

Peptide Array, Influenza Virus A/New Caledonia/20/1999 (H1N1) Neuraminidase Protein

Catalog No. NR-2606

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

Product Description: The 78-peptide array spans the neuraminidase (NA) protein of the A/New Caledonia/20/1999 (H1N1) strain of influenza virus (GenPept: CAD57252). Peptides are 13- to 17-mers, with 11 or 12 amino acid overlaps.

Lot: 333956 to 334033

The following information applies to all peptides:

- Appearance White lyophilized powder
- 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 ^a	Peptide Content ^b
1 of 78	11/02/11	17	1 MNPNQKIITIGSISIAI 17	1813.2	42.1%	81.0%
2 of 78	05/17/06	17	7 IITIGSISIAIGIISLM 23	1715.2	37.6%	72.7%
3 of 78	05/17/06	17	13 ISIAIGIISLMLQIGNI 29	1769.2	69.3%	81.0%
4 of 78	05/12/06	17	19 IISLMLQIGNIISIWAS 35	1872.3	43.5%	84.6%
5 of 78	10/31/11	17	24 LQIGNIISIWASHSIQT 40	1881.2	70.9%	81.1%
6 of 78	10/13/11	17	30 ISIWASHSIQTGSQNHT 46	1867.0	94.2%	78.8%
7 of 78	10/17/11	17	36 HSIQTGSQNHTGVCNQR 52	1867.0	88.3%	74.8%
8 of 78	03/27/06	17	42 SQNHTGVCNQRITYEN 58	1977.2	82.6%	71.0%
9 of 78	10/13/11	17	48 VCNQRITYENSTWVNH 64	2077.3	91.0%	81.2%
10 of 78	10/31/11	17	54 IYENSTWVNHTYVNIN 70	2068.2	62.4%	81.7%
11 of 78	05/17/06	17	60 TWVNHTYVNINNTNVVA 76	1959.1	68.3%	81.2%
12 of 78	10/13/11	17	66 YVNINNTNVVAGKDKTS 82	1837.0	90.4%	78.0%
13 of 78	04/19/06	17	72 TNVVAGKDKTSVTLAGN 88	1674.9	80.5%	72.6%
14 of 78	10/17/11	17	78 KDKTSVTLAGNSSLCSI 94	1724.0	90.5%	77.9%
15 of 78	04/12/06	17	84 TLAGNSSLCSISGWAYI 100	1743.0	54.1%	87.9%
16 of 78	05/17/06	17	90 SLCSISGWAYITKDNSI 106	1858.1	44.5%	85.8%
17 of 78	10/12/11	17	96 GWAYITKDNSIRIGSKG 112	1866.1	96.5%	76.3%
18 of 78	04/24/06	17	102 KDNSIRIGSKGDFVIR 118	1904.2	88.1%	72.0%
19 of 78	10/14/11	16	108 IGSKGDVFVIREPFIS 123	1764.1	97.9%	80.1%
20 of 78	10/14/11	16	113 DVFVIREPFISCSHLE 128	1891.2	89.0%	84.6%
21 of 78	10/11/11	17	118 REPFISCSHLECRFFFL 134	2085.4	95.9%	75.7%
22 of 78	10/11/11	17	124 CSHLECRFFFLTQGALL 140	1939.3	89.0%	78.2%
23 of 78	10/09/11	17	130 RTFFLTQGALLNDKHSN 146	1962.2	94.4%	75.9%
24 of 78	10/09/11	17	135 TQGALLNDKHSNGTVKD 151	1798.0	96.0%	79.8%
25 of 78	10/09/11	17	141 NDKHSNGTVKDRSPYRA 157	1945.1	88.2%	70.6%

Table 1						
Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC ^a	Peptide Content ^b
26 of 78	10/10/11	17	147 GTVKDRSPYRALMSCPL 163	1894.2	97.8%	80.5%
27 of 78	10/09/11	17	153 SPYRALMSCPLGEAPSP 169	1776.1	97.9%	79.8%
28 of 78	10/09/11	17	159 MSCPLGEAPSPYNSKFE 175	1857.1	83.3%	84.6%
29 of 78	10/09/11	17	165 EAPSPYNSKFESVAWSA 181	1870.0	93.0%	80.7%
30 of 78	10/18/11	17	171 NSKFESVAWSASACHDG 187	1795.9	86.6%	80.4%
31 of 78	10/12/11	17	177 VAWSASACHDGMGWLT 193	1805.1	82.8%	79.0%
32 of 78	10/13/11	17	183 ACHDGMGWLTIGISGPD 199	1730.0	84.9%	80.5%
33 of 78	10/19/11	17	189 GWLTIGISGPDNGAVAV 205	1626.8	92.1%	87.2%
34 of 78	10/11/11	17	195 ISGPDNGAVAVLKYNGI 211	1687.9	89.5%	81.2%
35 of 78	05/17/06	17	201 GAVAVLKYNGIITETIK 217	1790.1	67.9%	80.0%
36 of 78	10/11/11	17	207 KYNGIITETIKSWKKRI 223	2078.5	98.2%	70.0%
37 of 78	10/11/11	17	213 TETIKSWKKRILRTQES 229	2104.5	92.5%	68.3%
38 of 78	10/12/11	17	219 WKKRILRTQESECVCVN 235	2092.5	85.1%	71.3%
39 of 78	10/10/11	17	225 RTQESECVCVNGSCFTI 241	1876.1	83.7%	83.0%
40 of 78	05/17/06	17	231 CVCVNGSCFTIMTDGPS 247	1734.0	18.0%	81.6%
41 of 78	10/11/11	17	237 SCFTIMTDGPSNGAASY 253	1721.9	92.2%	84.4%
42 of 78	10/20/11	17	243 TDGPSNGAASYKIFKIE 259	1798.0	93.6%	83.8%
43 of 78	10/18/11	17	249 GAASYKIFKIEKGKVTK 265	1868.3	88.8%	66.4%
44 of 78	10/11/11	17	255 IFKIEKGKVTKSIELNA 271	1918.3	92.5%	70.5%
45 of 78	10/10/11	17	261 GKVTKSIELNAPNFHYE 277	1947.2	97.9%	78.8%
46 of 78	10/10/11	17	267 IELNAPNFHYEECSYP 283	2029.2	86.2%	85.2%
47 of 78	10/21/11	17	273 NFHYEECSYPDTGTVM 289	1996.2	85.6%	82.2%
48 of 78	10/28/11	17	279 CSCYPDTGTVMCVCRDN 295	1867.1	91.9%	79.2%
49 of 78	10/20/11	17	285 TGTVMCVCRDNWHGSR 301	1936.2	94.0%	74.7%
50 of 78	11/04/11	17	291 VCRDNWHGSRPWVSFN 307	2074.3	96.7%	73.7%
51 of 78	10/18/11	17	297 HGSNRPWVSFNQNLDYQ 313	2062.2	88.7%	82.8%
52 of 78	05/24/06	17	303 WVSFNQNLDYQIGYICS 319	2050.3	52.0%	84.9%
53 of 78	10/18/11	17	309 NLDYQIGYICSGVFGDN 325	1878.1	84.9%	84.9%
54 of 78	10/19/11	17	315 GYICSGVFGDNPRPKDG 331	1782.0	94.3%	81.7%
55 of 78	10/20/11	17	321 VFGDNPRPKDGECSNP 337	1788.9	90.5%	77.8%
56 of 78	10/11/11	17	327 RPKDGECSNPVTDGA 343	1701.8	80.9%	81.2%
57 of 78	10/11/11	17	333 GCSNPVTDGADGVKGF 349	1622.8	92.6%	81.6%
58 of 78	10/11/11	17	339 TVDGADGVKGFYSYKYN 355	1777.9	81.0%	78.3%
59 of 78	04/05/06	17	345 GVKGFYSYKNGVWIGR 361	1888.2	91.3%	73.4%
60 of 78	10/13/11	17	351 YKYGNGVWIGRTKSNRL 367	2012.3	94.8%	72.0%
61 of 78	10/13/11	17	357 VWIGRTKSNRLRKGFE 373	2078.5	87.3%	73.2%
62 of 78	10/14/11	17	363 KSNRLRKGFEIWDPNG 379	2048.4	94.7%	74.4%
63 of 78	10/14/11	17	369 KGFEMIWDPNGWTDTS 385	1999.2	95.9%	80.4%
64 of 78	10/14/11	17	375 WDPNGWTDTSDFSVKQ 391	1998.1	85.2%	88.0%
65 of 78	10/13/11	17	381 TDTSDFSVKQDVVAIT 397	1841.0	83.8%	84.2%
66 of 78	10/18/11	17	387 FSVKQDVVAITDWSGYS 403	1902.1	81.6%	80.8%
67 of 78	10/18/11	17	393 VVAITDWSGYSGSFVQH 409	1853.0	90.7%	85.2%

Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC ^a	Peptide Content ^b
68 of 78	10/19/11	17	399 WSGYSGSFVQHPELTGL 415	1865.0	96.8%	83.2%
69 of 78	10/14/11	16	405 SFVQHPELTGLDCIRP 420	1812.1	92.6%	80.0%
70 of 78	10/17/11	17	410 PELTGLDCIRPCFWVEL 426	1991.4	90.3%	87.9%
71 of 78	10/17/11	17	416 DCIRPCFWVELVRLPR 432	2059.5	89.9%	77.9%
72 of 78	10/17/11	17	422 FWVELVRLPRENTTIW 438	2116.5	87.1%	79.9%
73 of 78	10/26/11	17	428 RGLPRENTTIWTSGSSI 444	1875.1	86.6%	77.6%
74 of 78	10/20/11	17	434 NTTIWTSGSSISFCGVN 450	1774.0	76.8%	79.2%
75 of 78	04/20/06	17	440 SGSSISFCGVNSDTANW 456	1731.8	70.3%	88.2%
76 of 78	10/21/11	17	446 FCGVNSDTANWSWPDGA 462	1826.9	90.0%	84.3%
77 of 78	10/09/11	17	452 DTANWSWPDGAELPFTI 468	1920.1	85.3%	89.8%
78 of 78	10/09/11	13	458 WPDGAELPFTIDK 470	1488.7	97.7%	78.1%

^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 78	Expected	1.00		2.00		1.00	1.00		6.00		1.00	1.00		1.00	2.00	1.00			
	Actual	1.03		1.82		0.94	1.00		4.91 ^a		0.86	0.88		0.85	1.93	0.91			
2 of 78	Expected	1.00					2.00		8.00	1.00		1.00			3.00	1.00			
	Actual	1.00					2.36		6.78 ^a	1.25		1.04			2.52	0.99			
3 of 78	Expected	1.00	1.00			1.00	2.00		7.00	2.00		1.00			2.00				
	Actual	1.00	1.11			1.03	2.21		6.24 ^a	2.24		0.97			1.59 ^b				
4 of 78	Expected	1.00	1.00			1.00	1.00		6.00	2.00		1.00			3.00		1.00		
	Actual	1.23	1.00			0.93	1.05		5.19 ^a	1.84		0.79			2.50		0.00 ^c		
5 of 78	Expected	1.00		1.00		2.00	1.00	1.00	5.00	1.00					3.00	1.00	1.00		
	Actual	1.05		0.89		1.85	0.87	1.08	3.3 ^a	0.98					2.85	1.00	0.00 ^c		
6 of 78	Expected	1.00		1.00		2.00	1.00	2.00	3.00						4.00	2.00	1.00		
	Actual	0.99		1.00		2.06	0.97	1.92	2.98						3.64	1.89	0.00 ^c		
7 of 78	Expected		1.00	2.00	1.00	3.00	2.00	2.00	1.00						2.00	2.00			1.00
	Actual		0.91	2.05	0.00 ^e	3.10	2.00	1.98	0.98						1.83	1.94			1.00
8 of 78	Expected		1.00	3.00	1.00	3.00	1.00	1.00	2.00						1.00	2.00			1.00
	Actual		1.00	3.02	0.01 ^e	3.14	0.95	0.94	1.81						0.72 ^b	1.88			1.17
9 of 78	Expected		1.00	3.00	1.00	2.00		1.00	2.00						1.00	2.00	1.00	1.00	2.00
	Actual		0.93	3.09	0.00 ^e	2.11		1.00	1.10 ^a						0.86	1.96	0.00 ^c	1.03	1.94
10 of 78	Expected			4.00		1.00		1.00	2.00						1.00	3.00	1.00	2.00	2.00
	Actual			4.07		1.00		1.05	1.83						0.88	2.64	0.00 ^c	1.86	1.99
11 of 78	Expected	1.00		5.00				1.00	1.00							3.00	1.00	1.00	4.00
	Actual	1.08		5.00				0.98	0.99							2.56	0.00 ^c	0.85	4.28
12 of 78	Expected	1.00		5.00			1.00		1.00		2.00				1.00	2.00		1.00	3.00
	Actual	0.99		5.00			1.00		0.94		2.06				0.95	1.93		0.89	1.94 ^a
13 of 78	Expected	2.00		3.00			2.00			1.00	2.00				1.00	3.00			3.00
	Actual	1.76		2.40 ^d			1.64			1.00	1.69				0.76 ^b	2.39 ^f			2.16 ^a
14 of 78	Expected	1.00		2.00	1.00		1.00		1.00	2.00	2.00				4.00	2.00			1.00
	Actual	1.00		1.98	0.00 ^e		0.98		0.95	2.08	1.94				3.50	1.83			1.01
15 of 78	Expected	2.00		1.00	1.00		2.00		2.00	2.00					4.00	1.00	1.00	1.00	
	Actual	1.70		0.64 ^d	0.26 ^e		1.51 ^g		2.00	1.54 ^h					2.38 ^b	0.58 ^f	0.00 ^c	1.00	

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)	
16 of 78	Expected	1.00		2.00	1.00		1.00		3.00	1.00	1.00				4.00	1.00	1.00	1.00		
	Actual	0.99		2.00	0.00 ^e		0.94		2.79	0.80	1.02				2.53 ^b	0.88	0.00 ^c	0.88		
17 of 78	Expected	1.00	1.00	2.00			3.00		3.00		2.00				2.00	1.00	1.00	1.00		
	Actual	0.99	0.89	2.03			3.00		3.01		2.03				1.79	0.95	0.00 ^c	0.96		
18 of 78	Expected		2.00	3.00			2.00		3.00		2.00		1.00		2.00				2.00	
	Actual		2.01	2.72			1.92		2.70		1.78		1.00		1.28 ^b				1.84	
19 of 78	Expected		1.00	1.00		1.00	2.00		3.00		1.00		2.00	1.00	2.00				2.00	
	Actual		0.91	1.00		1.02	1.90		2.36 ^a		1.00		1.71	0.98	1.84				1.31 ^a	
20 of 78	Expected		1.00	1.00	1.00	2.00		1.00	2.00	1.00			2.00	1.00	2.00				2.00	
	Actual		0.92	0.99	0.00 ^e	2.15		0.92	1.34 ^a	1.00			1.79	0.87	1.89				1.31 ^a	
21 of 78	Expected		2.00		2.00	2.00		1.00	1.00	2.00			3.00	1.00	2.00	1.00				
	Actual		2.00		0.00 ^e	2.07		1.00	0.81	2.13			2.64	0.95	1.84	0.96				
22 of 78	Expected	1.00	1.00		2.00	2.00	1.00	1.00		4.00			2.00		1.00	2.00				
	Actual	1.08	0.97		0.00 ^e	2.00	1.04	0.97		4.34			1.78		0.88	1.88				
23 of 78	Expected	1.00	1.00	3.00		1.00	1.00	1.00		3.00	1.00		2.00		1.00	2.00				
	Actual	0.97	0.92	3.00		0.99	0.95	0.96		3.16	0.98		1.74		0.93	1.87				
24 of 78	Expected	1.00		4.00		1.00	2.00	1.00		2.00	2.00				1.00	2.00			1.00	
	Actual	1.00		4.08		1.03	1.97	0.98		2.18	1.96				0.96	1.93			0.96	
25 of 78	Expected	1.00	2.00	4.00			1.00	1.00			2.00			1.00	2.00	1.00		1.00	1.00	
	Actual	0.88	1.81	4.04			0.96	0.95			1.93			1.01	1.85	0.95		1.00	0.97	
26 of 78	Expected	1.00	2.00	1.00	1.00		1.00			2.00	1.00	1.00		2.00	2.00	1.00		1.00	1.00	
	Actual	1.04	2.00	1.01	0.00 ^e		1.01			2.20	1.00	1.04		1.85	1.72	0.94		1.01	1.00	
27 of 78	Expected	2.00	1.00		1.00	1.00	1.00			2.00		1.00		4.00	3.00			1.00		
	Actual	2.00	0.97		0.00 ^e	1.09	1.00			2.19		1.02		3.95	2.74			1.00		
28 of 78	Expected	1.00		1.00	1.00	2.00	1.00			1.00	1.00	1.00	1.00	3.00	3.00			1.00		
	Actual	1.00		1.02	0.00 ^e	2.05	0.98			1.05	0.97	0.98	0.86	2.87	2.90			1.01		
29 of 78	Expected	3.00		1.00		2.00						1.00		1.00	2.00	4.00		1.00	1.00	1.00
	Actual	2.88		0.97		2.03					1.00		0.98	1.92	3.61		0.00 ^c	0.98	1.01	
30 of 78	Expected	3.00		2.00	1.00	1.00	1.00	1.00			1.00		1.00		4.00		1.00		1.00	
	Actual	3.00		2.02	0.00 ^e	1.04	0.98	0.97			0.99		0.89		3.61		0.00 ^c		0.98	
31 of 78	Expected	3.00		1.00	1.00		2.00	1.00	1.00	1.00		1.00			2.00	1.00	2.00		1.00	
	Actual	2.89		1.00	0.00 ^e		2.00	1.01	0.97	1.06		1.00			1.74	0.92	0.00 ^c		0.96	
32 of 78	Expected	1.00		2.00	1.00		4.00	1.00	2.00	1.00		1.00		1.00	1.00	1.00	1.00			
	Actual	0.93		2.00	0.00 ^e		4.56	0.97	2.03	1.03		0.96		0.90	0.92	0.95	0.00 ^c			
33 of 78	Expected	2.00		2.00			4.00		2.00	1.00				1.00	1.00	1.00	1.00		2.00	
	Actual	2.00		2.00			4.02		1.92	1.02				1.03	0.92	0.92	0.00 ^c		1.99	
34 of 78	Expected	2.00		3.00			3.00		2.00	1.00	1.00			1.00	1.00			1.00	2.00	
	Actual	2.09		2.96			3.03		1.92	0.94	1.02			1.08	0.85			1.00	1.94	
35 of 78	Expected	2.00		1.00		1.00	2.00		3.00	1.00	2.00					2.00		1.00	2.00	
	Actual	1.86		1.00		1.03	1.96		2.66 ^a	1.10	2.15					1.96		1.03	2.06	
36 of 78	Expected		1.00	1.00		1.00	1.00		4.00		4.00				1.00	2.00	1.00	1.00		
	Actual		0.96	0.99		1.04	1.00		2.92 ^a		4.00				0.96	1.88	0.00 ^c	1.01		
37 of 78	Expected		2.00			3.00			2.00	1.00	3.00				2.00	3.00	1.00			
	Actual		1.96			3.22			1.73	0.92	3.00				1.92	2.83	0.00 ^c			
38 of 78	Expected		2.00	1.00	2.00	3.00			1.00	1.00	2.00				1.00	1.00	1.00		2.00	
	Actual		1.95	1.03	0.00 ^e	3.22			0.93	1.00	1.88				0.93	0.98	0.00 ^c		2.01	
39 of 78	Expected		1.00	1.00	3.00	3.00	1.00		1.00				1.00		2.00	2.00			2.00	
	Actual		0.95	1.02	0.00 ^e	2.83	1.00		1.02				1.04		1.74	1.89			2.01	
40 of 78	Expected			2.00	3.00		2.00		1.00			1.00	1.00	1.00	2.00	2.00			2.00	
	Actual			1.69	0.00 ^e		2.00		0.95			0.98	1.01	0.92	1.28 ^b	1.81			1.76	

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)
41 of 78	Expected	2.00		2.00	1.00		2.00		1.00			1.00	1.00	1.00	3.00	2.00		1.00	
	Actual	1.98		1.97	0.00 ^e		1.96		0.99			1.06	1.00	1.01	2.77	1.91		0.94	
42 of 78	Expected	2.00		2.00		1.00	2.00		2.00		2.00		1.00	1.00	2.00	1.00		1.00	
	Actual	1.96		2.00		1.02	1.93		1.80		1.95		0.87	0.98	1.85	0.93		1.02	
43 of 78	Expected	2.00				1.00	2.00		2.00		5.00		1.00		1.00	1.00		1.00	1.00
	Actual	2.00				1.05	2.01		1.90		4.93		0.89		0.93	0.96		1.00	0.96
44 of 78	Expected	1.00		1.00		2.00	1.00		3.00	1.00	4.00		1.00		1.00	1.00			1.00
	Actual	1.02		1.00		2.04	1.03		2.67	1.04	3.93		0.85		0.96	0.97			0.96
45 of 78	Expected	1.00		2.00		2.00	1.00	1.00	1.00	1.00	2.00		1.00	1.00	1.00	1.00		1.00	1.00
	Actual	1.00		2.01		2.02	0.96	1.01	0.97	1.02	2.00		0.92	0.97	0.91	0.95		0.97	0.97
46 of 78	Expected	1.00		2.00	2.00	3.00		1.00	1.00	1.00			1.00	2.00	1.00			2.00	
	Actual	1.01		2.02	0.00 ^e	3.16		1.04	0.96	1.00			1.01	1.74	0.92			2.03	
47 of 78	Expected			2.00	2.00	2.00	1.00	1.00				1.00	1.00	1.00	1.00	2.00		2.00	1.00
	Actual			2.01	0.00 ^e	2.06	0.95	0.98				0.99	1.01	0.85	0.90	1.91		2.00	1.01
48 of 78	Expected		1.00	3.00	4.00		1.00					1.00		1.00	1.00	2.00		1.00	2.00
	Actual		1.00	3.00	0.00 ^e		1.01					1.01		0.86	1.04	1.89		1.03	1.96
49 of 78	Expected		2.00	3.00	2.00		2.00	1.00				1.00			1.00	2.00	1.00	2.00	
	Actual		2.00	2.65	0.00 ^e		1.99	1.05				1.02			0.94	1.94	0.00 ^c	2.03	
50 of 78	Expected		2.00	4.00	1.00		1.00	1.00					1.00	1.00	2.00		2.00		2.00
	Actual		1.92	3.43 ^d	0.10 ^e		1.00	0.97					1.11	0.90	1.56 ^b		0.00 ^c		1.87
51 of 78	Expected		1.00	4.00		2.00	1.00	1.00		1.00			1.00	1.00	2.00		1.00	1.00	1.00
	Actual		0.97	3.96		1.92	0.97	1.01		1.00			1.04	1.09	1.74		0.00 ^c	0.95	0.95
52 of 78	Expected			3.00	1.00	2.00	1.00		2.00	1.00			1.00		2.00		1.00	2.00	1.00
	Actual			3.00	0.00 ^e	1.86	1.03		1.86	1.02			0.99		1.61		0.00 ^c	1.93	0.92
53 of 78	Expected			4.00	1.00	1.00	3.00		2.00	1.00			1.00		1.00			2.00	1.00
	Actual			3.87	0.00 ^e	1.00	3.01		1.74	0.88			1.02		0.96			1.85	0.97
54 of 78	Expected		1.00	3.00	1.00		4.00		1.00		1.00		1.00	2.00	1.00			1.00	1.00
	Actual		1.00	3.04	0.00 ^e		4.05		0.96		1.03		0.91	2.03	0.90			0.95	0.93
55 of 78	Expected		1.00	4.00	1.00	1.00	3.00				1.00		1.00	3.00	1.00				1.00
	Actual		1.00	4.24	0.00 ^e	1.09	3.06				1.05		0.86	3.07	0.87				0.92
56 of 78	Expected	1.00	1.00	3.00	1.00	1.00	3.00				1.00			2.00	1.00	1.00			2.00
	Actual	1.00	0.97	2.99	0.00 ^e	1.04	3.01				1.00			2.10	0.88	0.94			2.00
57 of 78	Expected	1.00		3.00	1.00		4.00				1.00		1.00	1.00	1.00	1.00			3.00
	Actual	1.05		2.95	0.00 ^e		4.00				0.90		0.98	0.97	0.90	0.93			2.86
58 of 78	Expected	1.00		3.00			4.00				2.00		1.00		1.00	1.00		2.00	2.00
	Actual	1.03		2.90			4.00				1.85		1.02		0.92	0.85		2.05	1.71
59 of 78	Expected		1.00	1.00			5.00		1.00		2.00		1.00		1.00		1.00	2.00	2.00
	Actual		0.95	1.00			4.79		0.87		1.82		0.92		0.75 ^b		0.00 ^c	2.04	1.82
60 of 78	Expected		2.00	2.00			3.00	1.00	1.00	2.00					1.00	1.00	1.00	2.00	1.00
	Actual		1.92	2.00			2.88	0.93	1.00	1.93					0.92	0.95	0.00 ^c	1.89	0.92
61 of 78	Expected		3.00	1.00		1.00	2.00		1.00	1.00	2.00	1.00	1.00		1.00	1.00	1.00		1.00
	Actual		2.83	1.00		1.03	1.90		0.86	1.01	1.96	0.96	0.92		0.93	0.94	0.00 ^c		0.85
62 of 78	Expected		2.00	3.00		1.00	2.00		1.00	1.00	2.00	1.00	1.00	1.00	1.00		1.00		
	Actual		1.92	3.00		1.04	1.93		0.85	1.01	1.99	0.99	1.00	0.92	0.91		0.00 ^c		
63 of 78	Expected			4.00		1.00	2.00		1.00		1.00	1.00	1.00	1.00	1.00	2.00	2.00		
	Actual			4.07		1.04	1.96		0.85		1.01	0.99	1.00	0.99	0.92	1.95	0.00 ^c		
64 of 78	Expected			5.00		1.00	1.00				1.00		1.00	1.00	2.00	2.00	2.00		1.00
	Actual			5.00		1.02	0.95				0.88		0.99	0.98	1.82	1.83	0.00 ^c		0.86
65 of 78	Expected	1.00		4.00		1.00			1.00		1.00		1.00		2.00	3.00			3.00
	Actual	1.00		3.76		1.04			0.97		0.89		0.90		1.78	2.62			2.05 ^a

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)
66 of 78	Expected	1.00		2.00		1.00	1.00		1.00		1.00		1.00		3.00	1.00	1.00	1.00	3.00
	Actual	1.07		1.71		1.05	1.06		1.08		0.90		1.00		2.90	1.02	0.00 ^c	1.03	2.14 ^a
67 of 78	Expected	1.00		1.00		1.00	2.00	1.00	1.00				1.00		3.00	1.00	1.00	1.00	3.00
	Actual	1.00		0.98		1.05	2.03	1.00	1.00				0.94		2.78	0.91	0.00 ^c	1.01	1.90 ^a
68 of 78	Expected					2.00	3.00	1.00		2.00			1.00	1.00	3.00	1.00	1.00	1.00	1.00
	Actual					2.00	2.94	0.97		2.11			0.88	0.97	2.69	0.91	0.00 ^c	0.98	0.95
69 of 78	Expected		1.00	1.00	1.00	2.00	1.00	1.00	1.00	2.00			1.00	2.00	1.00	1.00			1.00
	Actual		0.89	1.02	0.00 ^e	2.01	1.00	0.97	0.80	2.18			0.88	1.89	0.91	0.96			0.93
70 of 78	Expected		1.00	1.00	2.00	2.00	1.00		1.00	3.00			1.00	2.00		1.00	1.00		1.00
	Actual		0.91	1.00	0.00 ^e	2.10	0.97		0.81	3.15			1.01	1.78		0.96	0.00 ^c		0.99
71 of 78	Expected		3.00	1.00	2.00	1.00	1.00		1.00	2.00			1.00	2.00			1.00		2.00
	Actual		2.83	1.03	0.00 ^e	1.11	1.02		0.82	2.16			1.00	1.83			0.00 ^c		1.93
72 of 78	Expected		2.00	1.00		2.00	1.00		1.00	2.00			1.00	1.00		2.00	2.00		2.00
	Actual		1.80	1.01		2.00	1.98		0.84	2.05			1.00	0.94		1.80	0.00 ^c		1.67
73 of 78	Expected		2.00	1.00		1.00	2.00		2.00	1.00				1.00	3.00	3.00	1.00		
	Actual		1.92	1.02		1.00	1.95		1.86	1.02				0.97	2.82	2.74	0.00 ^c		
74 of 78	Expected			2.00	1.00		2.00		2.00				1.00		4.00	3.00	1.00		1.00
	Actual			2.00	0.00 ^e		2.00		1.89				1.00		3.77	2.71	0.00 ^c		0.97
75 of 78	Expected	1.00		3.00	1.00		2.00		1.00				1.00		5.00	1.00	1.00		1.00
	Actual	0.88		2.39 ^d	0.07 ^e		1.82		1.00				1.04		3.41 ^b	1.09	0.00 ^c		1.13
76 of 78	Expected	2.00		4.00	1.00		2.00						1.00	1.00	2.00	1.00	2.00		1.00
	Actual	2.00		3.83	0.00 ^e		1.98						1.05	0.94	1.91	1.00	0.00 ^c		1.05
77 of 78	Expected	2.00		3.00		1.00	1.00		1.00	1.00			1.00	2.00	1.00	2.00	2.00		
	Actual	2.00		2.65		1.05	1.00		1.01	1.09			0.94	2.04	0.94	1.91	0.00 ^c		
78 of 78	Expected	1.00		2.00		1.00	1.00		1.00	1.00	1.00		1.00	2.00		1.00	1.00		
	Actual	0.98		1.99		1.00	0.97		0.95	1.03	0.98		0.89	1.98		0.92	0.00 ^c		

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

^bSer was only partially hydrolyzed during hydrolysis

^cTrp was completely destroyed during hydrolysis

^dAsp/Asn was only partially hydrolyzed during hydrolysis

^eCys was completely destroyed during hydrolysis

^fThr was only partially hydrolyzed during hydrolysis

^gGly was only partially hydrolyzed during hydrolysis

^hLeu was only partially hydrolyzed during hydrolysis

Date: 22 JUN 2012

Signature: *Dorothy C. Young*

Title: Technical Manager, BEI Authentication or designee

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected by the vendor to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.

ATCC® is a trademark of the American Type Culture Collection.

You are authorized to use this product for research use only. It is not intended for human use.

