	0.9	–	5.7	1.9	0.6	1.1	2.2	1.3	0.8	1.3	0.8	4.5	1.4	–	trace	1.8	(Penet et al., 1983)
Salmon	20	6.5	6.6	9.9	0.9	14.3	7.4	3.0	4.4	7.7	9.2	1.8	4.3	4.6	4.6	4.9	0.9	3.5	5.0	(Wilson & Cowey, 1985)
Sardine	21	8.6	4.4	9.6	1.3	12.2	8.6	4.0	4.2	7.9	7.8	2.7	3.2	8.2	5.0	4.9	–	2.3	5.4	(Castrillón et al., 1997)
Allaska Pollack (Mole/mole)	20	7.7	8.0	6.3	1.1	8.6	14.5	2.6	4.4	7.7	4.7	2.9	4.8	5.2	7.0	5.8	–	2.5	5.4	(Bechtel & Johnson, 2004)
Chicken Breast muscle	25.9	4.9	6.4	7.8	–	11.0	3.7	4.4	4.2	6.8	7.7	2.0	2.4	1.9	3.0	3.6	–	3.5	4.5	(Straková et al., 2006)
Cuttle fish	15.5	3.7	5.3	6.6	1.4	10.2	3.9	1.3	2.8	4.9	5.4	1.8	2.6	4.9	2.8	2.8	–	2.0	2.7	(Zlatanov et al., 2006)
Grass carp		5.8	6.1	10.6	0.5	17.3	4.8	3.1	4.2	8.7	9.3	2.9	4.1	3.6	4.2	4.5	–	3.5	4.5	(T. Wu & Mao, 2008)
Goat muscle	21.4	4.9	5.4	8.6	1.	14.4	3.9	3.6	4.6	8.1	8.3	3.2	4.2	3.4	3.9	4.8	1.1	4.1	4.9	(Ivanovic et al., 2014)
Pork	18.7	5.6	7.1	9.8	–	15.4	4.2	5.3	5.3	8.6	8.6	2.9	4.4	3.7	3.9	4.7	–	3.9	5.8	(Wilkinson et al., 2014)
Animal derived																				
Egg	13.3	2.7	2.7	–	0.7	–	1.6	1.2	2.2	3.4	2.8	1.6	2.1	1.5	3.3	–	2.1	1.6	2.7	(Ali et al., 2019)
Milk casein	3.2	2.1	4.0	6.2	1.2	21.8	1.2	2.1	6.0	10.8	6.3	2.1	4.9	9.6	4.7	4.0	–	5.6	5.4	(Rafiq et al., 2016)
Whey		2.0	1.0	6.5	1.2	35.0	1.1	1.6	3.4	8.1	6.5	2.2	4.4	6.9	4.7	4.1	–	4.3	4.9	