

**Peptide Array, Influenza Virus A/New York/384/2005 (H3N2) Hemagglutinin Protein**

**Catalog No. NR-2603**

This reagent is the tangible property of the U.S. Government.

**Product Description:** The 94-peptide array spans the hemagglutinin (HA) protein of the A/New York/384/2005 (H3N2) strain of influenza virus (GenPept: AAZ79974). Peptides are 16- to 17-mers, with 11 to 13 amino acid overlaps.

**Lot: 333038 to 333131**

The following information applies to all peptides:

- Appearance Off-white lyophilized powder (Peptides 31, 59, 60)  
White lyophilized powder (All other peptides)
- Mass spectral analysis Correct MW by Electrospray
- Counter Ion Trifluoroacetate

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

Table 1						
Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC <sup>a</sup>	Peptide Content <sup>b</sup>
1 of 94	03/10/06	17	1 MKTIIALSYILCLVFAQ 17	1927.4	36.0%	76.7%
2 of 94	03/21/06	17	7 LSYILCLVFAQKLPGND 23	1894.3	73.4%	83.2%
3 of 94	09/13/11	17	13 LVFAQKLPGNDNSTATL 29	1789.0	95.1%	83.9%
4 of 94	03/27/06	17	19 LPGNDNSTATLCLGHHA 35	1720.9	80.1%	77.3%
5 of 94	09/13/11	17	25 STATLCLGHHAVPNGTI 41	1691.9	98.8%	77.6%
6 of 94	09/13/11	17	31 LGHHAVPNGTIVKTITN 47	1772.0	92.5%	73.7%
7 of 94	09/15/11	17	37 PNGTIVKTITNDQIEVT 53	1843.1	81.2%	81.0%
8 of 94	09/14/11	17	43 KTITNDQIEVTNATELV 59	1889.1	81.4%	82.1%
9 of 94	03/27/06	17	48 DQIEVTNATELVQSSST 64	1821.9	47.5%	87.7%
10 of 94	03/27/06	17	54 NATELVQSSSTGGICDS 70	1668.8	81.6%	88.1%
11 of 94	09/13/11	17	59 VQSSSTGGICDSPHQIL 75	1728.9	88.4%	79.1%
12 of 94	09/13/11	17	65 GGICDSPHQILDGENCT 81	1758.9	86.9%	81.7%
13 of 94	09/14/11	17	71 PHQILDGENCTLIDALL 87	1865.1	95.5%	82.2%
14 of 94	09/14/11	17	77 GENCTLIDALLGDPQCD 93	1777.0	80.2%	89.0%
15 of 94	09/13/11	17	83 IDALLGDPQCDGFQNK 99	1862.1	89.2%	79.5%
16 of 94	09/16/11	17	89 DPQCDGFQNKKWDLFVE 105	2069.3	80.6%	78.7%
17 of 94	09/17/11	17	95 FQNKKWDLFVERSKAYS 111	2146.4	88.1%	78.9%
18 of 94	09/09/11	17	101 DLFVERSKAYSNCYPYD 117	2070.3	98.9%	84.2%
19 of 94	09/17/11	17	107 SKAYSNCYPYDVPDYAS 123	1943.1	95.8%	83.0%
20 of 94	09/15/11	17	113 CYPYDVPDYASLRSLVA 129	1932.2	96.2%	81.1%
21 of 94	03/17/06	17	119 PDYASLRSLVASSGTLE 135	1765.9	83.4%	84.4%
22 of 94	03/02/06	17	125 RSLVASSGTLEFNNEF 141	1858.0	82.1%	85.8%
23 of 94	03/22/06	17	131 SGTLEFNNEFNFNWTV 147	1903.0	84.8%	90.5%
24 of 94	09/16/11	17	137 NNEFNFNWTVQNGTSS 153	1842.9	91.3%	87.5%
25 of 94	09/15/11	17	143 WTGVTQNGTSSACKRRS 159	1839.0	84.6%	75.9%

Table 1

Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC <sup>a</sup>	Peptide Content <sup>b</sup>
26 of 94	09/09/11	17	149 NGTSSACKRRSNNSSFFS 165	1863.0	93.2%	70.8%
27 of 94	09/13/11	17	155 CKRRSNNSSFFSRLNWL 171	2129.4	97.0%	72.5%
28 of 94	09/07/11	17	161 NSFFSRLNWLTHLKFY 177	2201.6	89.9%	70.1%
29 of 94	09/13/11	17	167 LNWLTHLKFYPALNVT 183	2058.5	95.3%	76.9%
30 of 94	09/06/11	17	173 LKFYPALNVTMPNNEK 189	2007.4	97.9%	78.6%
31 of 94	09/07/11	17	179 ALNVTMPNNEKFDKLYI 195	2010.4	89.5%	79.4%
32 of 94	09/09/11	17	185 PNNEKFDKLYIYGVHHP 201	2094.4	94.0%	69.5%
33 of 94	09/08/11	17	191 DKLYIYGVVHHPGTNNDQ 207	1994.2	93.4%	79.8%
34 of 94	09/07/11	17	197 GVHHPGTNNDQISLYAQ 213	1851.0	89.6%	77.1%
35 of 94	03/23/06	17	203 TNNDQISLYAQASGRIT 219	1852.0	82.3%	83.2%
36 of 94	03/27/06	17	209 SLYAQASGRITVSTKRS 225	1825.1	81.4%	78.4%
37 of 94	09/09/11	17	215 SGRITVSTKRSQQTVIP 231	1858.1	90.6%	76.4%
38 of 94	09/08/11	17	221 STKRSQQTVIPNIGSRP 237	1869.1	97.7%	76.5%
39 of 94	09/09/11	17	225 SQQTVIPNIGSRPRVRD 241	1923.2	96.3%	80.4%
40 of 94	02/06/06	17	231 PNIGSRPRVRDIPSRIS 247	1920.2	85.2%	74.8%
41 of 94	09/08/11	17	237 PRVRDIPSRISYWTIV 253	2071.5	84.5%	77.0%
42 of 94	09/13/11	17	243 PSRISYWTIVKPGDIL 259	1958.4	95.9%	82.1%
43 of 94	09/09/11	17	249 YWTIVKPGDILLINSTG 265	1890.2	95.9%	83.0%
44 of 94	09/13/11	17	255 PGDILLINSTGNLIAPR 271	1764.1	90.5%	81.9%
45 of 94	09/13/11	17	261 INSTGNLIAPRGYFKIR 277	1920.3	94.7%	76.7%
46 of 94	09/09/11	17	267 LIAPRGYFKIRSGKSSI 283	1893.3	93.9%	71.2%
47 of 94	09/13/11	17	273 YFKIRSGKSSIMRSDAP 289	1943.3	99.1%	68.6%
48 of 94	09/07/11	17	279 GKSSIMRSDAPIGKCNS 295	1751.0	98.4%	72.1%
49 of 94	09/08/11	17	285 RSDAPIGKCNSECITPN 301	1805.0	96.0%	79.5%
50 of 94	09/09/11	17	291 GKCNSECITPNGSIPND 307	1748.9	88.0%	86.5%
51 of 94	09/14/11	17	297 CITPNGSIPNDKPFQNV 313	1844.1	96.4%	87.1%
52 of 94	09/08/11	17	303 SIPNDKPFQNVNRITYG 319	1963.2	98.4%	82.8%
53 of 94	09/09/11	17	309 PFQNVNRITYGACPRYV 325	1998.3	97.2%	82.7%
54 of 94	03/06/06	17	315 RITYGACPRYVKQNTLK 331	2011.4	93.8%	83.6%
55 of 94	09/15/11	17	321 CPRYVKQNTLKLATGMR 337	1979.4	90.5%	76.5%
56 of 94	09/15/11	17	326 KQNTLKLATGMRNVPEK 342	1928.3	96.0%	73.1%
57 of 94	09/13/11	17	332 LATGMRNVPEKQTRGIF 348	1918.3	97.9%	77.8%
58 of 94	09/13/11	17	338 NVPEKQTRGIFGAIAGF 354	1805.1	94.5%	75.2%
59 of 94	09/23/11	17	344 TRGIFGAIAGFIENGWE 360	1838.1	84.7%	86.5%
60 of 94	09/16/11	17	350 AIAGFIENGWEGMVDGW 366	1852.1	83.8%	84.9%
61 of 94	09/19/11	17	356 ENGWEGMVDGWYGFRRH 372	2068.2	83.3%	79.3%
62 of 94	09/16/11	17	362 MVDGWYGFRRHQNSEGIG 378	1953.1	91.9%	75.3%
63 of 94	09/15/11	17	368 GFRHQNSEGIGQAADLK 384	1828.0	91.8%	73.8%
64 of 94	03/02/06	17	374 SEGIGQAADLKSTQAAI 390	1659.8	80.7%	82.7%
65 of 94	09/17/11	17	380 AADLKSTQAAINQINGK 396	1743.0	84.9%	82.7%
66 of 94	09/13/11	17	386 TQAAINQINGKLNRLIG 402	1824.1	87.8%	75.1%
67 of 94	09/09/11	17	391 NQINGKLNRLIGKTNEK 407	1940.2	94.7%	76.8%

Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC <sup>a</sup>	Peptide Content <sup>b</sup>
68 of 94	09/19/11	17	397 LNRLIGKTNEKFHQIEK 413	2068.4	90.4%	67.0%
69 of 94	09/15/11	17	403 KTNEKFHQIEKEFSEVE 419	2122.3	95.9%	77.6%
70 of 94	09/21/11	17	409 HQIEKEFSEVEGRIQDL 425	2057.3	96.6%	79.2%
71 of 94	09/14/11	17	415 FSEVEGRIQDLEKYVED 431	2056.2	91.4%	80.0%
72 of 94	03/27/06	17	421 RIQDLEKYVEDTKIDLW 437	2164.4	39.1%	78.8%
73 of 94	09/19/11	17	427 KYVEDTKIDLWSYNAEL 443	2087.3	91.2%	78.2%
74 of 94	03/27/06	17	433 KIDLWSYNAELLVALEN 449	1991.3	68.2%	85.5%
75 of 94	09/16/11	17	439 YNAELLVALENQHTIDL 455	1956.2	87.7%	84.8%
76 of 94	09/13/11	17	445 VALENQHTIDLTDSEMN 461	1930.1	92.8%	85.8%
77 of 94	09/16/11	17	451 HTIDLTDSEMKNLFERT 467	2050.3	96.8%	79.2%
78 of 94	09/14/11	17	457 DSEMKNLFERTKKQLRE 473	2152.5	93.8%	74.9%
79 of 94	09/16/11	17	463 LFERTKKQLRENAEDMG 479	2065.4	92.3%	70.0%
80 of 94	09/13/11	17	469 KQLRENAEDMGNGCFKI 485	1953.2	92.5%	77.2%
81 of 94	09/13/11	17	475 AEDMGNGCFKIYHKCDN 491	1945.2	88.1%	78.1%
82 of 94	09/14/11	17	481 GCFKIYHKCDNACIGSI 497	1872.2	83.3%	78.9%
83 of 94	09/15/11	17	487 HKCDNACIGSIRNGTYD 503	1867.0	92.9%	73.1%
84 of 94	09/14/11	17	493 CIGSIRNGTYDHDVYRD 509	1984.1	96.2%	74.9%
85 of 94	09/19/11	17	499 NGTYDHDVYRDEALNNR 515	2052.1	88.4%	78.5%
86 of 94	09/17/11	17	505 DVYRDEALNNRFQIKGV 521	2037.3	92.7%	77.0%
87 of 94	09/17/11	17	511 ALNNRFQIKGVELKSGY 527	1937.2	93.3%	78.1%
88 of 94	09/14/11	17	516 FQIKGVELKSGYKDWIL 532	2024.4	90.2%	77.9%
89 of 94	09/22/11	17	522 ELKSGYKDWILWISFAI 538	2069.4	86.6%	77.1%
90 of 94	03/23/06	16	528 KDWILWISFAISCFLL 543	1955.4	30.5%	76.1%
91 of 94	03/23/06	17	533 WISFAISCFLLCVALLG 549	1856.3	24.9%	75.5%
92 of 94	03/23/06	16	539 SCFLLCVALLGFIMWA 554	1787.3	30.6%	73.4%
93 of 94	03/08/06	17	544 CVALLGFIMWACQKGNI 560	1867.3	80.2%	82.8%
94 of 94	09/19/11	17	550 FIMWACQKGNIRCNICI 566	2013.5	81.9%	84.6%

<sup>a</sup>% full-length  
<sup>b</sup>Remainder 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 94	Expected	2.00			1.00	1.00			3.00	3.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
	Actual	1.72			0.00 <sup>a</sup>	1.00			2.63	2.89	0.98	0.95	0.74 <sup>b</sup>		0.77 <sup>c</sup>	0.76 <sup>d</sup>		0.92	0.74 <sup>e</sup>
2 of 94	Expected	1.00		2.00	1.00	1.00	1.00		1.00	4.00	1.00		1.00	1.00	1.00			1.00	1.00
	Actual	1.04		1.95	0.00 <sup>a</sup>	0.96	1.00		0.93	3.91	0.83		0.91	0.98	0.89			0.95	0.94
3 of 94	Expected	2.00		3.00		1.00	1.00			3.00	1.00		1.00	1.00	1.00	2.00			1.00
	Actual	2.00		3.08		1.02	0.98			3.16	0.99		0.85	0.99	0.86	1.95			0.87
4 of 94	Expected	2.00		3.00	1.00		2.00	2.00		3.00				1.00	1.00	2.00			
	Actual	2.12		2.75	0.00 <sup>a</sup>		1.96	2.02		3.00				0.74 <sup>f</sup>	0.62	1.92			
5 of 94	Expected	2.00		1.00	1.00		2.00	2.00	1.00	2.00				1.00	1.00	3.00			1.00
	Actual	2.00		0.99	0.00 <sup>a</sup>		1.99	1.96	0.97	2.08				0.95	0.86	2.83			1.00
6 of 94	Expected	1.00		2.00			2.00	2.00	2.00	1.00	1.00			1.00		3.00			2.00
	Actual	1.02		2.04			2.00	1.95	1.75 <sup>g</sup>	1.02	1.02			0.99		2.82			1.71 <sup>e</sup>

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)
7 of 94	Expected			3.00		2.00	1.00		3.00		1.00			1.00		4.00			2.00
	Actual			3.00		1.89	1.09		2.14 <sup>a</sup>		0.95			1.08		3.69			1.60 <sup>e</sup>
8 of 94	Expected	1.00		3.00		3.00			2.00	1.00	1.00					4.00			2.00
	Actual	1.07		3.13		3.14			1.90	1.05	1.00					3.49			2.06
9 of 94	Expected	1.00		2.00		4.00			1.00	1.00					3.00	3.00			2.00
	Actual	1.00		1.96		4.10			0.94	1.11					2.28 <sup>c</sup>	2.75			2.08
10 of 94	Expected	1.00		2.00	1.00	2.00	2.00		1.00	1.00					4.00	2.00			1.00
	Actual	1.05		1.90	0.00 <sup>a</sup>	2.00	2.06		0.89	1.01					3.76	1.75			0.92
11 of 94	Expected			1.00	1.00	2.00	2.00	1.00	2.00	1.00				1.00	4.00	1.00			1.00
	Actual			1.09	0.00 <sup>a</sup>	2.13	2.03	1.05	1.60	1.00				1.02	3.86	1.01			1.03
12 of 94	Expected			3.00	2.00	2.00	3.00	1.00	2.00	1.00				1.00	1.00	1.00			
	Actual			3.13	0.00 <sup>a</sup>	2.09	2.97	0.99	1.64	1.00				0.93	0.93	0.98			
13 of 94	Expected	1.00		3.00	1.00	2.00	1.00	1.00	2.00	4.00				1.00		1.00			
	Actual	1.00		3.05	0.00 <sup>a</sup>	2.04	0.98	0.98	1.86	4.11				0.92		0.97			
14 of 94	Expected	1.00		4.00	2.00	2.00	2.00		1.00	3.00				1.00		1.00			
	Actual	1.00		3.77	0.00 <sup>a</sup>	1.83	1.96		0.95	3.18				0.93		0.94			
15 of 94	Expected	1.00		4.00	1.00	2.00	2.00		1.00	2.00	2.00		1.00	1.00					
	Actual	1.01		4.00	0.00 <sup>a</sup>	1.96	1.96		0.96	2.09	1.88		0.88	0.91					
16 of 94	Expected			4.00	1.00	3.00	1.00			1.00	2.00		2.00	1.00			1.00		1.00
	Actual			4.00	0.00 <sup>a</sup>	2.99	0.99			1.05	2.01		1.93	0.91			0.00 <sup>h</sup>		0.88
17 of 94	Expected	1.00	1.00	2.00		2.00				1.00	3.00		2.00		2.00		1.00	1.00	1.00
	Actual	1.00	0.98	2.02		2.02				1.05	2.98		1.73		1.81		0.00 <sup>h</sup>	0.97	0.94
18 of 94	Expected	1.00	1.00	3.00	1.00	1.00				1.00	1.00		1.00	1.00	2.00			3.00	1.00
	Actual	1.04	0.99	3.15	0.00 <sup>a</sup>	1.02				1.03	1.04		0.85	1.00	1.90			3.08	0.94
19 of 94	Expected	2.00		3.00	1.00						1.00			2.00	3.00			4.00	1.00
	Actual	1.95		3.00	0.00 <sup>a</sup>						0.99			1.93	2.68			3.97	1.01
20 of 94	Expected	2.00	1.00	2.00	1.00					2.00				2.00	2.00			3.00	2.00
	Actual	2.00	0.96	1.96	0.00 <sup>a</sup>					2.07				1.93	1.78			2.94	1.89
21 of 94	Expected	2.00	1.00	1.00		1.00	1.00			3.00				1.00	4.00	1.00		1.00	1.00
	Actual	2.00	1.00	0.98		0.93	1.00			2.95				1.02	3.66	0.88		0.95	1.00
22 of 94	Expected	1.00	1.00	2.00		2.00	1.00			2.00			2.00		4.00	1.00			1.00
	Actual	1.04	0.85	1.96		2.00	0.96			1.78			1.86		3.38	0.87			0.90
23 of 94	Expected			3.00		2.00	2.00			1.00			2.00		2.00	3.00	1.00		1.00
	Actual			2.70		2.00	2.15			1.07			2.15		1.32 <sup>c</sup>	3.01	0.00 <sup>h</sup>		1.12
24 of 94	Expected			4.00		2.00	2.00						1.00		3.00	3.00	1.00		1.00
	Actual			3.60		2.06	2.00						1.00		2.69	2.91	0.00 <sup>h</sup>		1.02
25 of 94	Expected	1.00	2.00	1.00	1.00	1.00	2.00				1.00			1.00	3.00	3.00	1.00		1.00
	Actual	1.00	1.78	0.98	0.00 <sup>a</sup>	1.03	2.02				0.94				2.66	2.80	0.00 <sup>h</sup>		0.99
26 of 94	Expected	1.00	2.00	3.00	1.00		1.00				1.00		2.00		5.00	1.00			
	Actual	1.04	2.00	3.14	0.00 <sup>a</sup>		0.99				1.04		1.88		4.51	0.89			
27 of 94	Expected		3.00	3.00	1.00					2.00	1.00		2.00		3.00	1.00	1.00		
	Actual		2.92	2.59	0.00 <sup>a</sup>					2.14	1.00		1.78		2.65	0.92	0.00 <sup>h</sup>		
28 of 94	Expected		1.00	2.00				1.00		3.00	2.00		3.00		2.00	1.00	1.00	1.00	
	Actual		1.00	1.71				1.01		3.27	2.04		2.64		1.87	0.97	0.00 <sup>h</sup>	1.01	
29 of 94	Expected	1.00		2.00				1.00		4.00	2.00		1.00	1.00		2.00	1.00	1.00	1.00
	Actual	0.96		1.74				0.96		4.25	1.98		1.03	1.00		1.80	0.00 <sup>h</sup>	1.00	0.93
30 of 94	Expected	1.00		3.00		1.00				2.00	3.00	1.00	1.00	2.00		1.00		1.00	1.00
	Actual	1.01		3.00		1.00				2.07	2.94	0.98	0.96	1.98		0.95		0.95	0.99
31 of 94	Expected	1.00		4.00		1.00			1.00	2.00	2.00	1.00	1.00	1.00		1.00		1.00	1.00
	Actual	1.00		4.05		1.02			0.91	2.00	2.00	0.96	0.97	0.97		0.94		0.88	0.99
32 of 94	Expected			3.00		1.00	1.00	2.00	1.00	1.00	2.00		1.00	2.00			1.00	1.00	1.00
	Actual			3.36		1.09	1.08	1.80	0.88	1.09	2.18		0.98	2.20			0.00 <sup>h</sup>	1.00	0.92
33 of 94	Expected			4.00		1.00	2.00	2.00	1.00	1.00	1.00			1.00		1.00	1.00	1.00	1.00
	Actual			4.16		1.03	2.14	1.82	0.82	1.02	1.02			1.01		1.00	0.00 <sup>h</sup>	0.94	0.92
34 of 94	Expected	1.00		3.00		2.00	2.00	2.00	1.00	1.00				1.00	1.00	1.00		1.00	1.00
	Actual	0.99		3.11		2.07	1.99	1.78	1.00	1.00				1.00	0.96	0.99		0.94	0.84
35 of 94	Expected	2.00	1.00	3.00		2.00	1.00		2.00	1.00					2.00	2.00		1.00	
	Actual	2.27	1.02	3.08		2.00	1.13		1.97	1.12					2.08	1.96		1.10	
36 of 94	Expected	2.00	2.00			1.00	1.00		1.00	1.00	1.00				4.00	2.00		1.00	1.00
	Actual	2.35	1.93			1.00	1.04		0.90	1.05	1.02				3.94	1.87		1.06	1.05

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)
37 of 94	Expected		2.00			2.00	1.00		2.00		1.00			1.00	3.00	3.00			2.00
	Actual		1.88			2.10	0.92		1.71 <sup>g</sup>		1.00			1.04	2.80	2.87			1.77 <sup>e</sup>
38 of 94	Expected		2.00	1.00		2.00	1.00		2.00		1.00			2.00	3.00	2.00			1.00
	Actual		1.96	1.00		2.06	0.95		1.73 <sup>g</sup>		1.00			2.01	2.79	1.88			0.77 <sup>e</sup>
39 of 94	Expected		3.00	2.00		2.00	1.00		2.00					2.00	2.00	1.00			2.00
	Actual		2.81	2.00		2.05	0.97		1.79 <sup>g</sup>					2.01	1.85	0.95			1.65 <sup>e</sup>
40 of 94	Expected		4.00	2.00			1.00		3.00					3.00	3.00				1.00
	Actual		4.07	2.10			1.03		2.92					3.14	2.11 <sup>c</sup>				1.00
41 of 94	Expected		3.00	1.00					4.00					2.00	2.00	1.00	1.00	1.00	2.00
	Actual		2.94	1.12					3.92					1.99	2.00	0.92	0.00 <sup>h</sup>	0.94	1.87
42 of 94	Expected		1.00	1.00			1.00		4.00	1.00	1.00			2.00	2.00	1.00	1.00	1.00	1.00
	Actual		0.97	1.01			1.01		3.78 <sup>g</sup>	1.00	1.00			2.01	1.70	0.91	0.00 <sup>h</sup>	0.97	0.89 <sup>e</sup>
43 of 94	Expected			2.00			2.00		3.00	2.00	1.00			1.00	1.00	2.00	1.00	1.00	1.00
	Actual			2.10			2.00		2.64	1.97	0.99			1.02	0.86	1.94	0.00 <sup>h</sup>	0.96	0.74
44 of 94	Expected	1.00	1.00	3.00			2.00		3.00	3.00				2.00	1.00	1.00			
	Actual	1.04	0.98	3.18			2.00		2.70	2.87				2.04	0.89	1.00			
45 of 94	Expected	1.00	2.00	2.00			2.00		3.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	
	Actual	1.03	1.89	2.06			2.06		2.90	0.99	1.00		1.06	1.03	0.85	0.97		1.00	
46 of 94	Expected	1.00	2.00				2.00		3.00	1.00	2.00		1.00	1.00	3.00			1.00	
	Actual	1.01	1.85				2.00		2.82	0.93	2.02		1.00	1.00	2.81			0.94	
47 of 94	Expected	1.00	2.00	1.00			1.00		2.00		2.00	1.00	1.00	1.00	4.00			1.00	
	Actual	1.00	1.79	0.97			0.96		1.80		1.91	0.96	1.04	1.01	3.61			0.94	
48 of 94	Expected	1.00	1.00	2.00	1.00		2.00		2.00		2.00	1.00		1.00	4.00				
	Actual	1.01	0.98	1.99	0.00 <sup>g</sup>		1.98		2.00		2.00	1.00		1.01	3.61				
49 of 94	Expected	1.00	1.00	3.00	2.00	1.00	1.00		2.00		1.00			2.00	2.00	1.00			
	Actual	1.00	0.97	3.05	0.00 <sup>g</sup>	1.03	0.98		1.85		1.00			1.94	1.83	0.96			
50 of 94	Expected			4.00	2.00	1.00	2.00		2.00		1.00			2.00	2.00	1.00			
	Actual			4.14	0.00 <sup>g</sup>	1.04	2.00		1.87		1.01			1.96	1.86	0.98			
51 of 94	Expected			4.00	1.00	1.00	1.00		2.00		1.00		1.00	3.00	1.00	1.00			1.00
	Actual			3.94	0.00 <sup>g</sup>	1.00	0.93		1.82		0.97		1.03	2.81	0.91	0.93			1.00
52 of 94	Expected		1.00	4.00		1.00	1.00		2.00		1.00		1.00	2.00	1.00	1.00		1.00	1.00
	Actual		0.90	4.00		1.01	0.97		1.92		1.00		0.90	2.01	0.90	0.94		0.97	0.98
53 of 94	Expected	1.00	2.00	2.00	1.00	1.00	1.00		1.00				1.00	2.00		1.00		2.00	2.00
	Actual	1.00	1.86	2.02	0.00 <sup>g</sup>	1.01	0.96		0.88				1.01	1.94		0.94		1.95	1.89
54 of 94	Expected	1.00	2.00	1.00	1.00	1.00	1.00		1.00	1.00	2.00			1.00		2.00		2.00	1.00
	Actual	0.84	1.80	1.06	0.00 <sup>g</sup>	1.06	1.00		0.80	1.01	1.82			1.09		1.91		1.94	0.73 <sup>e</sup>
55 of 94	Expected	1.00	2.00	1.00	1.00	1.00	1.00			2.00	2.00	1.00		1.00		2.00		1.00	1.00
	Actual	1.05	1.94	1.05	0.00 <sup>g</sup>	1.05	1.04			2.21	1.93	1.00		0.96		2.00		0.92	0.83
56 of 94	Expected	1.00	1.00	2.00		2.00	1.00			2.00	3.00	1.00		1.00		2.00			1.00
	Actual	1.00	0.97	2.02		1.95	0.98			2.13	2.96	0.96		0.98		1.89			1.00
57 of 94	Expected	1.00	2.00	1.00		2.00	2.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00			1.00
	Actual	1.00	1.97	1.02		2.09	2.01		0.89	1.03	1.02	0.97	0.89	0.99		1.93			1.01
58 of 94	Expected	2.00	1.00	1.00		2.00	3.00		2.00		1.00		2.00	1.00		1.00			1.00
	Actual	2.15	0.98	0.98		2.05	3.06		1.92		1.00		1.74	0.97		0.93			0.97
59 of 94	Expected	2.00	1.00	1.00		2.00	4.00		3.00				2.00			1.00	1.00		
	Actual	2.01	0.96	1.04		2.01	4.00		2.73				1.76			0.96	0.00 <sup>h</sup>		
60 of 94	Expected	2.00		2.00		2.00	4.00		2.00			1.00	1.00				2.00		1.00
	Actual	1.89		2.00		2.04	3.94		1.85			1.01	0.95				0.00 <sup>h</sup>		0.96
61 of 94	Expected		1.00	2.00		3.00	4.00	1.00				1.00	1.00				2.00	1.00	1.00
	Actual		0.95	1.98		3.00	3.94	0.98				1.00	0.96				0.00 <sup>h</sup>	1.02	1.01
62 of 94	Expected		1.00	2.00		2.00	4.00	1.00	1.00			1.00	1.00		1.00		1.00	1.00	1.00
	Actual		0.90	1.91		2.00	3.74	0.97	0.91			0.94	1.07		0.87		0.00 <sup>h</sup>	0.93	0.95
63 of 94	Expected	2.00	1.00	2.00		3.00	3.00	1.00	1.00	1.00	1.00		1.00		1.00				
	Actual	2.06	0.94	2.00		3.09	2.99	0.97	0.95	1.03	1.01		1.00		0.88				
64 of 94	Expected	4.00		1.00		3.00	2.00		2.00	1.00	1.00				2.00	1.00			
	Actual	4.26		1.01		2.94	1.75		1.82	1.00	0.99				1.82	0.90			
65 of 94	Expected	4.00		3.00		2.00	1.00		2.00	1.00	2.00				1.00	1.00			
	Actual	3.93		3.03		2.06	0.90		2.04	1.00	1.90				0.92	0.96			
66 of 94	Expected	2.00	1.00	3.00		2.00	2.00		3.00	2.00	1.00					1.00			
	Actual	1.96	1.00	3.03		1.95	1.99		2.91	2.09	1.02					0.96			

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)
67 of 94	Expected		1.00	4.00		2.00	2.00		2.00	2.00	3.00					1.00			
	Actual		0.98	4.04		2.06	1.95		1.89	2.05	3.00					0.98			
68 of 94	Expected		1.00	2.00		3.00	1.00	1.00	2.00	2.00	3.00		1.00			1.00			
	Actual		0.94	1.98		3.05	0.95	0.98	1.94	2.00	2.96		0.94			0.96			
69 of 94	Expected			1.00		6.00		1.00	1.00		3.00		2.00		1.00	1.00			1.00
	Actual			1.00		6.14		0.88	0.99		2.99		1.75		0.93	0.94			0.99
70 of 94	Expected		1.00	1.00		6.00	1.00	1.00	2.00	1.00	1.00		1.00		1.00				1.00
	Actual		0.94	1.00		6.16	0.98	1.00	1.90	1.03	0.97		1.03		0.92				1.01
71 of 94	Expected		1.00	2.00		5.00	1.00		1.00	1.00	1.00		1.00		1.00			1.00	2.00
	Actual		0.97	1.96		5.17	1.00		0.98	1.05	1.05		1.09		0.91			1.00	1.99
72 of 94	Expected		1.00	3.00		3.00			2.00	2.00	2.00					1.00	1.00	1.00	1.00
	Actual		0.85	3.02		2.55			1.75	2.00	2.01					1.18	0.00 <sup>h</sup>	0.99	0.98
73 of 94	Expected	1.00		3.00		2.00			1.00	2.00	2.00				1.00	1.00	1.00	2.00	1.00
	Actual	0.98		3.00		2.00			0.93	2.01	1.89				0.92	0.95	0.00 <sup>h</sup>	1.91	0.93
74 of 94	Expected	2.00		3.00		2.00			1.00	4.00	1.00				1.00		1.00	1.00	1.00
	Actual	2.03		2.88		2.00			1.09	3.81	1.10				0.88		0.00 <sup>h</sup>	0.97	0.95
75 of 94	Expected	2.00		3.00		3.00		1.00	1.00	4.00						1.00		1.00	1.00
	Actual	1.96		3.00		3.08		0.98	0.82	4.12						0.86		0.96	0.94
76 of 94	Expected	1.00		4.00		3.00		1.00	1.00	2.00		1.00			1.00	2.00			1.00
	Actual	0.98		3.94		3.00		0.98	0.92	2.13		0.95			0.89	1.83			0.96
77 of 94	Expected		1.00	3.00		2.00		1.00	1.00	2.00	1.00	1.00	1.00		1.00	3.00			
	Actual		0.95	2.96		2.04		0.97	0.90	2.08	1.00	0.91	0.98		0.91	2.79			
78 of 94	Expected		2.00	2.00		4.00				2.00	3.00	1.00	1.00		1.00	1.00			
	Actual		1.86	2.00		4.01				2.09	2.99	0.98	1.06		0.90	0.94			
79 of 94	Expected	1.00	2.00	2.00		4.00	1.00			2.00	2.00	1.00	1.00					1.00	
	Actual	0.96	1.86	1.94		4.00	0.97			2.08	1.93	0.96	0.95			0.91			
80 of 94	Expected	1.00	1.00	3.00	1.00	3.00	2.00		1.00	1.00	2.00	1.00	1.00						
	Actual	0.97	0.93	2.97	0.00 <sup>a</sup>	3.00	1.94		0.95	0.98	1.93	0.97	1.07						
81 of 94	Expected	1.00		4.00	2.00	1.00	2.00	1.00	1.00		2.00	1.00	1.00					1.00	
	Actual	0.98		3.72	0.00 <sup>a</sup>	1.01	2.00	0.99	0.91		1.94	0.97	0.96					0.94	
82 of 94	Expected	1.00		2.00	3.00		2.00	1.00	3.00		2.00		1.00		1.00			1.00	
	Actual	1.00		2.00	0.00 <sup>a</sup>		1.96	0.99	2.80		1.97		1.04		0.90			0.92	
83 of 94	Expected	1.00	1.00	4.00	2.00		2.00	1.00	2.00		1.00				1.00	1.00		1.00	
	Actual	1.03	0.88	4.03	0.00 <sup>a</sup>		2.00	0.99	1.83		1.00				0.92	0.96		0.98	
84 of 94	Expected		2.00	4.00	1.00		2.00	1.00	2.00						1.00	1.00		2.00	1.00
	Actual		1.82	4.00	0.00 <sup>a</sup>		1.95	1.01	1.81						0.88	0.97		1.94	0.94
85 of 94	Expected	1.00	2.00	6.00		1.00	1.00	1.00		1.00						1.00		2.00	1.00
	Actual	1.00	1.87	6.02		1.04	0.98	0.98		1.01						0.97		1.82	0.85
86 of 94	Expected	1.00	2.00	4.00		2.00	1.00		1.00	1.00	1.00		1.00					1.00	2.00
	Actual	1.07	2.00	4.34		2.20	1.07		0.91	1.09	0.94		1.07					0.85	1.99
87 of 94	Expected	1.00	1.00	2.00		2.00	2.00		1.00	2.00	2.00		1.00		1.00			1.00	1.00
	Actual	1.00	0.95	2.03		2.05	2.01		0.82	2.06	1.89		0.98		0.94			0.96	0.99
88 of 94	Expected			1.00		2.00	2.00		2.00	2.00	3.00		1.00		1.00		1.00	1.00	1.00
	Actual			0.89		2.08	2.05		1.75	2.06	3.00		1.03		1.01		0.00 <sup>h</sup>	1.03	1.00
89 of 94	Expected	1.00		1.00		1.00	1.00		3.00	2.00	2.00		1.00		2.00		2.00	1.00	
	Actual	1.09		0.95		1.07	1.05		2.52	1.76	2.10		0.91		1.83		0.00 <sup>h</sup>	1.00	
90 of 94	Expected	1.00		1.00	1.00				3.00	3.00	1.00		2.00		2.00		2.00		
	Actual	0.92		0.90	0.00 <sup>a</sup>				2.73	3.00	1.20		1.86		1.55 <sup>c</sup>		0.00 <sup>h</sup>		
91 of 94	Expected	2.00			2.00		1.00		2.00	4.00			2.00		2.00		1.00		1.00
	Actual	2.00			0.00 <sup>a</sup>		1.48		1.74	4.00			1.78		1.45 <sup>c</sup>		0.00 <sup>h</sup>		0.71 <sup>e</sup>
92 of 94	Expected	2.00			2.00		1.00		1.00	4.00		1.00	2.00		1.00		1.00		1.00
	Actual	2.23			0.00 <sup>a</sup>		1.55		1.25	4.00		0.77 <sup>k</sup>	1.60		1.25		0.00 <sup>h</sup>		0.92



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)
93 of 94	Expected	2.00		1.00	2.00	1.00	2.00		2.00	2.00	1.00	1.00	1.00				1.00		1.00
	Actual	2.07		1.00	0.00 <sup>a</sup>	1.00	2.00		1.83	2.01	1.02	0.87	0.98				0.00 <sup>h</sup>		0.95
94 of 94	Expected	1.00	1.00	2.00	3.00	1.00	1.00		4.00		1.00	1.00	1.00				1.00		
	Actual	1.01	0.85	2.12	0.00 <sup>a</sup>	1.07	1.01		3.49		1.03	1.00	0.96				0.00 <sup>h</sup>		

<sup>a</sup>Cys was completely destroyed during hydrolysis

<sup>b</sup>Phe was only partially destroyed during hydrolysis

<sup>c</sup>Ser was only partially destroyed during hydrolysis

<sup>d</sup>Thr was only partially destroyed during hydrolysis

<sup>e</sup>Val was only partially destroyed during hydrolysis

<sup>f</sup>Pro was only partially destroyed during hydrolysis

<sup>g</sup>Ile was only partially destroyed during hydrolysis

<sup>h</sup>Trp was completely destroyed during hydrolysis

<sup>i</sup>Asx was only partially destroyed during hydrolysis

<sup>j</sup>Ala was only partially destroyed during hydrolysis

<sup>k</sup>Met was partially destroyed during hydrolysis

Date: 22 JUN 2012

Signature: *Dorothy C. Young*

Title: Technical Manager, BEI Authentication or designee

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