

## Peptide Array, Dengue Virus Type 1 (DEN-1), Singapore/S275/1990, E Protein

### Catalog No. NR-4551

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

**Product Description:** The 84-peptide array spans the E protein of Dengue virus type 1, Singapore/S275/1990 (GenPept: P33478). Peptides are 13- to 18-mers, with 11 or 12 amino acid overlaps.

### Lot: R678-1 to R678-84

The following information applies to all peptides:

- Appearance
- Mass spectral analysis
- Counter Ion

White lyophilized powder  
Correct MW by MALDI-TOF  
Trifluoroacetate

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

Table 1							
Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Hydrophilicity	Purity by HPLC <sup>a</sup>	Peptide Content <sup>b</sup>
1 of 84	6/12/007	17	1-MRCVGIGSRDFVEGLSG-17	1783.05	0.1	97.7%	83.9%
2 of 84	6/12/007	17	7-GSRDFVEGLSGATWVDV-23	1794.95	0.0	99.6%	88.7%
3 of 84	6/12/007	17	12-VEGLSGATWVDVLEHG-28	1767.96	-0.3	87.4%	88.6%
4 of 84	6/12/007	17	18-ATWVDVLEHGSCVTTM-34	1848.14	-0.6	94.4%	89.0%
5 of 84	6/12/007	17	24-VLEHGSCVTTMAKDKPT-40	1817.14	0.2	97.6%	79.9%
6 of 84	6/12/007	17	30-CVTTMAKDKPTLDIELL-46	1891.31	0.1	98.2%	84.7%
7 of 84	6/12/007	17	36-KDKPTLDIELLKTEVTN-52	1957.28	0.5	97.0%	81.1%
8 of 84	6/12/007	17	42-DIELLKTEVTNPAVLRK-58	1939.31	0.4	99.2%	81.0%
9 of 84	6/12/007	17	48-TEVTNPAVLRKLCIEAK-64	1885.29	0.2	81.3%	80.5%
10 of 84	6/12/007	17	54-AVLRKLCIEAKISNTTT-70	1861.27	0.0	83.6%	80.3%
11 of 84	6/12/007	17	60-CIEAKISNTTTDSRCPT-76	1840.09	0.3	97.8%	84.3%
12 of 84	6/12/007	17	66-SNTTTDSRCPTQGEATL-82	1781.90	0.3	97.2%	88.7%
13 of 84	6/12/007	17	72-SRCPTQGEATLVEEQDA-88	1833.98	0.6	88.3%	88.9%
14 of 84	6/12/007	17	78-GEATLVEEQDANFVCRR-94	1937.14	0.5	82.1%	85.0%
15 of 84	6/12/007	17	83-VEEQDANFVCRRTFVDR-99	2084.31	0.6	93.5%	82.0%
16 of 84	6/12/007	16	89-NFVCRRTFVDRGWGNG-104	1884.10	0.0	81.4%	80.5%
17 of 84	6/12/007	17	94-RTFVDRGWGNGCGLFGK-110	1870.12	-0.1	95.4%	80.4%
18 of 84	6/12/007	16	100-GWGNGCGLFGKGSLLT-115	1566.79	-0.6	90.2%	87.3%
19 of 84	6/12/007	16	105-CGLFGKGSLLTCAKFK-120	1673.09	-0.3	82.9%	78.6%
20 of 84	6/12/007	17	110-KGSLLTCAKFKCVTKLE-126	1869.35	0.2	90.3%	76.6%
21 of 84	6/12/007	17	116-CAKFKCVTKLEGKIVQY-132	1958.44	0.1	91.0%	77.5%
22 of 84	6/12/007	16	122-VTKLEGKIVQYENLKY-137	1925.27	0.1	87.4%	80.9%
23 of 84	6/12/007	17	127-GKIVQYENLKYSVIVTV-143	1953.31	-0.4	98.2%	85.1%
24 of 84	6/12/007	17	132-YENLKYSVIVTVHTGDQ-148	1966.18	-0.3	92.5%	85.2%

Table 1

Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Hydrophilicity	Purity by HPLC <sup>a</sup>	Peptide Content <sup>b</sup>
25 of 84	6/12/007	17	138-SVIVTVHTGDQHQVGNE-154	1819.93	-0.2	86.8%	84.2%
26 of 84	6/12/007	17	144-HTGDQHQVGNETTEHGT-160	1847.83	0.3	95.4%	80.2%
27 of 84	6/12/007	17	149-HQVGNETTEHGTIATIT-165	1808.94	-0.1	100.0%	84.1%
28 of 84	6/12/007	16	155-TTEHGTIATITPQAPT-170	1638.84	-0.3	99.7%	87.8%
29 of 84	6/12/007	17	160-TIATITPQAPTSEIQLT-176	1785.07	-0.4	94.1%	88.7%
30 of 84	6/12/007	17	166-PQAPTSEIQLTDYGALT-182	1805.01	-0.2	98.6%	88.8%
31 of 84	6/12/007	18	171-SEIQLTDYGALTLDCSPR-188	1982.22	0.1	83.3%	89.7%
32 of 84	6/12/007	17	178-YGALTLDCSPRTGLDFN-194	1843.06	-0.2	92.2%	89.0%
33 of 84	6/12/007	17	184-DCSPRTGLDFNEMVLLT-200	1911.19	0.0	82.2%	89.3%
34 of 84	6/12/007	17	190-GLDFNEMVLLTMKEKSW-206	2041.44	0.0	83.9%	85.7%
35 of 84	6/12/007	17	196-MVLLTMKEKSWLVHKQW-212	2157.70	-0.4	95.7%	79.1%
36 of 84	6/12/007	17	202-KEKSWLVHKQWFLDLPL-218	2167.61	-0.2	96.6%	79.2%
37 of 84	6/12/007	17	208-VHKQWFLDLPLPWTSGA-224	1995.34	-0.7	94.9%	85.4%
38 of 84	6/12/007	17	214-LDLPLPWTSGASTSQET-230	1802.99	-0.2	99.3%	88.8%
39 of 84	6/12/007	17	220-WTSGASTSQETWNRQDL-236	1967.07	0.0	86.5%	89.6%
40 of 84	6/12/007	17	226-TSQETWNRQDLLVTFKT-242	2067.31	0.0	95.2%	85.8%
41 of 84	6/12/007	17	232-NRQDLLVTFKTAHAKKQ-248	1998.35	0.3	98.5%	74.5%
42 of 84	6/12/007	17	238-VTFKTAHAKKQEVVVLG-254	1855.24	0.0	92.7%	76.5%
43 of 84	6/12/007	17	244-HAKKQEVVVLGSQEGAM-260	1811.11	0.2	85.7%	79.9%
44 of 84	6/12/007	17	250-VVVLGSQEGAMHTALTG-266	1669.93	-0.5	83.4%	88.0%
45 of 84	6/12/007	17	255-SQEGAMHTALTGATEIQ-271	1744.94	-0.1	85.1%	88.4%
46 of 84	6/12/007	17	261-HTALTGATEIQTSGTTT-277	1689.84	-0.3	91.0%	88.1%
47 of 84	6/12/007	17	267-ATEIQTSGTTTIFAGHL-283	1747.96	-0.5	90.0%	88.5%
48 of 84	6/12/007	17	273-SGTTTIFAGHLKCRCLKM-289	1864.29	-0.2	91.4%	76.6%
49 of 84	6/12/007	17	279-FAGHLKCRCLKMDKLT-295	2002.55	0.3	90.2%	71.5%
50 of 84	6/12/007	17	285-CRLKMDKLTGMSYVM-301	2017.59	0.0	93.0%	78.0%
51 of 84	6/12/007	17	291-KLTLGMSYVMCTGSFK-307	1894.37	-0.3	83.7%	80.6%
52 of 84	6/12/007	17	297-MSYVMCTGSFKLEKEVA-313	1923.33	-0.1	99.1%	84.9%
53 of 84	6/12/007	17	303-TGSFKLEKEVAETQHGT-319	1862.06	0.4	87.7%	80.3%
54 of 84	6/12/007	17	308-LEKEVAETQHGTVLVQV-324	1880.14	0.1	86.2%	84.6%
55 of 84	6/12/007	17	313-AETQHGTVLVQVKYEGT-329	1860.07	-0.1	92.6%	84.5%
56 of 84	6/12/007	17	319-TVLVQVKYEGTDAPCKI-335	1864.21	0.0	96.6%	84.5%
57 of 84	6/12/007	17	325-KYEGTDAPCKIPFSTQD-341	1900.13	0.4	98.7%	84.7%
58 of 84	6/12/007	17	331-APCKIPFSTQDEKGVTV-347	1849.12	0.3	96.5%	84.4%
59 of 84	6/12/007	17	337-FSTQDEKGVTVQNRLLITA-353	1908.12	0.2	93.8%	84.8%
60 of 84	6/12/007	17	343-KGVTVQNRLLITANPIVTD-359	1840.12	0.0	98.7%	84.3%
61 of 84	6/12/007	17	349-RLITANPIVTDKEKPVN-365	1908.25	0.3	94.6%	80.7%
62 of 84	6/12/007	15	355-PIVTDKEKPVNIETE-369	1711.95	0.7	98.5%	83.3%
63 of 84	6/12/007	16	359-DKEKPVNIETEPFGE-374	1829.02	0.9	98.3%	84.2%
64 of 84	6/12/007	17	364-VNIETEPFGEYIVVG-380	1850.06	-0.2	95.2%	89.0%
65 of 84	6/12/007	17	370-PPFGESYIVVGAGEKAL-386	1734.01	-0.2	92.8%	88.4%
66 of 84	6/12/007	17	376-YIVVGAGEKALKQCWFK-392	1940.37	-0.3	88.2%	81.0%
67 of 84	6/12/007	17	382-GEKALKQCWFKGSSIG-398	1867.23	0.3	87.8%	76.6%
68 of 84	6/12/007	17	387-KQCWFKGSSIGKMFEA-403	1975.40	0.2	93.7%	77.6%
69 of 84	6/12/007	17	393-KGSSIGKMFPEATARGAR-409	1767.09	0.5	85.8%	75.6%
70 of 84	6/12/007	17	399-KMFPEATARGARRMAILG-415	1879.34	0.2	91.5%	76.7%

Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Hydrophilicity	Purity by HPLC <sup>a</sup>	Peptide Content <sup>b</sup>
71 of 84	6/12/007	17	405-ARGARRMAILGDTAWDF-421	1907.24	0.1	95.6%	80.7%
72 of 84	6/12/007	17	411-MAILGDTAWDFGSIGGV-427	1709.96	-0.5	82.3%	88.2%
73 of 84	6/12/007	17	417-TAWDFGSIGGVFTSVGK-433	1728.94	-0.5	95.7%	88.3%
74 of 84	6/12/007	17	423-SIGGVFTSVGKLVHQVF-439	1775.07	-0.7	92.3%	83.8%
75 of 84	6/12/007	17	429-TSVGKLVHQVFGTAYGV-445	1763.03	-0.6	94.5%	83.8%
76 of 84	6/12/007	16	435-VHQVFGTAYGVLFSGV-450	1680.92	-1.0	92.2%	88.1%
77 of 84	6/12/007	17	440-GTAYGVLFSGVSWTMKI-456	1817.16	-0.8	82.0%	88.9%
78 of 84	6/12/007	17	446-LFSGVSWTMKIGIGILL-462	1835.29	-1.0	89.3%	88.9%
79 of 84	6/12/007	17	452-WTMKIGIGILLTWLGLN-468	1929.41	-1.1	80.9%	89.4%
80 of 84	6/12/007	17	458-IGILLTWLGLNSRSTSL-474	1844.19	-0.7	95.4%	89.0%
81 of 84	6/12/007	17	464-WLGLNSRSTLSMTCIA-480	1840.17	-0.6	85.4%	89.0%
82 of 84	6/12/007	17	470-RSTLSMTCIAVGMVTL-486	1770.18	-0.6	Unknown <sup>c</sup>	88.6%
83 of 84	6/12/007	17	476-MTCIAVGMVTLYLGVMV-492	1801.33	-1.2	Unknown <sup>c</sup>	88.8%
84 of 84	6/12/007	13	482-GMVTLYLGVMVQA-494	1381.72	-1.1	Unknown <sup>c</sup>	85.8%

<sup>a</sup>% full-length  
<sup>b</sup>Remainder is salt and water  
<sup>c</sup>Peptide incompatible with HPLC conditions

Note: Actual amino acid results which are not within 20% of expected results are highlighted in red.

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 84	Expected		2	1	1	1	4		1	1		1	1		2				2
	Actual		2	0.96	0.54 <sup>a</sup>	0.96	3.73		1.05	1.04		1.04	0.94		1.84				1.86
2 of 84	Expected	1	1	2		1	3			1			1		2	1	1		3
	Actual	0.98	1.13	1.87		0.92	3.09			1			0.97		1.94	0.96	0.00 <sup>b</sup>		2.81
3 of 84	Expected	1		1		2	3	1		2					1	1	1		4
	Actual	1		0.99		1.86	2.97	1.23		1.8					1.02	0.87	0.00 <sup>b</sup>		2.55 <sup>c</sup>
4 of 84	Expected	1		1	1	1	1	1		1		1			1	3	1		4
	Actual	0.91		0.93	0.46 <sup>a</sup>	1	1.18	1.15		0.96		1.04			0.67	2.88	0.00 <sup>b</sup>		2.49 <sup>c</sup>
5 of 84	Expected	1		1	1	1	1	1		1	2	1		1	1	3			2
	Actual	0.97		0.95	0.52 <sup>a</sup>	1.07	1.04	1.06		1	1.74	0.99		1.06	0.96	2.79			1.86
6 of 84	Expected	1		2	1	1			1	3	2	1		1		3			1
	Actual	1.12		2	0.55 <sup>a</sup>	0.86			0.89	2.83	1.94	1.09		1.18		2.79			0.96
7 of 84	Expected			3		2			1	3	3			1		3			1
	Actual			2.91		2.03			0.98	2.92	2.8			1.19		3			1.22
8 of 84	Expected	1	1	2		2			1	3	2			1		2			2
	Actual	1.01	1.15	2		1.89			0.83	2.78	1.99			1.02		2.14			1.93
9 of 84	Expected	2	1	1	1	2			1	2	2			1		2			2
	Actual	1.91	1.13	0.86	0.53 <sup>a</sup>	1.88			0.91	2	1.81			1.16		1.93			1.82
10 of 84	Expected	2	1	1	1	1			2	2	2				1	3			1
	Actual	2	1.15	1.02	0.55 <sup>a</sup>	0.98			1.8	1.74	1.85				0.86	2.88			0.88
11 of 84	Expected	1	1	2	2	1			2		1			1	2	4			
	Actual	1.08	1.16	2	0.98 <sup>a</sup>	0.96			1.84		0.88			1.2	1.99	3.63			
12 of 84	Expected	1	1	2	1	2	1			1				1	2	5			
	Actual	1.06	1.05	1.75	0.50 <sup>a</sup>	1.93	0.98			1.1				1.06	1.71	4.7			
13 of 84	Expected	2	1	1	1	5	1			1				1	1	2			1
	Actual	1.95	1.1	0.98	0.60 <sup>a</sup>	4.64	1.1			1.03				1.12	1.01	1.82			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)
14 of 84	Expected	2	2	2	1	4	1			1			1			1			2
	Actual	2	2.12	1.79	0.53 <sup>a</sup>	3.73	1.02			1.13			0.99			1.11			1.78
15 of 84	Expected	1	3	3	1	3							2			1			3
	Actual	1.07	3.15	2.93	0.55 <sup>a</sup>	3							2.14			1.08			2.84
16 of 84	Expected		3	3	1		3						2			1	1		2
	Actual		2.97	3	0.56 <sup>a</sup>		3.08						1.87			0.89	0.00 <sup>b</sup>		2.04
17 of 84	Expected		2	2	1	0	5			1	1		2			1	1		1
	Actual		2.18	1.9	0.51 <sup>a</sup>	0	5.02			1.08	0.99		1.86			1	0.00 <sup>b</sup>		1.09
18 of 84	Expected			1	1		6			3	1		1		1	1	1		
	Actual			0.91	0.46 <sup>a</sup>		5.71			2.86	1.01		1.09		1	1.04	0.00 <sup>b</sup>		
19 of 84	Expected	1			2	0	3			3	3	0	2		1	1			
	Actual	1			0.95 <sup>a</sup>	0	3.05			2.8	2.9	0	1.77		1.04	0.85			
20 of 84	Expected	1			2	1	1			3	4		1		1	2			1
	Actual	1			0.92 <sup>a</sup>	1.02	1.13			2.79	3.83		0.95		0.98	1.89			0.97
21 of 84	Expected	1			2	2	1		1	1	4		1			1		1	2
	Actual	0.83			0.98 <sup>a</sup>	1.73	1.05		0.47 <sup>c</sup>	0.97	4.02		0.77			1		1.12	1.36 <sup>c</sup>
22 of 84	Expected			1		3	1		1	2	3					1	1	2	2
	Actual			0.96		2.9	1.19		0.49 <sup>c</sup>	1.92	3.07					1.12		2	1.59 <sup>c</sup>
23 of 84	Expected			1		2	1		2	1	2				1	1		2	4
	Actual			1		1.82	1.07		0.75 <sup>c</sup>	1.18	2.12				1.09	0.89		1.8	2.61 <sup>c</sup>
24 of 84	Expected			2		2	1	1	1	1	1				1	2		2	3
	Actual			1.76		1.86	1.19	1	0.49 <sup>c</sup>	1.08	0.94				1.09	1.89		2.23	2.48 <sup>c</sup>
25 of 84	Expected			2		3	2	2	1						1	2			4
	Actual			1.81		2.94	2	2.03	0.68 <sup>c</sup>						1.11	1.72			2.64 <sup>c</sup>
26 of 84	Expected			2		4	3	3								4			1
	Actual			2		3.82	2.97	3.18								3.63			1.19
27 of 84	Expected	1		1		3	2	2	2							5			1
	Actual	1.01		0.81		2.86	2.05	2.16	2							4.79			1.02
28 of 84	Expected	2				2	1	1	2					2		6			
	Actual	1.97				1.87	1	1.07	1.97					2.07		5.71			
29 of 84	Expected	2				3			3	1				2	1	5			
	Actual	1.81				2.8			2.85	1.12				2	1.07	4.77			
30 of 84	Expected	2		1		3	1		1	2				2	1	3		1	
	Actual	1.83		0.9		3.06	1.08		0.82	1.91				2	0.91	2.77		1.14	
31 of 84	Expected	1	1	2	1	2	1		1	3				1	2	2		1	
	Actual	1.02	0.95	2.01	0.52 <sup>c</sup>	1.99	1.17		0.99	3.12				0.94	1.91	1.83		1	
32 of 84	Expected	1	1	3	1		2			3			1	1	1	2		1	
	Actual	1	1.12	2.98	0.45 <sup>c</sup>		2.15			2.96			1.12	1.09	1.08	1.78		1.17	
33 of 84	Expected			1	3	1	1			3		1	1	1	1	2			1
	Actual			1.11	2.73	0.54 <sup>c</sup>	1	1.06		2.89		0.92	1	1.09	0.98	1.79			0.83
34 of 84	Expected			2		2	1			3	2	2	1		1	1	1		1
	Actual			2		2.1	1.11			2.71	1.87	1.77	1.02		0.96	0.98	0.00 <sup>b</sup>		0.87
35 of 84	Expected					2		1		3	3	2			1	1	2	0	2
	Actual					2.02		1		2.81	2.7	1.93			1.13	1.12	0.00 <sup>b</sup>	0	1.94
36 of 84	Expected			1		2		1		4	3		1	1	1		2		1
	Actual			1		1.96		0.78		4.12	2.83		0.96	1.18	0.95		0.00 <sup>b</sup>		1
37 of 84	Expected	1		1		1	1	1		3	1		1	2	1	1	2		1
	Actual	0.97		0.97		1	1.04	0.83		2.76	0.89		1.14	1.99	0.97	0.92	0.00 <sup>b</sup>		1.07

		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)	
38 of 84	Expected	1		1		2	1			3				2	3	3	1			
	Actual	1.1		1		2	1.11			2.76				2.2	2.71	2.8	0.00 <sup>b</sup>			
39 of 84	Expected	1	1	2		3	1			1					3	3	2			
	Actual	0.92	1.07	1.87		2.8	0.89			1					2.94	2.75	0.00 <sup>b</sup>			
40 of 84	Expected		1	2		3				2	1		1		1	4	1		1	
	Actual		1.05	1.91		3.07				1.93	0.94		1.05		0.92	3.59	0.00 <sup>b</sup>		1	
41 of 84	Expected	2	1	2		2		1		2	3		1			2			1	
	Actual	2	1.05	1.74		1.9		1.17		1.83	2.85		1.1			1.98			1.03	
42 of 84	Expected	2				2	1	1		1	3		1			2			4	
	Actual	0.98				1.88	1.2	1.31		1.01	2.79		1.21			1.77			2.63 <sup>c</sup>	
43 of 84	Expected	2				4	2	1		1	2	1			1				3	
	Actual	1.88				3.98	2.08	0.87		0.99	1.86	1.04			1				1.62 <sup>c</sup>	
44 of 84	Expected	2				2	3	1		2		1			1	2			3	
	Actual	1.99				1.94	3	1.17		1.97		1.09			1.07	2			1.51 <sup>c</sup>	
45 of 84	Expected	3				4	2	1	1	1		1			1	3				
	Actual	3				4.07	2.02	1.07	0.94	1.19		0.84			0.99	2.59				
46 of 84	Expected	2				2	2	1	1	1					1	7				
	Actual	1.94				1.81	2.05	1.03	0.91	1.07					1	6.61				
47 of 84	Expected	2				2	2	1	2	1			1		1	5				
	Actual	1.75				1.72	1.89	1.15	1.71	1.1			1.03		1	4.83				
48 of 84	Expected	1	1		1		2	1	1	2	2	1	1		1	3				
	Actual	1.03	1.05		0.59 <sup>c</sup>		2	1.18	0.87	1.81	1.88	1.04	1		0.92	2.82				
49 of 84	Expected	1	1	1	1		1	1		4	4	1	1			1				
	Actual	1.11	1	0.9	0.56 <sup>c</sup>		0.97	1.02		3.85	3.8	0.96	1.04			0.98				
50 of 84	Expected		1	1	1		1			3	3	3			1	1		1	1	
	Actual		0.89	0.91	0.51 <sup>c</sup>		1.11			2.89	2.9	2.72			1.03	1.11		1.05	1	
51 of 84	Expected				1		2			2	3	2	1		2	2		1	1	
	Actual				0.48 <sup>c</sup>		2.11			1.91	2.76	1.9	1.13		1.84	2		1.02	1.03	
52 of 84	Expected	1			1	2	1			1	2	2	1		2	1		1	2	
	Actual	1			0.49 <sup>c</sup>	2.02	1.14			1.06	1.76	1.96	1.1		1.92	1.15		0.88	1.85	
53 of 84	Expected	1				4	2	1		1	2		1		1	3			1	
	Actual	0.94				3.91	1.94	1.12		0.97	1.92		1.01		0.96	2.78			1	
54 of 84	Expected	1				5	1	1		2	1					2			4	
	Actual	1				4.86	1.1	0.96		1.89	0.86					1.87			4.06	
55 of 84	Expected	1				4	2	1		1	1					3		1	3	
	Actual	0.98				3.77	2.1	1.02		1	0.72					2.72		1.04	2.91	
56 of 84	Expected	1		1	1	2	1		1	1	2			1		2		1	3	
	Actual	1.03		1	0.52 <sup>a</sup>	1.9	1.12		1	0.95	2.08			1.18		1.88		1.18	2.82	
57 of 84	Expected	1		2	1	2	1		1		2		1	2	1	2		1		
	Actual	1		1.87	0.49 <sup>a</sup>	1.95	1.11		1.01		1.99		1.04	2.06	0.99	1.89		0.98		
58 of 84	Expected	1		1	1	3	1		1		2		1	2	1	2			1	
	Actual	0.95		1	0.46 <sup>a</sup>	2.91	1.08		0.87		2.08		1.08	1.94	0.99	1.91			1.01	
59 of 84	Expected	1	1	2		3	1		1	1	1		1		1	3			1	
	Actual	0.94	1.08	1.91		2.95	1		0.97	0.98	0.83		1		0.93	2.81			0.96	
60 of 84	Expected	1	1	3		1	1		2	1	1			1		3			2	
	Actual	0.98	1.08	2.72		0.93	1.11		1.47 <sup>c</sup>	0.97	1			1.14		2.76			1.56 <sup>c</sup>	
61 of 84	Expected	1	1	3		1			2	1	2			2		2			2	
	Actual	0.98	1.07	2.77		1.05			1.55 <sup>c</sup>	1.01	1.95			2		1.88			1.48 <sup>c</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)	
62 of 84	Expected			2		3			2		2			2		2			2	
	Actual			2		2.88			1.43 <sup>c</sup>		2.13			2.1		2.01			1.42 <sup>c</sup>	
63 of 84	Expected			2		4	1		1		2		1	3		1			1	
	Actual			1.81		3.74	1.04		0.82		1.95		1.08	2.77		1			0.94	
64 of 84	Expected			1		3	2		2				1	2	1	1		1	3	
	Actual			0.83		2.78	2.08		1.47 <sup>c</sup>				1.12	2	0.97	0.87		1.09	1.9 <sup>c</sup>	
65 of 84	Expected	2				2	3		1	1	1		1	2	1			1	2	
	Actual	1.91				1.98	2.94		0.59 <sup>c</sup>	1.05	0.96		1	2	0.98			0.85	1.20 <sup>c</sup>	
66 of 84	Expected	2			1	2	2		1	1	3		1				1	1	2	
	Actual	1.91			0.51 <sup>a</sup>	2	2.09		0.65 <sup>c</sup>	1.04	2.91		1.05				0.00 <sup>b</sup>	0.93	1.30 <sup>c</sup>	
67 of 84	Expected	1			1	2	3		1	1	4		1		2		1			
	Actual	0.99			0.50 <sup>a</sup>	1.95	3		1.07	1.05	3.92		0.99		1.82		0.00 <sup>b</sup>			
68 of 84	Expected	1			1	2	2		1		4	1	2		2	0	1			
	Actual	0.96			0.58 <sup>a</sup>	1.82	2.15		1.11		3.9	1	2.01		1.89	0	0.00 <sup>b</sup>			
69 of 84	Expected	3	2			1	3		1		2	1	1		2	1				
	Actual	2.89	2.08			1.02	3		1.05		1.91	0.95	1.09		1.91	1.09				
70 of 84	Expected	4	3			1	2		1	1	1	2	1			1				
	Actual	3.78	2.91			0.89	2.21		0.95	0.96	1.11	2.03	1.19			1				
71 of 84	Expected	4	3	2			2		1	1		1	1			1	1			
	Actual	3.82	3	1.8			2.26		0.81	0.82		1.03	0.92			1	0.00 <sup>b</sup>			
72 of 84	Expected	2		2			4		2	1		1	1		1	1	1		1	
	Actual	1.86		2			3.81		1.83	0.9		1.07	0.98		0.96	0.95	0.00 <sup>b</sup>		1.03	
73 of 84	Expected	1		1			4		1		1		2	0	2	2	1	0	2	
	Actual	1.1		1.1			4.04		1.19		1		1.93	0	2	1.9	0.00 <sup>b</sup>	0	1.89	
74 of 84	Expected					1	3	1	1	1	1		2		2	1			4	
	Actual					0.96	2.91	0.91	1.05	0.99	0.89		2		1.87	1			3.7	
75 of 84	Expected	1				1	3	1		1	1		1		1	2		1	4	
	Actual	1.05				1	2.97	0.85		1	0.84		0.93		1.01	1.83		1	3.76	
76 of 84	Expected	1				1	3	1		1			2		1	1		1	4	
	Actual	1.01				1.05	2.99	0.87		0.9			1.97		1	0.92		1.08	3.73	
77 of 84	Expected	1					3		1	1	1	1	1		2	2	1	1	2	
	Actual	0.93					3		0.95	0.88	0.78	0.99	1.09		1.92	1.79	0.00 <sup>b</sup>	1.18	1.72	
78 of 84	Expected						3		3	3	1	1	1		2	1	1		1	
	Actual						3		2.89	2.92	0.97	1	0.96		1.79	1.05	0.00 <sup>b</sup>		1.01	
79 of 84	Expected			1			3		3	4	1	1				2	2			
	Actual			0.78			3.18		2.87	4	0.85	1.12				1.77	0.00 <sup>b</sup>			
80 of 84	Expected		1	1			2		2	5					3	2	1			
	Actual		1.12	1			2.08		1.85	5.04					2.82	1.74	0.00 <sup>b</sup>			
81 of 84	Expected	1	1	1	1		1		1	3		1			4	2	1			
	Actual	0.97	0.92	0.88	0.57 <sup>a</sup>		1.14		1.18	2.93		1			3.85	1.82	0.00 <sup>b</sup>			
82 of 84	Expected	1	1		1		1		1	2		2			3	3			2	
	Actual	1.25	0.86		0.48 <sup>a</sup>		1.39		1.19	2.04		1.83			2.92	2.76			2	
83 of 84	Expected	1			1		2		1	2		3				2		1	4	
	Actual	0.93			0.51 <sup>a</sup>		2.09		0.96	2		2.77				1.88		1.14	3.7	
84 of 84	Expected	1				1	2			2		2				1		1	3	
	Actual	1.08				1	2.01			1.61		1.68				0.85		0.9	2.85	

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

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

<sup>c</sup>Val-Ile, Val-Val, Ile-Ile and/or Ile-Val bonds were only partially destroyed during hydrolysis

**Date:** 09 AUG 2007

**Signature:** Signature on File

**Title:** Technical Manager, BEI Authentication or designee

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