

Peptide Array, Influenza Virus A/Puerto Rico/8/1934 (H1N1) Hemagglutinin Protein

Catalog No. NR-18973

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Product Description: The 93-peptide array spans the hemagglutinin (HA) protein of the A/Puerto Rico/8/1934 (H1N1) strain of influenza virus (GenPept: ACV89502). Peptides are 13- or 17-mers, with 11 amino acid overlaps.

Lot: PF0726-1

Note: The lot numbers of the individual peptides are shown on the vial labels and in Table 1 below.

The following information applies to all peptides:

- Appearance White lyophilized powder
- Mass spectral analysis Correct MW by Electrospray Ionization
- Counter Ion Trifluoroacetate

Peptide-specific information is shown in the two tables below.

Table 1							
Peptide	Lot #	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC ^a	Peptide Content ^b
1 of 93	A0605	07/09/2010	17	1-MKANLLVLLCALAAADA-17	1701.07	pass by MS	86.5%
2 of 93	A0475	06/24/2010	17	7-VLLCALAAADADTICIG-23	1631.13	pass by MS	75.8%
3 of 93	A0815	08/02/2010	17	13-AAADADTICIGYHANN-29	1706.47	95.3%	82.5%
4 of 93	A1213	06/19/2010	17	19-TICIGYHANNSTDTVDT-35	1824.20	95.7%	77.1%
5 of 93	A1157	06/10/2010	17	25-HANNSTDTVDTVLEKNV-41	1857.00	99.7%	84.9%
6 of 93	A1158	06/10/2010	17	31-DTVDTVLEKNVTVTHSV-47	1856.60	96.2%	85.9%
7 of 93	A0644	07/14/2010	17	37-LEKNVTVTHSVNLLDS-53	1897.93	88.3%	84.2%
8 of 93	A1123	05/31/2010	17	43-VTHSVNLLDSHNGKLC-59	1865.70	98.0%	79.7%
9 of 93	A1160	06/10/2010	17	49-LLED SHNGKLCRLKGIA-65	1866.90	97.3%	79.4%
10 of 93	A1096	05/26/2010	17	55-NGKLCRLKGIAPLQLGK-71	1808.70	99.4%	75.6%
11 of 93	A1182	06/14/2010	17	61-LKGIAPLQLGKCNIAW-77	1782.20	99.4%	82.2%
12 of 93	A2096	06/09/2010	17	67-LQLGKCNIAWLLGNPE-83	1825.00	97.9%	84.3%
13 of 93	A1124	06/01/2010	17	73-NIAGWLLGNPECDPLLP-89	1820.80	95.9%	85.3%
14 of 93	A1184	06/14/2010	17	79-LGNPECDPLLPVRSWSY-95	1945.20	96.6%	82.8%
15 of 93	A1125	05/31/2010	17	85-DPLLPVRSWSYIVETPN-101	1865.40	98.3%	82.2%
16 of 93	A1126	05/31/2010	17	91-RWSYIVETPNSENGIC-107	1953.30	99.0%	76.6%
17 of 93	A1161	06/10/2010	17	97-VETPNSENGICYPGDFI-113	1854.80	97.0%	79.8%
18 of 93	A1127	05/31/2010	17	103-ENGICYPGDFIDYEELR-119	2031.40	99.8%	80.5%
19 of 93	A1162	06/10/2010	17	109-PGDFIDYEELREQLSSV-125	1997.40	99.6%	77.2%
20 of 93	A0521	06/30/2010	17	115-YEELREQLSSVSSFERF-131	2107.34	95.8%	80.3%
21 of 93	A0816	08/02/2010	17	121-QLSSVSSFERFEIFPKE-137	2031.34	90.4%	87.3%
22 of 93	A1164	06/10/2010	17	127-SFERFEIFPKESSWPNH-143	2137.20	97.9%	80.6%
23 of 93	A1147	06/08/2010	17	133-IFPKESSWPNHNTNGVT-149	1927.00	98.8%	79.1%
24 of 93	A0539	07/06/2010	17	139-SWPNHNTNGVTAACSH-155	1824.60	94.3%	88.7%

Table 1

Peptide	Lot #	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC ^a	Peptide Content ^b
25 of 93	A0511	06/29/2010	17	145-TNGVTAACSHGKSSFY-161	1758.60	93.5%	69.8%
26 of 93	A2093	07/14/2010	17	151-ACSHEGKSSFYRNLLWL-167	2011.50	98.2%	78.3%
27 of 93	A0817	08/02/2010	17	157-KSSFYRNLLWLTEKEGS-173	2059.06	96.9%	76.8%
28 of 93	A1187	06/14/2010	17	163-NLLWLTEKEGSYPKLN-179	2032.80	98.5%	84.4%
29 of 93	A1101	05/26/2010	17	169-EKEGSYPKLNKSYVNNK-185	2011.50	99.7%	87.5%
30 of 93	A1165	06/10/2010	17	175-PKLNKSYVNNKKGKVLV-191	1944.30	99.5%	73.6%
31 of 93	A1166	06/10/2010	17	181-YVNNKKGKVLVWGIHH-197	2020.50	98.1%	85.2%
32 of 93	A1167	06/10/2010	17	187-KEVLVWGIHHPPNSKE-203	1983.00	98.5%	74.9%
33 of 93	A1168	06/10/2010	17	193-WGIHHPPNSKEQQNLYQ-209	2075.70	97.3%	78.1%
34 of 93	A1169	06/10/2010	17	199-PNSKEQQNLYQENAYV-215	2038.80	99.6%	72.9%
35 of 93	A0748	07/21/2010	17	205-QNLYQENAYVSVVTSN-221	1943.33	pass by MS	89.1%
36 of 93	A1152	06/08/2010	17	211-ENAYVSVVTSNRRFT-227	2020.20	99.2%	72.3%
37 of 93	A1133	05/31/2010	17	217-VVTSNRRFTPEIAER-233	2050.50	99.3%	77.8%
38 of 93	A1170	06/10/2010	17	223-NRRFTPEIAERPVRDQ-239	2112.00	99.2%	71.5%
39 of 93	A1188	06/14/2010	17	229-EIAERPVRDQAGRMNY-245	2032.80	97.7%	70.7%
40 of 93	A1105	05/26/2010	17	235-KVRDQAGRMNYYWTLK-251	2141.70	98.7%	83.3%
41 of 93	A1171	06/10/2010	17	241-GRMNYYWTLKPGDTII-257	2040.90	97.3%	77.5%
42 of 93	A1189	06/14/2010	17	247-WTLKPGDTIIFEANGN-263	1888.80	96.7%	71.8%
43 of 93	A0496	06/28/2010	17	253-GDTIIFEANGNLIAPMY-269	1838.07	pass by MS	76.7%
44 of 93	A0497	06/25/2010	17	259-EANGNLIAPMYAFALSR-275	1838.13	98.9%	85.0%
45 of 93	A1172	06/10/2010	17	265-IAPMYAFALSRGFGSGI-281	1758.00	99.5%	73.9%
46 of 93	A1109	05/27/2010	17	271-FALSRGFGSGIITSNAS-287	1685.00	99.6%	68.2%
47 of 93	A0774	07/27/2010	17	277-FGSGIITSNASMHECNT-293	1767.73	84.6%	91.4%
48 of 93	A1149	06/08/2010	17	283-TSNASMHECNTKQCQPL-299	1862.80	99.8%	70.3%
49 of 93	A1111	05/27/2010	17	289-HECNTKQCQPLGAINSS-305	1803.00	95.9%	77.8%
50 of 93	A1173	06/10/2010	17	295-CQTPLGAINSSLPYQNI-311	1818.20	99.2%	74.3%
51 of 93	A1112	05/27/2010	17	301-AINSSLPYQNIHPVTIG-317	1823.20	99.4%	79.3%
52 of 93	A1174	06/10/2010	17	307-PYQNIHPVTIGCPKYV-323	1957.80	98.5%	84.1%
53 of 93	A1135	06/01/2010	17	313-PVTIGCPKYVRSALKR-329	1915.80	96.7%	86.3%
54 of 93	A1136	06/01/2010	17	319-CPKYVRSALKRMVTGLR-335	1976.70	98.6%	85.3%
55 of 93	A1175	06/10/2010	17	325-SALKRMVTGLRNIPSIQ-341	1884.00	97.4%	78.3%
56 of 93	A1114	05/27/2010	17	331-VTGLRNIPSIQSRGLFG-347	1814.10	98.1%	79.1%
57 of 93	A0489	06/24/2010	17	337-IPSIQSRGLFGAIGFI-353	1746.27	95.4%	78.2%
58 of 93	A0522	06/30/2010	17	343-RGLFGAIGFIEGGWTG-359	1708.80	pass by MS	81.7%
59 of 93	A0550	07/01/2010	17	349-IAGFIEGGWTGMIDGWY-365	1873.20	99.2%	76.2%
60 of 93	A1139	06/01/2010	17	355-GGWTGMIDGWYGYHHQN-371	1977.60	99.8%	71.9%
61 of 93	A1197	06/14/2010	17	361-IDGWYGYHHQNEQSGY-377	2011.50	96.1%	75.6%
62 of 93	A1140	06/01/2010	17	367-YHHQNEQSGYAADQKS-383	1920.00	99.4%	78.7%
63 of 93	A2091	06/21/2010	17	373-QGSGYAADQKSTQNAIN-389	1752.60	95.8%	77.4%
64 of 93	A1178	06/10/2010	17	379-ADQKSTQNAINGITNKV-395	1801.60	97.9%	71.3%
65 of 93	A1214	06/19/2010	17	385-QNAINGITNKVNTVIEK-401	1856.70	95.2%	77.1%
66 of 93	A0684	07/16/2010	17	391-ITNKVNTVIEKMNIQFT-407	1993.27	85.3%	87.5%
67 of 93	A0529	07/01/2010	17	397-TVIEKMNIQFTAVGKEF-413	1954.80	96.0%	79.0%

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Peptide	Lot #	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC ^a	Peptide Content ^b
68 of 93	A1151	06/09/2010	17	403-NIQFTAVGKEFNKLEKR-419	2022.30	98.1%	72.6%
69 of 93	A1117	05/27/2010	17	409-VGKEFNKLEKRMENLNK-425	2076.60	99.4%	81.3%
70 of 93	A1179	06/10/2010	17	415-KLEKRMENLNKKVDDGF-431	2064.90	98.5%	83.6%
71 of 93	A1202	06/15/2010	17	421-ENLNKKVDDGFLDIWY-437	2069.70	97.6%	79.9%
72 of 93	A2094	07/14/2010	17	427-VDDGFLDIWTYNAELLV-443	1982.40	98.2%	74.8%
73 of 93	A0530	07/01/2010	17	433-DIWTYNAELLVLENER-449	2091.86	80.1%	80.2%
74 of 93	A0775	07/27/2010	17	439-AELLVLENERLDFHD-455	2029.34	83.6%	74.6%
75 of 93	A1153	06/08/2010	17	445-LENERTLDFHDSNVKNL-461	2044.50	99.7%	74.0%
76 of 93	A1118	05/27/2010	17	451-LDFHDSNVKNLYEKVKS-467	2035.50	99.3%	71.7%
77 of 93	A1204	06/15/2010	17	457-NVKNLYEKVKSQKNNNA-473	1989.90	97.2%	71.1%
78 of 93	A1205	06/15/2010	17	463-EKVKSQKNNNAKEIGNG-479	1857.60	97.5%	71.6%
79 of 93	A1181	06/10/2010	17	469-LKNNAKEIGNGCFEFYH-485	1983.90	98.4%	75.5%
80 of 93	A1144	06/01/2010	17	475-EIGNGCFEFYHKCDNEC-491	2006.40	96.1%	71.8%
81 of 93	A0512	06/30/2010	17	481-FEFYHKCDNECMESVRN-497	2152.94	85.5%	91.9%
82 of 93	A1154	06/08/2010	17	487-CDNECMESVRNGTYDYP-503	1993.00	99.1%	76.9%
83 of 93	A1145	06/01/2010	17	493-ESVRNGTYDYPKYSEES-509	2023.20	97.7%	74.6%
84 of 93	A1146	06/01/2010	17	499-TYDYPKYSEESKLNREK-515	2149.50	95.5%	81.7%
85 of 93	A1155	06/08/2010	17	505-YSEESKLNREKVDGVKL-521	1993.20	99.5%	82.6%
86 of 93	A1206	06/15/2010	17	511-LNREKVDGVKLESMGIY-527	1950.60	98.8%	77.1%
87 of 93	A0523	06/30/2010	17	517-DGVKLESMGIYQILAIY-533	1913.07	pass by MS	79.4%
88 of 93	A0590	07/08/2010	17	523-SMGIYQILAIYSTVASS-539	1804.27	pass by MS	82.9%
89 of 93	A0591	07/08/2010	17	529-ILAIYSTVASSLVLLVS-545	1749.00	pass by MS	92.4%
90 of 93	A0531	07/07/2010	17	535-TVASSLVLLVSLGAISF-551	1676.53	pass by MS	90.7%
91 of 93	A0532	07/07/2010	17	541-VLLVSLGAISFWMCSNG-557	1796.80	pass by MS	84.2%
92 of 93	A0592	07/08/2010	17	547-GAISFWMCSNGSLQCRI-563	1871.20	pass by MS	74.8%
93 of 93	A0762	07/26/2010	13	553-MCSNGSLQCRI-565	1427.47	83.3%	88.2%

^a% full-length

^bRemainder is salt and water

Peptide		Ala (A)	Arg (R)	Asx (N,D)	Cys (C)	Glx (Q,E)	Gly (G)	His (H)	Ile (I)	Leu (L)	Lys (K)	Met (M)	Phe (F)	Pro (P)	Ser (S)	Thr (T)	Trp (W)	Tyr (Y)	Val (V)
1 of 93	Expected	6.00		2.00	1.00					5.00	1.00	1.00							1.00
	Actual	5.69		2.36	0.00 ^c					5.00	0.85	1.07							1.03
2 of 93	Expected	5.00		2.00	2.00		1.00		2.00	3.00						1.00			1.00
	Actual	4.86		2.20	0.00 ^c		0.84		1.95	2.93						1.04			1.18
3 of 93	Expected	5.00		4.00	1.00		1.00	1.00	2.00						1.00	1.00		1.00	
	Actual	5.26		4.20	0.00 ^c		0.83	1.00	1.98						0.86	0.96		0.92	
4 of 93	Expected	1.00		4.00	1.00		1.00	1.00	2.00						1.00	4.00		1.00	1.00
	Actual	0.96		4.43	0.00 ^c		0.88	1.05	1.90						0.88	3.94		0.83	1.12
5 of 93	Expected	1.00		5.00		1.00		1.00		1.00	1.00				1.00	3.00			3.00
	Actual	0.84		5.36		1.07		0.83		0.88	1.06				0.83	2.86			3.26
6 of 93	Expected			3.00		1.00		1.00		1.00	1.00				1.00	4.00			5.00
	Actual			3.29		1.03		0.87		0.86	1.04				0.85	3.69			5.37
7 of 93	Expected			3.00		2.00		1.00		3.00	1.00				2.00	2.00			3.00
	Actual			3.23		2.35		0.94		2.57	1.00				1.83	1.90			3.18

Table 2 - Amino Acid Analysis

Peptide		Ala (A)	Arg (R)	Asx (N,D)	Cys (C)	Glx (Q,E)	Gly (G)	His (H)	Ile (I)	Leu (L)	Lys (K)	Met (M)	Phe (F)	Pro (P)	Ser (S)	Thr (T)	Trp (W)	Tyr (Y)	Val (V)
8 of 93	Expected			3.00	1.00	1.00	1.00	2.00		3.00	1.00				2.00	1.00			2.00
	Actual			3.41	0.00 ^c	1.08	0.82	1.74		2.79	1.05				1.73	1.13			2.25
9 of 93	Expected	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	4.00	2.00				1.00				
	Actual	0.95	0.85	2.26	0.00 ^c	1.12	1.70	0.92	1.03	4.03	2.29				0.84				
10 of 93	Expected	1.00	1.00	1.00	1.00	1.00	3.00		1.00	4.00	3.00			1.00					
	Actual	0.94	0.84	1.17	0.00 ^c	1.14	2.59		1.02	4.00	3.37			0.93					
11 of 93	Expected	2.00		1.00	1.00	1.00	3.00		2.00	3.00	2.00			1.00				1.00	
	Actual	1.90		1.09	0.00 ^c	1.16	2.56		2.05	3.04	2.27			0.92				0.00 ^a	
12 of 93	Expected	1.00		2.00	1.00	2.00	3.00		1.00	4.00	1.00			1.00				1.00	
	Actual	0.91		2.34	0.00 ^c	2.31	2.56		0.99	3.90	1.09			0.90				0.00 ^a	
13 of 93	Expected	1.00		3.00	1.00	1.00	2.00		1.00	4.00				3.00				1.00	
	Actual	0.93		3.45	0.00 ^c	1.15	1.67		1.00	3.99				2.81				0.00 ^a	
14 of 93	Expected		1.00	2.00	1.00	1.00	1.00			3.00				3.00	2.00			1.00	1.00
	Actual		0.85	2.39	0.00 ^c	1.16	0.87			3.12				2.96	1.76			0.00 ^a	0.86
15 of 93	Expected		1.00	2.00		1.00			1.00	2.00				3.00	2.00	1.00	1.00	1.00	2.00
	Actual		0.87	2.28		1.14			0.83 ^b	2.04				2.88	1.66	1.08	0.00 ^a	1.00	2.23
16 of 93	Expected		1.00	2.00	1.00	2.00	1.00		2.00					1.00	3.00	1.00	1.00	1.00	1.00
	Actual		0.96	2.21	0.00 ^c	2.18	0.93		1.86 ^b					1.04	2.80	1.01	0.00 ^a	0.92	1.08
17 of 93	Expected			3.00	1.00	2.00	2.00		2.00				1.00	2.00	1.00	1.00		1.00	1.00
	Actual			3.37	0.00 ^c	2.10	1.80		1.63				0.85	1.99	0.96	1.17		1.01	1.12
18 of 93	Expected		1.00	3.00	1.00	3.00	2.00		2.00	1.00				1.00	1.00				2.00
	Actual		0.92	3.36	0.00 ^c	3.34	1.85		1.76	1.03				0.87	1.02				1.86
19 of 93	Expected		1.00	2.00		4.00	1.00		1.00	2.00				1.00	1.00	2.00			1.00
	Actual		0.85	2.25		4.42	0.84		0.95	2.06				0.85	0.94	1.71			0.95
20 of 93	Expected		2.00			5.00				2.00			2.00		4.00				1.00
	Actual		1.74			5.47				1.96			1.85		4.01				0.86
21 of 93	Expected		1.00			4.00			1.00	1.00	1.00			3.00	1.00	4.00			1.00
	Actual		0.84			4.26			1.10	1.12	1.20			2.89	0.92	3.69			0.98
22 of 93	Expected		1.00	1.00		3.00		1.00	1.00		1.00			3.00	2.00	3.00			1.00
	Actual		0.84	1.18		3.39		0.99	0.91		1.16			2.71	2.07	2.74			0.00 ^a
23 of 93	Expected			3.00		1.00	1.00	1.00	1.00		1.00			1.00	2.00	2.00	2.00	1.00	1.00
	Actual			3.30		1.04	0.84	0.97	0.80		1.10			0.88	1.87	1.78	2.29	0.00 ^a	1.13
24 of 93	Expected	2.00		3.00	1.00	1.00	1.00	2.00						1.00	2.00	2.00	1.00		1.00
	Actual	1.99		3.45	0.00 ^c	1.03	0.86	1.75						0.94	1.76	2.11	0.00 ^a		1.11
25 of 93	Expected	2.00		1.00	1.00	1.00	2.00	1.00			1.00			1.00		3.00	2.00		1.00
	Actual	1.98		1.12	0.00 ^c	1.17	1.77	1.03			1.18			0.93		2.76	2.04		0.86
26 of 93	Expected	1.00	1.00	1.00	1.00	1.00	1.00	1.00		3.00	1.00			1.00		3.00		1.00	1.00
	Actual	1.01	0.89	1.17	0.00 ^c	1.17	0.88	0.96		3.24	1.08			1.04		2.66		0.00 ^a	0.90
27 of 93	Expected		1.00	1.00		2.00	1.00			3.00	2.00			1.00		3.00	1.00	1.00	1.00
	Actual		0.85	1.11		2.22	0.84			3.08	2.37			1.00		2.82	0.88	0.00 ^a	0.83
28 of 93	Expected			2.00		2.00	1.00			4.00	3.00			1.00	1.00	1.00	1.00	1.00	1.00
	Actual			2.38		2.07	0.82			3.73	3.17			0.90	0.93	1.18	0.00 ^a	0.82	
29 of 93	Expected			2.00		2.00	1.00			1.00	5.00			1.00	2.00				2.00
	Actual			2.33		2.08	0.80			0.93	5.28			0.92	1.64				1.94
30 of 93	Expected			2.00		1.00	1.00			2.00	5.00			1.00	1.00				1.00
	Actual			2.26		1.08	0.88			1.61	5.50			0.95	0.93				0.83
31 of 93	Expected			1.00		1.00	2.00	2.00	1.00	2.00	3.00							1.00	1.00
	Actual			1.10		1.12	1.87	1.80	1.05	1.66	3.47							0.00 ^a	0.82
32 of 93	Expected			1.00		2.00	1.00	2.00	1.00	2.00	2.00			2.00	1.00			1.00	2.00
	Actual			1.15		2.29	1.04	1.63	0.97	1.71	2.26			2.18	1.09			0.00 ^a	1.68
33 of 93	Expected			2.00		4.00	1.00	2.00	1.00	1.00	1.00			2.00	1.00			1.00	1.00
	Actual			2.03		4.45	0.89	1.77	0.91	0.90	1.13			1.89	1.08			0.00 ^a	0.94
34 of 93	Expected	1.00		4.00		5.00				1.00	1.00			1.00	1.00				2.00
	Actual	0.95		4.36		5.29				0.90	0.98			0.90	0.93				1.69
35 of 93	Expected	1.00		4.00		3.00				1.00					2.00	1.00			2.00
	Actual	0.91		4.39		3.27				0.91					1.78	1.02			1.88

Certificate of Analysis for NR-18973

Table 2 - Amino Acid Analysis

Peptide		Ala (A)	Arg (R)	Asx (N,D)	Cys (C)	Glx (Q,E)	Gly (G)	His (H)	Ile (I)	Leu (L)	Lys (K)	Met (M)	Phe (F)	Pro (P)	Ser (S)	Thr (T)	Trp (W)	Tyr (Y)	Val (V)
36 of 93	Expected	1.00	2.00	3.00		1.00							1.00		2.00	2.00		2.00	3.00
	Actual	0.96	1.82	3.47		1.06							0.96		1.90	2.35		1.79	2.67 ^b
37 of 93	Expected	1.00	3.00	2.00		2.00			1.00				1.00	1.00	1.00	2.00		1.00	2.00
	Actual	0.91	2.67	2.29		2.32			0.88				0.93	0.99	1.16	2.29		0.94	1.63 ^b
38 of 93	Expected	1.00	4.00	2.00		3.00			1.00		1.00		1.00	2.00		1.00			1.00
	Actual	0.83	3.55	2.38		3.46			0.84		1.06		0.91	1.96		1.19			0.83
39 of 93	Expected	2.00	3.00	2.00		3.00	1.00		1.00		1.00		1.00	1.00				1.00	1.00
	Actual	1.90	2.71	2.36		3.47	0.89		0.93		1.07	0.90		0.98				0.90	0.92
40 of 93	Expected	1.00	2.00	2.00		1.00	1.00			2.00	2.00	1.00				1.00	1.00	2.00	1.00
	Actual	0.94	1.68	2.33		1.07	0.86			1.95	2.11	0.84				1.20	0.00 ^a	1.95	1.08
41 of 93	Expected		1.00	2.00			2.00		2.00	2.00	1.00	1.00		1.00		2.00	1.00	2.00	
	Actual		1.15	2.35			1.86		1.69 ^b	2.19	1.18	0.80		1.03		2.08	0.00 ^a	1.66	
42 of 93	Expected	1.00		3.00		1.00	2.00		2.00	2.00	1.00		1.00	1.00		2.00	1.00		
	Actual	1.00		3.40		1.12	1.91		1.78 ^b	1.85	1.18		0.94	1.03		1.79	0.00 ^a		
43 of 93	Expected	2.00		3.00		1.00	2.00		3.00	1.00		1.00	1.00	1.00		1.00		1.00	
	Actual	2.16		3.39		1.15	1.77		2.72 ^b	0.91		0.89	0.87	1.00		1.13		0.99	
44 of 93	Expected	4.00	1.00	2.00		1.00	1.00		1.00	2.00		1.00	1.00	1.00	1.00			1.00	
	Actual	4.11	0.87	2.32		1.17	0.91		0.98	1.97		0.83	0.96	0.97	1.00			0.91	
45 of 93	Expected	3.00	1.00				3.00		2.00	1.00		1.00	2.00	1.00	2.00			1.00	
	Actual	3.08	0.90				2.88		2.12	1.14		0.85	2.05	1.06	2.07			0.85	
46 of 93	Expected	2.00	1.00	1.00			3.00		2.00	1.00			2.00		4.00	1.00			
	Actual	2.13	0.95	1.20			2.86		1.66 ^b	0.88			2.01		4.21	1.11			
47 of 93	Expected	1.00		2.00	1.00	1.00	2.00	1.00	2.00			1.00	1.00		3.00	2.00			
	Actual	1.06		2.33	0.00 ^c	1.19	1.99	1.05	1.65 ^b			0.87	1.05		2.75	2.07			
48 of 93	Expected	1.00		2.00	2.00	2.00		1.00		1.00	1.00	1.00		1.00	2.00	3.00			
	Actual	0.89		2.08	0.00 ^c	2.07		1.02		1.00	1.09	0.85		1.02	1.81	3.16			
49 of 93	Expected	1.00		2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00			1.00	2.00	2.00			
	Actual	0.89		2.30	0.00 ^c	2.00	0.84	1.05	0.96	1.00	1.04			0.99	1.79	2.12			
50 of 93	Expected	1.00		2.00	1.00	2.00	1.00		2.00	2.00				2.00	2.00	1.00		1.00	
	Actual	0.90		2.36	0.00 ^c	2.09	1.00		1.87	1.92				1.93	1.88	1.14		0.91	
51 of 93	Expected	1.00		2.00		1.00	1.00	1.00	3.00	1.00				2.00	2.00	1.00		1.00	1.00
	Actual	0.94		2.21		1.07	0.90	0.90	2.64	1.09				2.06	2.00	1.18		0.85	1.15
52 of 93	Expected			1.00	1.00	2.00	1.00	1.00	2.00		1.00			3.00		1.00		2.00	2.00
	Actual			1.15	0.00 ^c	2.18	0.84	0.83	1.89		1.11			3.00		1.12		1.77	2.11
53 of 93	Expected	1.00	2.00			1.00	1.00	1.00	1.00	1.00	2.00			2.00	1.00	1.00		1.00	2.00
	Actual	0.97	1.65		0.00 ^c	1.05	0.86		0.82	1.01	2.28			2.05	1.17	1.00		0.85	2.27
54 of 93	Expected	1.00	3.00		1.00		1.00			2.00	2.00	1.00		1.00	1.00	1.00		1.00	2.00
	Actual	0.97	2.76		0.00 ^c		0.91			1.98	2.15	0.94		0.99	1.16	1.12		0.82	2.20
55 of 93	Expected	1.00	2.00	1.00		1.00	1.00		2.00	2.00	1.00	1.00		1.00	2.00	1.00			1.00
	Actual	0.91	1.74	1.15		1.02	0.88		2.10	1.99	1.09	0.87		0.99	2.05	1.17			1.07
56 of 93	Expected		2.00	1.00		1.00	3.00		2.00	2.00			1.00	1.00	2.00	1.00			1.00
	Actual		1.76	1.15		1.00	2.75		2.08	2.06			0.96	0.96	2.00	1.10			1.20
57 of 93	Expected	2.00	1.00			1.00	3.00		4.00	1.00			2.00	1.00	2.00				
	Actual	2.03	0.94			0.94	3.04		3.84	1.17			1.82	1.03	2.19				
58 of 93	Expected	2.00	1.00			1.00	6.00		2.00	1.00			2.00			1.00	1.00		
	Actual	2.26	0.94			1.14	5.70		1.91	1.13			1.81			1.11	0.00 ^a		
59 of 93	Expected	1.00		1.00		1.00	5.00		3.00			1.00	1.00			1.00	2.00	1.00	
	Actual	0.98		1.12		1.12	4.76		3.08			0.91	0.92			1.08	0.00 ^a	1.03	
60 of 93	Expected			2.00		1.00	5.00	2.00	1.00			1.00				1.00	2.00	2.00	
	Actual			2.31		1.04	4.63	2.02	0.89			0.91				1.19	0.00 ^a	2.00	
61 of 93	Expected			2.00		3.00	4.00	2.00	1.00						1.00		1.00	3.00	
	Actual			2.27		3.11	3.56	2.13	1.12						1.15		0.00 ^a	2.66	
62 of 93	Expected	2.00		2.00		4.00	2.00	2.00				1.00			2.00			2.00	
	Actual	1.85		2.27		4.29	1.78	2.05				1.09			2.01			1.67	
63 of 93	Expected	3.00		3.00		3.00	2.00		1.00						2.00	1.00		1.00	
	Actual	2.86		3.40		3.05	1.70		0.96						2.00	1.04		0.86	
64 of 93	Expected	2.00		4.00		2.00	1.00		2.00		2.00				1.00	2.00			1.00
	Actual	1.70		4.15		1.97	0.81		1.98		1.90				1.13	2.20			1.16

Table 2 - Amino Acid Analysis

Peptide		Ala (A)	Arg (R)	Asx (N,D)	Cys (C)	Glx (Q,E)	Gly (G)	His (H)	Ile (I)	Leu (L)	Lys (K)	Met (M)	Phe (F)	Pro (P)	Ser (S)	Thr (T)	Trp (W)	Tyr (Y)	Val (V)
65 of 93	Expected	1.00		4.00		2.00	1.00		3.00		2.00					2.00			2.00
	Actual	0.88		4.41		2.27	1.01		2.55 ^b		2.08					2.12			1.67 ^b
66 of 93	Expected			3.00		2.00			3.00		2.00	1.00	1.00			3.00			2.00
	Actual			3.29		2.19			2.83 ^b		2.26	1.01	0.92			2.62			1.88 ^b
67 of 93	Expected	1.00		1.00		3.00	1.00		2.00		2.00	1.00	2.00			2.00			2.00
	Actual	1.04		1.11		3.39	0.88		1.82 ^b		2.24	0.91	1.83			2.05			1.73 ^b
68 of 93	Expected	1.00	1.00	2.00		3.00	1.00		1.00	1.00	3.00		2.00			1.00			1.00
	Actual	0.90	0.84	2.20		3.11	0.84		0.86	1.00	3.24		1.78			1.17			1.05
69 of 93	Expected		1.00	3.00		3.00	1.00			2.00	4.00	1.00	1.00						1.00
	Actual		0.81	3.40		3.21	0.82			1.92	4.17	0.87	0.86						0.94
70 of 93	Expected		1.00	4.00		2.00	1.00			2.00	4.00	1.00	1.00						1.00
	Actual		0.81	4.36		2.11	0.85			1.90	4.12	0.88	0.87						1.11
71 of 93	Expected			5.00		1.00	1.00		1.00	2.00	2.00		1.00			1.00	1.00	1.00	1.00
	Actual			5.43		1.17	0.91		0.87	1.88	1.95		0.81			1.15	0.00 ^a	0.86	0.97
72 of 93	Expected	1.00		4.00		1.00	1.00		1.00	3.00			1.00			1.00	1.00	1.00	2.00
	Actual	0.94		4.29		1.13	0.85		0.92	2.92			0.90			1.12	0.00 ^a	0.84	2.09
73 of 93	Expected	1.00	1.00	3.00		3.00			1.00	4.00						1.00	1.00	1.00	1.00
	Actual	1.04	1.08	3.08		3.27			0.93	3.71						1.15	0.00 ^a	0.80	0.95
74 of 93	Expected	1.00	1.00	3.00		3.00		1.00		5.00			1.00			1.00			1.00
	Actual	0.94	0.83	3.39		3.40		1.11		4.74			0.91			0.85			0.83
75 of 93	Expected		1.00	5.00		2.00		1.00		3.00	1.00		1.00		1.00	1.00			1.00
	Actual		0.85	5.27		2.13		1.01		2.75	0.99		0.94		1.11	1.13			0.82
76 of 93	Expected			4.00		1.00		1.00		2.00	3.00		1.00		2.00			1.00	2.00
	Actual			4.38		1.08		0.87		2.16	2.69		0.85		2.30			0.90	1.78
77 of 93	Expected	1.00		4.00		2.00				2.00	4.00				1.00			1.00	2.00
	Actual	1.00		4.34		2.30				2.09	3.65				1.01			0.88	1.73
78 of 93	Expected	1.00		3.00		3.00	2.00		1.00	1.00	4.00				1.00				1.00
	Actual	1.01		3.02		3.25	1.80		1.00	0.99	3.82				1.11				1.00
79 of 93	Expected	1.00		3.00	1.00	2.00	2.00	1.00	1.00	1.00	2.00		2.00					1.00	
	Actual	0.95		3.42	0.00 ^c	2.15	1.73	1.12	1.02	0.91	2.10		1.75					0.86	
80 of 93	Expected			3.00	3.00	3.00	2.00	1.00	1.00		1.00		2.00					1.00	
	Actual			3.35	0.00 ^c	3.32	1.67	1.02	0.90		1.18		1.71					0.85	
81 of 93	Expected		1.00	3.00	2.00	3.00		1.00			1.00	1.00	2.00		1.00			1.00	1.00
	Actual		0.97	3.31	0.00 ^c	3.40		0.93			1.10	0.83	1.77		0.98			0.83	0.88
82 of 93	Expected	1.00	4.00	2.00	2.00	2.00	1.00					1.00		1.00	1.00	1.00		2.00	1.00
	Actual	0.89	4.14	0.00 ^c	2.22	0.92						0.84		1.06	0.95	1.10		1.90	0.99
83 of 93	Expected	1.00	2.00		3.00	1.00					1.00			1.00	3.00	1.00		3.00	1.00
	Actual	0.94	2.19		3.10	0.86					1.07			0.96	2.91	1.17		2.74	1.06
84 of 93	Expected	1.00	2.00		3.00					1.00	3.00			1.00	2.00	1.00		3.00	
	Actual	1.09	2.04		3.01					0.90	3.02			0.89	2.02	1.00		3.03	
85 of 93	Expected	1.00	2.00		3.00	1.00				2.00	3.00				2.00			1.00	2.00
	Actual	0.88	2.13		3.06	0.88				1.91	3.06				2.11			0.80	2.18
86 of 93	Expected	1.00	2.00		2.00	2.00		1.00	2.00	2.00	1.00				1.00			1.00	2.00
	Actual	0.82	2.21		2.31	1.80		0.91	1.84	2.27	0.93				1.09			0.81	2.01
87 of 93	Expected	1.00		1.00		2.00	2.00		3.00	2.00	1.00	1.00			1.00			2.00	1.00
	Actual	0.98		1.07		2.17	2.06		2.76	2.00	1.17	0.86			1.07			1.70	1.14
88 of 93	Expected	2.00				1.00	1.00		3.00	1.00		1.00			4.00	1.00		2.00	1.00
	Actual	2.24				1.00	0.85		2.53	0.90		1.16			4.26	1.05		1.80	1.19
89 of 93	Expected	2.00							2.00	4.00					4.00	1.00		1.00	3.00
	Actual	2.10							1.70	3.81					4.03	1.05		1.06	3.25
90 of 93	Expected	2.00					1.00		1.00	4.00			1.00		4.00	1.00			3.00
	Actual	2.01					0.92		0.98	4.14			0.88		3.75	1.09			3.24
91 of 93	Expected	1.00		1.00	1.00		2.00		1.00	3.00		1.00	1.00		3.00		1.00		2.00
	Actual	0.97		1.14	0.00 ^c		1.83		1.17	2.99		1.06	1.03		2.96		0.00 ^a		1.85

Peptide		Ala (A)	Arg (R)	Asx (N,D)	Cys (C)	Glx (Q,E)	Gly (G)	His (H)	Ile (I)	Leu (L)	Lys (K)	Met (M)	Phe (F)	Pro (P)	Ser (S)	Thr (T)	Trp (W)	Tyr (Y)	Val (V)
92 of 93	Expected	1.00	1.00	1.00	2.00	1.00	2.00		2.00	1.00		1.00	1.00		3.00		1.00		
	Actual	1.00	0.93	1.17	0.00 ^c	1.18	1.84		2.01	1.09		0.87	0.97		2.95		0.00 ^a		
93 of 93	Expected		1.00	1.00	3.00	1.00	1.00		2.00	1.00		1.00			2.00				
	Actual		0.95	1.17	0.00 ^c	1.19	0.91		1.97	1.13		0.88			1.80				

^aTrp was completely destroyed during hydrolysis

^bVal-Ile, Val-Val, Ile-Ile and/or Ile-Val bonds were only partially destroyed during hydrolysis

^cCys was completely destroyed during hydrolysis

Date: 10 MAR 2011

Signature: *Dorothy C. Young*

Title: Technical Manager, BEI Authentication or designee

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