

Supplement 2 (Tables 1-3)

Table 1 Sequences of bovine β-CN casein-derived peptides identified by LC-MS / MS						
NO.	Charge/mass ratio	Calculated mass	Sequence	Sequence literature	Potential bioactivity	ACEI IC ₅₀ (μM)
1	376.23	750.44	QPLPPTV ⁽¹⁶⁴⁻¹⁷⁰⁾	LPP	ACEI ¹	9.6
2	395.22	788.43	HQPLPPT ⁽¹⁶³⁻¹⁶⁹⁾	HQP	ACEI ¹	134.7
3	401.76	801.51	HLPLPLL ⁽¹⁴⁹⁻¹⁵⁵⁾	same	ACEI ²	34
				LPLPLL	ACEI ³ / DPP-IV Inhibitory ⁴	10.46
4	465.79	929.57	HLPLPLLQ ⁽¹⁴⁹⁻¹⁵⁶⁾	LPLPLL		
5	550.79	1099.58	VYFPGPIP ^N ⁽⁷⁴⁻⁸³⁾	same	ACEI/Antioxidant ⁵	325
				PFPGPIN	ACEI ³	12.79
				YFPGPI	Immunomodulatory/Antioxidant /anticancer/opioid ³	
				PGPIP	Immunomodulatory ⁶ / Anti- inflammatory/ACEI ⁷ / Anticancer ⁸	
6	563.81	1125.59	LPPTVMFPPQ ⁽¹⁶⁶⁻¹⁷⁵⁾	LPP	ACEI	9.6
7	597.35	1192.69	TPVVVPPFLQP ⁽⁹⁵⁻¹⁰⁵⁾	Same	ACEI ⁹	749
				FLQP	ACEI ¹⁰	68.7

				<i>VPP</i>	ACEI	9
8	603.34	1204.66	PQNIPPLTQTP ⁽⁸⁶⁻⁹⁶⁾	PQNIPPL/IPPLTQT	DPP-IV Inhibitory ^{4, 11}	
9	611.35	1220.69	<i>PVVVPPFLQPE</i> ⁽⁹⁶⁻¹⁰⁶⁾	same	Antimicrobial ¹²	
10	615.32	1228.63	LPPTVMFPPQS ⁽¹⁶⁶⁻¹⁷⁶⁾	LPP	ACEI	
11	622.83	1243.64	QPHQPLPPTVM ⁽¹⁶⁰⁻¹⁷¹⁾	LPP/HQP	ACEI	9.6/134.7
12	660.88	1319.76	<i>PVVVPPFLQPEV</i> ⁽⁹⁶⁻¹⁰⁷⁾	<i>PVVVPPFLQPE</i>	Antimicrobial ¹²	9
				VPP	ACEI ⁵	
					ACEI ¹³ /Anti-inflammatory/Antioxidant/enhance insulin signaling	
				<i>VVPP</i>	ACEI ³	258.21
				<i>VP</i>	ACEI ¹	420
13	661.88	1321.74	<i>TPVVVPPFLQPE</i> ⁽⁹⁵⁻¹⁰⁶⁾	VPP		
14	676.36	1350.71	QPLPPTVMFPPQ ⁽¹⁶⁴⁻¹⁷⁵⁾	LPP	ACEI	
15	679.42	1356.82	IPPLTQTPVVPP ⁽⁸⁹⁻¹⁰¹⁾	IPPLTQT	DPP-IV Inhibitory ⁴	
				VPP		
16	711.41	1420.80	<i>TPVVVPPFLQPEV</i> ⁽⁹⁵⁻¹⁰⁷⁾			
17	725.91	1449.79	<i>QTPVVVPPFLQPE</i> ⁽⁹⁴⁻¹⁰⁶⁾			
18	727.88	1453.74	QPLPPTVMFPPQS ⁽¹⁶⁴⁻¹⁷⁶⁾			
19	775.44	1548.87	<i>QTPVVVPPFLQPEV</i> ⁽⁹⁴⁻¹⁰⁷⁾			
20	776.43	1550.85	<i>TQTPVVVPPFLQPE</i> ⁽⁹³⁻¹⁰⁶⁾			

21	900.97	1799.92	QPHQLPPTVMFPPQS ⁽¹⁶¹⁻¹⁷⁶⁾	LPP/ HQP	ACE-inhibitory	9.6/134.7
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Table 2 Sequences of bovine α -CN -derived peptides identified by LC-MS / MS

NO.	Charge/m ass ratio	Calculate d mass	Sequence	Sequence literature	Potential bioactivity	ACEI IC ₅₀ (μ M)
1	374.23	746.43	YKVPQL ⁽¹¹⁹⁻¹²⁴⁾	same	ACEI ¹⁴	22
2	412.72	823.42	YPELFR ⁽¹⁶¹⁻¹⁶⁶⁾	YPEL	Antioxidant ¹⁵	
3	418.23	834.45	LGY ⁽¹⁰⁷⁻¹⁰⁹⁾	LGY	ACEI ¹⁶	26.1
4	453.24	904.47	VAPFPE ⁽⁴⁰⁻⁴⁵⁾	VAPFPE	Inhibition of cholesterol solubility ¹⁷	
5	460.75	919.48	PFPEVFGK ⁽⁴²⁻⁴⁹⁾	same	ACEI ¹⁸	108
6	486.26	970.49	FYPEL ⁽¹⁶⁰⁻¹⁶⁴⁾	FYPEL	ACEI/antioxidant ¹⁶	62
7	496.27	990.52	APFPEVFGK ⁽⁴¹⁻⁴⁹⁾	PFPEVFGK		
8	496.29	990.55	YLEQLLR ⁽¹⁰⁹⁻¹¹⁵⁾	YLEQLLR	Antimicrobial ¹⁹	
9	545.80	1089.59	VAPFPEVFGK ⁽⁴⁰⁻⁴⁹⁾	PFPEVFGK		
10	552.83	11103.63	LGYLEQLLR ⁽¹⁰⁷⁻¹¹⁵⁾	YLEQLLR		
11	603.31	1204.59	AYFYPEL ⁽¹⁴³⁻¹⁴⁹⁾	AYFYPEL	ACEI ²	6.58
12	619.33	1236.65	FVAPEPEVFGK ⁽³⁹⁻⁴⁹⁾			
13	631.82	1261.61	YPELFRQFY ⁽¹⁶¹⁻¹⁶⁹⁾			
14	669.35	1336.67	EDVPSE ⁽⁹⁹⁻¹⁰⁵⁾	EDVPSE	Osteoanabolic ²⁰	
15	755.87	1059.72	EPMIGVNQELAYF ⁽¹⁴⁸⁻¹⁶⁰⁾			

16	802.43	1602.84	HQGLPQEVLENL ⁽²³⁻³⁵⁾			
17	983.54	1965.04	IKHQGLPQEV ⁽²¹⁻²⁹⁾	IKHQGLPQEV	Antimicrobial ⁵	
18	1016	2029.99	PMIGVNQELAYFYPELF ⁽¹⁴⁸⁻¹⁵⁰⁾	AYFYPEL	ACEI ²	6.58
19	866.48	1730.93	KHQGLPQEVLENLL ⁽²²⁻³⁶⁾	KHQGLPQEVLEENLL	Antioxidant ²¹	

Table 3 Sequences of bovine κ -CN casein-derived peptides identified by LC-MS / MS

NO.	Charge/mass ratio	Calculated mass	Sequence	Sequence literature	Potential bioactivity	IC ₅₀ (μM)
1	356.73	711.44	AKPAAVR ⁽⁸³⁻⁸⁹⁾			
2	471.76	941.50	SPAQILQW ⁽⁹⁰⁻¹⁰²⁾			
3	488.73	975.43	YPSYGLNYY ⁽⁵⁶⁻⁶⁴⁾	YPSYGLNY	Opioid ²²	
4	634.82	1267.62	INNQFLPYPY ⁽⁷²⁻⁸¹⁾	Same	DPP-IV Inhibitory ²³	40.08
				LPYPY	ACEI ²⁴	28.9
					DPP-IV Inhibitory ²⁵	108.3
5	641.87	1281.71	SPAQILQWQVL ⁽⁹⁰⁻¹⁰⁰⁾			
6	769.45	1536.88	VRSPAQILQWQVL ⁽⁸⁸⁻¹⁰⁰⁾	VRSPAQILQWQ WQVLPNAVPA (ovis	antioxidant ²¹	
7	990.56	1979.08	SPAQILQWQVLSNTVPAK ⁽⁹⁰⁻¹⁰⁷⁾	aries)	ACEI ²⁶	10.1
8	1098.59	2195.14	YQQKPVALINNQFLPYPY ⁽⁷³⁻⁸¹⁾	INNQFLPYPY		

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