

## Peptide Array, Dengue Virus Type 3 (DEN-3), Philippines/H87/1956, NS3 Protein

### Catalog No. NR-2754

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

**Product Description:** The 105-peptide array spans the NS3 protein of Dengue virus type 3, Philippines/H87/1956 (GenPept: AAA99437). Peptides are 14- to 17-mers, with 11 or 12 amino acid overlaps.

### Lot: N1028-1 to N1028-105

The following information applies to all peptides:

- Appearance White lyophilized powder
- Mass spectral analysis Correct MW by MALDI-TOF
- Counter Ion 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 105	11/3/2006	17	1 SGVLWDVPSPPETQKAE 17	1840.04	-0.72	90.1%	89.0%
2 of 105	11/3/2006	17	7 VPSPPETQKAELEEGVY 23	1873.06	-0.91	83.9%	89.1%
3 of 105	11/3/2006	17	13 TQKAELEEGVYRIKQQG 29	1977.22	-1.28	90.9%	81.3%
4 of 105	11/3/2006	17	18 LEEGVYRIKQQGIFGKT 34	1966.29	-0.57	89.1%	81.2%
5 of 105	11/3/2006	17	24 RIKQQGIFGKTQVGVGV 40	1815.17	-0.04	93.0%	79.9%
6 of 105	11/3/2006	17	30 IFGKTQVGVGVQKEGVF 46	1793.11	0.37	88.8%	84.0%
7 of 105	11/3/2006	17	36 VGVGVQKEGVFHTMWHV 52	1910.24	0.33	87.6%	80.7%
8 of 105	11/3/2006	17	42 KEGVFHTMWHVTRGAVL 58	1968.33	0.09	90.6%	77.5%
9 of 105	11/3/2006	17	48 TMWHVTRGAVLTHNGKR 64	1964.30	-0.63	93.2%	74.2%
10 of 105	11/3/2006	17	54 RGAVLTHNGKRLEPNWA 70	1919.19	-0.89	85.4%	77.1%
11 of 105	11/3/2006	17	60 HNGKRLEPNWASVKKDL 76	1992.29	-1.38	87.6%	74.4%
12 of 105	11/3/2006	17	65 LEPNWASVKKDLISYGG 81	1877.14	-0.38	87.5%	84.6%
13 of 105	11/3/2006	17	71 SVKKDLISYGGWRLSA 87	1837.13	-0.21	86.3%	80.1%
14 of 105	11/3/2006	17	77 ISYGGWRLSAQWQKGE 93	1923.13	-0.89	83.4%	84.9%
15 of 105	11/3/2006	17	83 WRLSAQWQKGEVQVIA 99	2028.32	-0.51	82.1%	85.6%
16 of 105	11/3/2006	17	89 WQKGEEVQVIAVEPGKN 105	1911.16	-0.78	94.0%	84.8%
17 of 105	11/3/2006	17	95 VQVIAVEPGKNPKNFQT 111	1869.17	-0.46	90.3%	84.5%
18 of 105	11/3/2006	17	100 VEPGKNPKNFQTMPGIF 116	1904.24	-0.7	92.6%	84.8%
19 of 105	11/3/2006	17	106 PKNFQTMPGIFQTTTGE 122	1897.15	-0.75	83.6%	89.3%
20 of 105	11/3/2006	17	112 MPGIFQTTTGEIGAIAL 128	1720.03	0.81	81.1%	88.3%
21 of 105	11/3/2006	17	118 TTTGEIGAIALDFKPGT 134	1691.91	0.16	84.5%	88.1%
22 of 105	11/3/2006	17	124 GAIALDFKPGTSGSPII 140	1643.92	0.56	82.6%	87.8%
23 of 105	11/3/2006	17	130 FKPGTSGSPIINREGKV 146	1787.06	-0.59	80.8%	79.7%
24 of 105	11/3/2006	17	136 GSPIINREGKVVGLYGN 152	1773.04	-0.18	94.3%	83.8%

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Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Hydrophilicity	Purity by HPLC <sup>a</sup>	Peptide Content <sup>b</sup>
25 of 105	11/3/2006	17	142 REGKVVGLYGNVVTKN 158	1790.07	-0.34	85.7%	79.7%
26 of 105	11/3/2006	17	148 GLYGNVVTKNGGYVSG 164	1641.82	-0.06	84.1%	87.8%
27 of 105	11/3/2006	17	154 VVTKNGGYVSGIAQTNA 170	1678.88	0.09	81.2%	88.0%
28 of 105	11/3/2006	17	160 GYVSGIAQTNAEPDGPT 176	1676.77	-0.56	82.3%	88.0%
29 of 105	11/3/2006	17	166 AQTNAEPDGPTPELEEE 182	1826.86	-1.6	81.7%	88.9%
30 of 105	11/3/2006	17	172 PDGPTPELEEEEMFKKRN 188	2017.26	-1.81	90.2%	81.6%
31 of 105	11/3/2006	17	177 PELEEEEMFKKRNLTIMD 193	2123.49	-0.99	89.5%	82.3%
32 of 105	11/3/2006	17	183 MFKKRNLTIMDLHPGSG 199	1945.35	-0.45	81.8%	77.3%
33 of 105	11/3/2006	17	189 LTIMDLHPGSGKTRKYL 205	1930.32	-0.42	92.3%	77.2%
34 of 105	11/3/2006	17	195 HPGSGKTRKYLPAIVRE 211	1909.24	-0.94	84.2%	73.6%
35 of 105	11/3/2006	17	201 TRKYLPAIVREAIKRRL 217	2083.57	-0.5	80.3%	72.3%
36 of 105	11/3/2006	17	207 AIVREAIKRRLRTLILA 223	1992.50	0.49	83.5%	74.4%
37 of 105	11/3/2006	17	213 IKRRLRTLILAPTRVVA 229	1976.50	0.44	85.9%	74.3%
38 of 105	11/3/2006	17	219 TLILAPTRVVAEMEEA 235	1814.15	0.68	95.0%	88.8%
39 of 105	11/3/2006	17	225 TRVVAEMEEAMKGLPI 241	1845.23	0.25	88.8%	84.4%
40 of 105	11/3/2006	17	230 AEMEEAMKGLPIRYQTT 246	1968.30	-0.67	90.9%	85.2%
41 of 105	11/3/2006	17	236 MKGLPIRYQTTATKSEH 252	1961.29	-0.98	93.8%	77.5%
42 of 105	11/3/2006	17	242 RYQTTATKSEHTGREIV 258	1977.18	-1.26	85.4%	77.6%
43 of 105	11/3/2006	17	248 TKSEHTGREIVDLMCHA 264	1927.20	-0.54	81.8%	77.2%
44 of 105	11/3/2006	17	254 GREIVDLMCHATFTMRL 270	1993.42	0.36	90.3%	81.4%
45 of 105	11/3/2006	17	260 LMCHATFTMRLSPVRV 276	1975.49	0.86	86.0%	81.2%
46 of 105	11/3/2006	17	266 FTMRLSPVRVPNYNLI 282	2033.49	0.41	89.8%	85.6%
47 of 105	11/3/2006	17	272 SPVRVPNYNLIIMDEAH 288	1968.28	-0.12	83.6%	85.2%
48 of 105	11/3/2006	16	278 NYNLIIMDEAHFTDPA 293	1864.08	-0.2	81.2%	89.1%
49 of 105	11/3/2006	17	283 IMDEAHFTDPASIAARG 299	1802.01	-0.05	88.4%	84.1%
50 of 105	11/3/2006	17	289 FDPASIAARGYISTRV 305	1825.07	0.15	81.0%	84.2%
51 of 105	11/3/2006	17	295 IAARGYISTRVGMGEAA 311	1723.00	0.34	98.3%	83.4%
52 of 105	11/3/2006	17	301 ISTRVGMGEAAAIFMTA 317	1726.06	0.94	93.6%	88.3%
53 of 105	11/3/2006	17	307 MGEAAAIFMTATPPGTA 323	1636.92	0.62	82.3%	87.8%
54 of 105	11/3/2006	16	313 IFMTATPPGTADAFPQ 328	1664.91	0.19	87.0%	88.0%
55 of 105	11/3/2006	17	318 TPPGTADAFPQSNAPIQ 334	1711.86	-0.61	84.0%	88.2%
56 of 105	11/3/2006	17	324 DAFPQSNAPIQDEERDI 340	1945.05	-1.24	80.4%	89.5%
57 of 105	11/3/2006	17	330 NAPIQDEERDIPERSWN 346	2069.19	-1.83	87.0%	85.8%
58 of 105	11/3/2006	17	335 DEERDIPERSWNSGNEW 351	2119.17	-2.23	84.4%	86.1%
59 of 105	11/3/2006	17	341 PERSWNSGNEWITDFVG 357	1994.12	-1	84.3%	89.7%
60 of 105	11/3/2006	17	347 SGNEWITDFVGKTVWFV 363	1985.24	0.21	80.7%	89.7%
61 of 105	11/3/2006	17	353 TDFVGKTVWFVPSIKAG 369	1852.18	0.45	83.6%	84.4%
62 of 105	11/3/2006	16	359 TVWFVPSIKAGNVIAN 374	1716.03	0.79	84.4%	88.3%
63 of 105	11/3/2006	17	364 PSIKAGNVIANCLRKNG 380	1755.09	-0.17	81.4%	79.4%
64 of 105	11/3/2006	17	370 NVIANCLRKNGKKVIQL 386	1911.36	-0.08	83.0%	77.0%
65 of 105	11/3/2006	17	376 LRKNGKKVIQLSRKTFD 392	2031.45	-1.05	85.5%	71.8%
66 of 105	11/3/2006	17	382 KVIQLSRKTFDTEYQKT 398	2085.41	-1.12	84.1%	78.5%
67 of 105	11/3/2006	17	388 RKTDFDTEYQKTKLNDWD 404	2188.40	-2.05	80.8%	79.3%
68 of 105	11/3/2006	17	393 TEYQKTKLNDWDFVTT 409	2088.32	-0.9	81.9%	85.9%
69 of 105	11/3/2006	17	399 KLNDWDFVTTDISEMG 415	1970.20	-0.21	87.7%	89.6%
70 of 105	11/3/2006	17	405 FVTTDISEMGANFIAD 421	1830.06	0.7	85.7%	88.9%

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Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Hydrophilicity	Purity by HPLC <sup>a</sup>	Peptide Content <sup>b</sup>
71 of 105	11/3/2006	17	411 ISEMGANFIADRVIDPR 427	1904.19	0.01	89.4%	84.8%
72 of 105	11/3/2006	17	417 NFIADRVIDPRRCLKPV 433	2012.43	-0.16	89.1%	77.9%
73 of 105	11/3/2006	16	423 VIDPRRCLKPVILTDG 438	1795.19	0.21	81.3%	79.7%
74 of 105	11/3/2006	17	428 RCLKPVILTDGPERVIL 444	1922.38	0.42	80.4%	80.8%
75 of 105	11/3/2006	17	434 ILTDGPERVILAGPMPV 450	1778.16	0.64	93.0%	88.6%
76 of 105	11/3/2006	17	439 PERVILAGPMPVTVASA 455	1708.07	0.79	83.2%	88.2%
77 of 105	11/3/2006	17	445 AGPMPVTVASAAQRRGR 461	1725.02	-0.29	82.7%	79.1%
78 of 105	11/3/2006	17	451 TVASAAQRRGRVGRNPQ 467	1824.05	-1.09	95.2%	76.2%
79 of 105	11/3/2006	17	456 AQRGRVGRNPQKENDQ 472	2009.19	-2.52	80.7%	74.6%
80 of 105	11/3/2006	17	462 VGRNPQKENDQYIFMGQ 478	2024.26	-1.36	85.2%	85.5%
81 of 105	11/3/2006	17	468 KENDQYIFMGQPLNKDE 484	2069.29	-1.54	96.3%	85.8%
82 of 105	11/3/2006	17	474 IFMGQPLNKDEDAHAWT 490	2039.27	-0.98	85.0%	81.7%
83 of 105	11/3/2006	17	480 LNKDEDAHAWTEAKMLL 496	2051.33	-0.96	80.8%	78.3%
84 of 105	11/3/2006	16	486 HAHWTEAKMLLDNINT 501	1894.16	-0.56	80.5%	80.6%
85 of 105	11/3/2006	17	490 TEAKMLLDNINTPEGII 506	1872.18	0	91.4%	89.1%
86 of 105	11/3/2006	16	496 LDNINTPEGIIPALFE 511	1756.00	0.24	84.8%	88.5%
87 of 105	11/3/2006	16	501 TPEGIIPALFEPEREK 516	1826.10	-0.68	94.0%	84.2%
88 of 105	11/3/2006	17	506 IPALFEPEREKSAIDG 522	1843.08	-0.34	90.5%	84.3%
89 of 105	11/3/2006	17	512 PEREKSAIDGEYRLKG 528	1919.14	-1.38	80.5%	77.1%
90 of 105	11/3/2006	17	518 AIDGEYRLKGESRKT 534	1941.19	-0.95	81.5%	77.3%
91 of 105	11/3/2006	17	524 YRLKGESRKTVELMRR 540	2169.60	-1.15	85.0%	73.1%
92 of 105	11/3/2006	17	530 SRKTVELMRRGDLPVW 546	2090.50	-0.48	85.3%	78.6%
93 of 105	11/3/2006	17	535 VELMRRGDLPVWLAHKV 551	2019.46	0.1	84.7%	78.0%
94 of 105	11/3/2006	17	541 GDLPVWLAHKVASEGIK 557	1820.14	0.12	95.1%	80.0%
95 of 105	11/3/2006	17	547 LAHKVASEGIKYTDRKW 563	2002.32	-0.85	86.0%	74.5%
96 of 105	11/3/2006	17	553 SEGIKYTDRKWCFDGER 569	2090.32	-1.5	80.7%	78.6%
97 of 105	11/3/2006	17	559 TDRKWCFDGERNNQILE 575	2124.34	-1.52	92.6%	82.3%
98 of 105	11/3/2006	17	565 FDGERNNQILEENMDVE 581	2052.18	-1.34	86.2%	90.0%
99 of 105	11/3/2006	17	571 NQILEENMDVEIWTKEG 587	2048.27	-0.88	81.3%	90.0%
100 of 105	11/3/2006	17	577 NMDVEIWTKEGEKKKLR 593	2104.47	-1.48	87.7%	75.5%
101 of 105	11/3/2006	17	583 WTKEGEKKKLRPRWLDA 599	2141.52	-1.78	89.2%	72.9%
102 of 105	11/3/2006	16	589 KKKLRPRWLDARTYSD 604	2033.38	-1.76	85.9%	71.8%
103 of 105	11/3/2006	17	594 PRWLDARTYSDPLALKE 610	2031.32	-0.9	84.6%	81.7%
104 of 105	11/3/2006	17	600 RTYSDPLALKEFKDFAA 616	1972.25	-0.51	92.3%	81.2%
105 of 105	11/3/2006	14	606 LALKEFKDFAAGRK 619	1593.90	-0.36	98.0%	73.7%

<sup>a</sup>% full-length  
<sup>b</sup>Remainder is salt and water

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)
1 of 105	Expected	1.00		1.00		3.00	1.00			1.00	1.00			3.00	2.00	1.00	1.00		2.00
	Actual	0.99		0.98		2.70	1.26			0.94	1.00			2.61	1.86	0.91	0.00 <sup>a</sup>		1.79
2 of 105	Expected	1.00				5.00	1.00			1.00	1.00			3.00	1.00	1.00		1.00	2.00
	Actual	1.14				4.78	0.98			1.20	1.00			2.16	0.88	1.18		0.78	1.77
3 of 105	Expected	1.00	1.00			6.00	2.00		1.00	1.00	2.00					1.00		1.00	1.00
	Actual	1.09	1.08			5.78	2.20		0.76	1.00	1.83					1.10		0.75	0.85
4 of 105	Expected		1.00			4.00	3.00		2.00	1.00	2.00		1.00			1.00		1.00	1.00
	Actual		0.96			4.00	3.19		1.73	0.86	1.94		0.68			1.12		1.00	0.72
5 of 105	Expected		1.00			3.00	4.00		2.00		2.00		1.00			1.00			3.00
	Actual		0.98			2.78	3.88		1.78		1.73		1.00			1.05			2.61
6 of 105	Expected					3.00	4.00		1.00		2.00		2.00			1.00			4.00
	Actual					2.67	4.18		0.82		1.85		2.00			1.12			3.62
7 of 105	Expected					2.00	3.00	2.00			1.00	1.00	1.00			1.00	1.00		5.00
	Actual					2.04	3.02	2.08			1.02	1.00	1.13			1.06	0.00 <sup>a</sup>		4.69
8 of 105	Expected	1.00	1.00			1.00	2.00	2.00		1.00	1.00	1.00	1.00			2.00	1.00		3.00
	Actual	1.00	1.22			0.96	2.21	2.23		0.99	0.94	1.02	0.72			2.05	0.00 <sup>a</sup>		2.74
9 of 105	Expected	1.00	2.00	1.00			2.00	2.00		1.00	1.00	1.00				3.00	1.00		2.00
	Actual	0.98	2.22	1.03			2.18	2.00		0.85	0.96	0.80				2.66	0.00 <sup>a</sup>		1.76
10 of 105	Expected	2.00	2.00	2.00		1.00	2.00	1.00		2.00	1.00			1.00		1.00	1.00		1.00
	Actual	2.02	2.00	1.79		0.98	2.16	1.13		1.78	1.09			1.04		0.91	0.00 <sup>a</sup>		0.86
11 of 105	Expected	1.00	1.00	3.00		1.00	1.00	1.00		2.00	3.00			1.00	1.00		1.00		1.00
	Actual	0.97	1.00	2.65		0.83	0.99	0.99		1.76	2.82			1.09	0.88		0.00 <sup>a</sup>		0.87
12 of 105	Expected	1.00		2.00		1.00	2.00		1.00	2.00	2.00			1.00	2.00		1.00	1.00	1.00
	Actual	1.08		1.73		1.00	1.88		0.99	2.00	2.16			1.28	1.75		0.00 <sup>a</sup>	0.85	0.93
13 of 105	Expected	1.00	1.00	1.00			3.00		1.00	2.00	2.00				3.00		1.00	1.00	1.00
	Actual	1.13	1.07	1.10			2.93		1.06	2.00	1.82				2.78		0.00 <sup>a</sup>	0.99	0.91
14 of 105	Expected	1.00	1.00			3.00	4.00		1.00	1.00	1.00				2.00		2.00	1.00	
	Actual	1.04	1.03			2.81	4.19		0.96	1.02	1.00				1.71		0.00 <sup>a</sup>	0.86	
15 of 105	Expected	2.00	1.00			5.00	1.00		1.00	1.00	1.00				1.00		2.00		2.00
	Actual	2.16	0.89			4.65	1.00		0.53 <sup>b</sup>	1.12	1.08				0.94		0.00 <sup>a</sup>		1.40 <sup>b</sup>
16 of 105	Expected	1.00		1.00		5.00	2.00		1.00		2.00			1.00			1.00		3.00
	Actual	1.03		0.94		4.76	2.21		0.62 <sup>b</sup>		2.00			1.04			0.00 <sup>a</sup>		2.64 <sup>b</sup>
17 of 105	Expected	1.00		2.00		3.00	1.00		1.00		2.00		1.00	2.00		1.00			3.00
	Actual	1.18		2.00		2.79	1.16		0.58 <sup>b</sup>		1.84		1.01	2.23		0.83			2.35 <sup>b</sup>
18 of 105	Expected			2.00		2.00	2.00		1.00		2.00	1.00	2.00	3.00		1.00			1.00
	Actual			2.16		1.89	1.96		0.78		1.96	0.92	1.71	3.00		0.95			0.90
19 of 105	Expected			1.00		3.00	2.00		1.00		1.00	1.00	2.00	2.00		4.00			
	Actual			0.96		2.80	2.01		1.00		0.94	1.03	2.11	2.09		3.85			
20 of 105	Expected	2.00				2.00	3.00		3.00	1.00		1.00	1.00	1.00		3.00			
	Actual	2.00				2.14	2.96		2.76	1.14		0.95	0.88	1.10		2.66			
21 of 105	Expected	2.00		1.00		1.00	3.00		2.00	1.00	1.00			1.00	1.00		4.00		
	Actual	2.00		0.93		0.95	3.18		1.83	1.11	0.89			1.20	1.11		3.61		
22 of 105	Expected	2.00		1.00			3.00		3.00	1.00	1.00		1.00	2.00	2.00	1.00			
	Actual	2.00		0.96			3.30		2.09 <sup>b</sup>	1.13	0.90		1.23	2.00	1.88	0.92			
23 of 105	Expected		1.00	1.00		1.00	3.00		2.00		2.00		1.00	2.00	2.00	1.00			1.00
	Actual		1.16	0.93		0.93	3.13		1.06 <sup>b</sup>		1.79		1.09	2.00	1.80	0.93			0.96
24 of 105	Expected		1.00	2.00		1.00	4.00		2.00	1.00	1.00			1.00	1.00			1.00	2.00
	Actual		1.03	1.81		0.92	4.19		1.27 <sup>b</sup>	0.86	0.90			1.00	0.86			1.06	0.94 <sup>b</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)
25 of 105	Expected		1.00	2.00		1.00	4.00			1.00	2.00					1.00		1.00	4.00
	Actual		1.13	1.88		0.93	4.00			1.08	1.69					0.90		1.10	2.00 <sup>b</sup>
26 of 105	Expected			2.00			6.00			1.00	1.00				1.00	1.00		2.00	3.00
	Actual			1.86			5.81			1.06	1.21				1.07	1.00		1.73	1.48 <sup>b</sup>
27 of 105	Expected	2.00		2.00		1.00	3.00		1.00		1.00				1.00	2.00		1.00	3.00
	Actual	1.96		1.70		0.90	3.21		1.06		1.00				1.00	1.75		1.16	1.77 <sup>b</sup>
28 of 105	Expected	2.00		2.00		2.00	3.00		1.00					2.00	1.00	2.00		1.00	1.00
	Actual	1.92		1.74		1.76	3.25		1.13					1.99	1.00	1.77		1.06	1.03
29 of 105	Expected	2.00		2.00		6.00	1.00			1.00				3.00		2.00			
	Actual	2.13		1.96		5.79	1.22			1.17				3.00		1.80			
30 of 105	Expected		1.00	2.00		4.00	1.00			1.00	2.00	1.00	1.00	3.00		1.00			
	Actual		1.14	1.73		3.89	1.16			0.99	1.78	1.00	1.11	2.70		0.85			
31 of 105	Expected		1.00	2.00		4.00			1.00	2.00	2.00	2.00	1.00	1.00		1.00			
	Actual		1.17	1.77		3.94			0.86	1.73	1.77	1.78	1.15	1.00		1.02			
32 of 105	Expected		1.00	2.00			2.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00			
	Actual		1.47	1.99			1.77	1.18	0.89	1.94	1.80	1.63	1.00	0.98	0.95	0.99			
33 of 105	Expected		1.00	1.00			2.00	1.00	1.00	3.00	2.00	1.00		1.00	1.00	2.00		1.00	
	Actual		0.99	0.80			1.88	1.12	0.86	2.80	1.76	0.90		0.92	0.90	1.79		1.00	
34 of 105	Expected	1.00	2.00			1.00	2.00	1.00	1.00	1.00	2.00			2.00	1.00	1.00		1.00	1.00
	Actual	0.98	1.84			0.91	2.13	1.22	0.49 <sup>b</sup>	0.94	1.84			2.00	0.97	0.89		0.94	0.52 <sup>b</sup>
35 of 105	Expected	2.00	4.00			1.00			2.00	2.00	2.00			1.00		1.00		1.00	1.00
	Actual	1.98	3.75			1.00			1.29 <sup>b</sup>	1.96	1.77			1.16		1.07		1.00	0.59 <sup>b</sup>
36 of 105	Expected	3.00	4.00			1.00			3.00	3.00	1.00					1.00			1.00
	Actual	3.00	3.76			1.08			2.26 <sup>b</sup>	2.75	0.93					1.24			0.56 <sup>b</sup>
37 of 105	Expected	2.00	4.00						2.00	3.00	1.00			1.00		2.00			2.00
	Actual	2.06	3.93						1.99	2.72	0.93			1.20		2.00			1.22 <sup>b</sup>
38 of 105	Expected	4.00	1.00			3.00			1.00	2.00		1.00		1.00		2.00			2.00
	Actual	3.81	0.95			3.01			1.21	1.92		0.88		1.11		1.93			1.32 <sup>b</sup>
39 of 105	Expected	3.00	1.00			3.00	1.00		1.00	1.00	1.00	2.00		1.00		1.00			2.00
	Actual	2.76	1.10			2.79	1.11		1.00	1.00	0.78	1.79		1.02		0.96			0.80 <sup>b</sup>
40 of 105	Expected	2.00	1.00			4.00	1.00		1.00	1.00	1.00	2.00		1.00		2.00		1.00	
	Actual	1.78	1.13			3.76	1.18		0.92	1.02	1.07	1.82		1.00		1.76		1.11	
41 of 105	Expected	1.00	1.00			2.00	1.00	1.00	1.00	1.00	2.00	1.00		1.00	1.00	3.00		1.00	
	Actual	1.02	0.88			1.73	1.06	1.11	0.81	1.00	1.70	0.93		1.05	0.77	2.79		0.80	
42 of 105	Expected	1.00	2.00			3.00	1.00	1.00	1.00		1.00				1.00	4.00		1.00	1.00
	Actual	1.00	1.90			2.74	1.11	1.19	0.64 <sup>b</sup>		0.98				0.95	3.61		1.08	0.61 <sup>b</sup>
43 of 105	Expected	1.00	1.00	1.00	1.00	2.00	1.00	2.00	1.00	1.00	1.00	1.00			1.00	2.00			1.00
	Actual	0.97	1.26	1.00	0.52 <sup>c</sup>	1.95	1.25	2.00	0.54 <sup>b</sup>	1.09	0.93	1.18			1.01	1.79			0.54 <sup>b</sup>
44 of 105	Expected	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00		2.00	1.00			2.00			1.00
	Actual	1.00	1.86	0.81	0.31 <sup>c</sup>	0.83	1.01	1.09	0.58 <sup>b</sup>	1.73		1.85	1.00			1.72			0.58 <sup>b</sup>
45 of 105	Expected	1.00	2.00		1.00			1.00		3.00		2.00	1.00	1.00	1.00	2.00			2.00
	Actual	0.99	1.84		0.31 <sup>c</sup>			1.08		2.78		2.00	1.07	0.98	0.87	1.70			1.87
46 of 105	Expected		2.00	2.00					1.00	3.00		1.00	1.00	2.00	1.00	1.00		1.00	2.00
	Actual		1.97	1.77					0.96	2.67		1.06	1.06	1.95	0.98	1.00		1.09	1.76
47 of 105	Expected	1.00	1.00	3.00		1.00		1.00	2.00	1.00		1.00		2.00	1.00			1.00	2.00
	Actual	1.00	0.93	2.79		0.97		1.06	0.88 <sup>b</sup>	0.91		0.98		2.00	0.96			1.06	1.75
48 of 105	Expected	2.00		4.00		1.00		1.00	2.00	1.00		1.00	1.00	1.00		1.00		1.00	
	Actual	1.80		3.76		1.00		1.09	0.86 <sup>b</sup>	1.06		0.91	1.00	0.89		0.93		1.06	

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)
49 of 105	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	3.65	1.08	1.80		0.94	0.92	1.15	1.91			0.92	1.00	1.08	0.96	0.92			
50 of 105	Expected	3.00	2.00	1.00			1.00		2.00				1.00	1.00	2.00	2.00		1.00	1.00
	Actual	2.80	2.11	1.00			1.24		1.91				1.01	1.09	1.96	1.85		1.00	1.11
51 of 105	Expected	4.00	2.00			1.00	3.00		2.00			1.00			1.00	1.00		1.00	1.00
	Actual	3.67	2.21			0.87	3.18		1.79			0.88			0.96	1.00		0.84	1.01
52 of 105	Expected	4.00	1.00			1.00	2.00		2.00			2.00	1.00		1.00	2.00			1.00
	Actual	3.66	1.02			1.05	2.24		1.80			1.89	1.04		0.84	1.72			1.00
53 of 105	Expected	5.00				1.00	2.00		1.00			2.00	1.00	2.00		3.00			
	Actual	5.13				1.02	2.00		0.78			1.85	0.96	2.13		2.66			
54 of 105	Expected	3.00		1.00		1.00	1.00		1.00			1.00	2.00	3.00		3.00			
	Actual	3.08		1.06		1.03	0.95		0.77			0.79	1.91	3.08		3.00			
55 of 105	Expected	3.00		2.00		2.00	1.00		1.00				1.00	4.00	1.00	2.00			
	Actual	3.11		1.96		1.79	1.06		0.92				1.07	4.00	0.90	1.79			
56 of 105	Expected	2.00	1.00	4.00		4.00			2.00				1.00	2.00	1.00				
	Actual	2.08	1.12	4.03		3.73			1.74				1.01	2.00	0.94				
57 of 105	Expected	1.00	2.00	4.00		4.00			2.00					2.00	1.00		1.00		
	Actual	1.13	2.12	3.80		3.68			1.87					2.00	0.95		0.00 <sup>a</sup>		
58 of 105	Expected		2.00	4.00		4.00	1.00		1.00					1.00	2.00		2.00		
	Actual		2.18	3.84		3.73	0.92		1.00					1.08	1.82		0.00 <sup>a</sup>		
59 of 105	Expected		1.00	3.00		2.00	2.00		1.00				1.00	1.00	2.00	1.00	2.00		1.00
	Actual		0.94	3.03		1.95	1.84		0.98				1.00	1.18	1.82	0.96	0.00 <sup>a</sup>		0.80
60 of 105	Expected			2.00		1.00	2.00		1.00		1.00		2.00		1.00	2.00	2.00		3.00
	Actual			2.00		0.99	1.99		1.02		1.10		2.15		0.90	1.68	0.00 <sup>a</sup>		2.73
61 of 105	Expected	1.00		1.00			2.00		1.00		2.00		2.00	1.00	1.00	2.00	1.00		3.00
	Actual	0.73		1.00			1.78		0.66		1.62		2.04	1.15	0.99	1.86	0.00 <sup>a</sup>		2.75
62 of 105	Expected	2.00		2.00			1.00		2.00		1.00		1.00	1.00	1.00	1.00	1.00		3.00
	Actual	2.10		1.94			0.98		1.29 <sup>b</sup>		1.01		1.00	1.34	0.98	0.89	0.00 <sup>a</sup>		2.22 <sup>b</sup>
63 of 105	Expected	2.00	1.00	3.00	1.00		2.00		2.00	1.00	2.00			1.00	1.00				1.00
	Actual	2.26	1.10	3.00	0.47 <sup>c</sup>		1.77		1.33 <sup>b</sup>	1.07	1.82			1.08	0.90				0.45 <sup>b</sup>
64 of 105	Expected	1.00	1.00	3.00	1.00	1.00	1.00		2.00	2.00	3.00								2.00
	Actual	1.13	1.00	3.21	0.48 <sup>c</sup>	1.04	0.97		0.93 <sup>b</sup>	1.95	3.02								0.81 <sup>b</sup>
65 of 105	Expected		2.00	2.00		1.00	1.00		1.00	2.00	4.00		1.00		1.00	1.00			1.00
	Actual		2.08	1.97		0.99	1.15		0.60 <sup>b</sup>	2.18	3.91		1.14		1.03	1.00			0.44 <sup>b</sup>
66 of 105	Expected		1.00	1.00		3.00			1.00	1.00	3.00		1.00		1.00	3.00		1.00	1.00
	Actual		1.00	1.11		2.73			0.46 <sup>b</sup>	1.10	2.66		1.05		0.82	2.68		0.71	0.47 <sup>b</sup>
67 of 105	Expected		1.00	4.00		2.00				1.00	3.00		1.00			3.00	1.00	1.00	
	Actual		1.13	3.79		2.18				1.02	2.80		1.13			2.99	0.00 <sup>a</sup>	1.00	
68 of 105	Expected			3.00		2.00				1.00	2.00		1.00			4.00	1.00	1.00	2.00
	Actual			2.81		2.00				1.03	2.09		1.07			3.71	0.00 <sup>a</sup>	0.94	1.24 <sup>b</sup>
69 of 105	Expected			4.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	2.00	1.00		2.00
	Actual			3.79		1.00	0.76		1.04	1.05	0.99	0.71	1.12		0.93	1.92	0.00 <sup>a</sup>		1.28 <sup>b</sup>
70 of 105	Expected	2.00		3.00		1.00	1.00		2.00			1.00	2.00		1.00	2.00			2.00
	Actual	2.00		2.76		1.07	1.09		1.80			1.01	1.76		0.84	1.78			1.01 <sup>b</sup>
71 of 105	Expected	2.00	2.00	3.00		1.00	1.00		3.00			1.00	1.00	1.00	1.00				1.00
	Actual	2.12	2.22	3.00		0.99	1.01		2.19 <sup>b</sup>			0.83	0.91	0.96	0.84				0.49 <sup>b</sup>
72 of 105	Expected	1.00	3.00	3.00	1.00				2.00	1.00	1.00		1.00	2.00					2.00
	Actual	1.13	2.91	2.98	0.44 <sup>c</sup>				1.34 <sup>b</sup>	0.98	1.06		0.88	2.00					1.41 <sup>b</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)
73 of 105	Expected		2.00	2.00	1.00		1.00		2.00	2.00	1.00			2.00		1.00			2.00
	Actual		1.70	2.16	0.45 <sup>c</sup>		0.88		1.07 <sup>b</sup>	2.03	1.14			2.00		1.07			1.14 <sup>b</sup>
74 of 105	Expected		2.00	1.00	1.00	1.00	1.00		2.00	3.00	1.00			2.00		1.00			2.00
	Actual		1.71	0.98	0.53 <sup>c</sup>	0.97	0.99		0.82 <sup>b</sup>	2.76	0.93			1.89		1.00			0.90 <sup>b</sup>
75 of 105	Expected	1.00	1.00	1.00		1.00	2.00		2.00	2.00		1.00		3.00		1.00			2.00
	Actual	1.09	1.03	1.00		1.01	1.89		0.93 <sup>b</sup>	2.06	0.00	0.87		2.71		0.94			1.24 <sup>b</sup>
76 of 105	Expected	3.00	1.00			1.00	1.00		1.00	1.00		1.00		3.00	1.00	1.00			3.00
	Actual	3.04	1.10			1.00	0.99		0.45 <sup>b</sup>	0.88		0.85		3.00	0.89	0.82			2.19 <sup>b</sup>
77 of 105	Expected	4.00	3.00			1.00	2.00					1.00		2.00	1.00	1.00			2.00
	Actual	3.97	2.73			1.03	2.00					0.77		1.88	1.10	1.12			1.79
78 of 105	Expected	3.00	4.00	1.00		2.00	2.00							1.00	1.00	1.00			2.00
	Actual	3.23	3.89	1.00		1.97	1.89							1.04	0.88	1.05			1.95
79 of 105	Expected	1.00	4.00	3.00		4.00	2.00				1.00			1.00					1.00
	Actual	1.08	3.66	3.00		3.77	1.85				1.09			1.05					0.87
80 of 105	Expected		1.00	3.00		4.00	2.00		1.00		1.00	1.00	1.00	1.00				1.00	1.00
	Actual		1.11	3.00		3.94	1.83		0.98		0.98	0.87	0.77	0.96				0.75	0.99
81 of 105	Expected			4.00		4.00	1.00		1.00	1.00	2.00	1.00	1.00	1.00				1.00	
	Actual			4.00		3.92	1.18		0.79	0.93	1.90	0.86	0.76	0.96				0.79	
82 of 105	Expected	1.00		3.00		2.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		
	Actual	1.00		2.75		2.03	1.04	1.99	0.87	1.01	0.98	0.92	0.91	1.17		0.92	0.00 <sup>a</sup>		
83 of 105	Expected	2.00		3.00		2.00		2.00		3.00	2.00	1.00				1.00	1.00		
	Actual	2.06		2.78		2.00		2.18		2.85	1.73	0.83				1.11	0.00 <sup>a</sup>		
84 of 105	Expected	2.00		3.00		1.00		2.00	1.00	2.00	1.00	1.00				2.00	1.00		
	Actual	2.12		2.70		1.00		2.00	0.92	1.93	0.92	0.89				1.90	0.00 <sup>a</sup>		
85 of 105	Expected	1.00		3.00		2.00	1.00		3.00	2.00	1.00	1.00		1.00		2.00			
	Actual	0.99		2.75		1.95	1.09		1.74 <sup>b</sup>	2.02	0.93	0.72		1.00		1.84			
86 of 105	Expected	1.00		3.00		2.00	1.00		3.00	2.00			1.00	2.00		1.00			
	Actual	1.00		2.74		1.82	1.16		1.68 <sup>b</sup>	1.80			1.19	1.95		0.90			
87 of 105	Expected	1.00	1.00			4.00	1.00		2.00	1.00	1.00		1.00	3.00		1.00			
	Actual	1.00	1.10			3.81	1.01		0.91 <sup>b</sup>	0.93	0.88		1.06	2.75		0.97			
88 of 105	Expected	3.00	1.00	1.00		3.00	1.00		2.00	1.00	1.00		1.00	2.00	1.00				
	Actual	2.86	1.17	0.86		2.94	0.99		1.72	1.04	0.87		1.09	2.00	0.86				
89 of 105	Expected	2.00	2.00	1.00		3.00	2.00		1.00	1.00	2.00			1.00	1.00			1.00	
	Actual	2.10	2.07	0.97		2.86	1.83		0.98	0.87	1.79			1.00	0.98			1.03	
90 of 105	Expected	2.00	2.00	1.00		2.00	2.00		1.00	1.00	2.00		1.00		1.00	1.00		1.00	
	Actual	1.90	2.01	0.88		1.87	2.13		0.87	0.98	1.96		1.02		0.83	1.00		0.75	
91 of 105	Expected		4.00			2.00	1.00			2.00	2.00	1.00	1.00		1.00	1.00		1.00	1.00
	Actual		4.00			1.68	1.04			1.79	1.75	0.88	1.12		0.87	1.16		0.94	0.88
92 of 105	Expected		3.00	1.00		1.00	1.00			2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		2.00
	Actual		3.24	0.95		0.99	1.01			1.86	1.02	0.81	1.02	1.00	0.89	0.98	0.00 <sup>a</sup>		1.75
93 of 105	Expected	1.00	2.00	1.00		1.00	1.00	1.00		3.00	1.00	1.00		1.00			1.00		3.00
	Actual	1.11	2.12	1.00		1.01	1.12	1.13		2.97	0.99	0.92		1.17			0.00 <sup>a</sup>		2.76
94 of 105	Expected	2.00		1.00		1.00	2.00	1.00	1.00	2.00	2.00			1.00	1.00		1.00		2.00
	Actual	2.00		0.89		0.90	2.04	1.14	0.80	1.75	1.88			1.05	0.93		0.00 <sup>a</sup>		1.73
95 of 105	Expected	2.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	3.00				1.00	1.00	1.00	1.00	1.00
	Actual	2.00	1.13	0.91		0.98	1.09	1.10	0.85	1.02	3.11				0.95	1.12	0.00 <sup>a</sup>	0.86	0.99
96 of 105	Expected		2.00	2.00	1.00	2.00	2.00		1.00		2.00		1.00		1.00	1.00	1.00	1.00	
	Actual		2.13	1.71	0.46 <sup>c</sup>	1.80	2.16		0.80		1.78		1.18		0.86	1.06	0.00 <sup>a</sup>	1.00	

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)
97 of 105	Expected		2.00	4.00	1.00	3.00	1.00		1.00	1.00	1.00		1.00		0.00	1.00	1.00		
	Actual		2.05	3.72	0.48 <sup>c</sup>	2.82	1.07		0.75	0.76	0.95		1.00		0.00	1.06	0.00 <sup>a</sup>		
98 of 105	Expected		1.00	5.00		5.00	1.00		1.00	1.00		1.00	1.00						1.00
	Actual		1.11	5.00		4.85	1.03		0.74	0.73		0.92	0.91						0.94
99 of 105	Expected			3.00		5.00	1.00		2.00	1.00	1.00	1.00				1.00	1.00		1.00
	Actual			3.11		4.74	0.74		1.89	0.80	0.95	0.76				1.00	0.00 <sup>a</sup>		1.29
100 of 105	Expected		1.00	2.00		3.00	1.00		1.00	1.00	4.00	1.00				1.00	1.00		1.00
	Actual		1.04	1.74		3.10	1.14		0.72	0.84	3.95	0.82				1.00	0.00 <sup>a</sup>		0.70
101 of 105	Expected	1.00	2.00	1.00		2.00	1.00			2.00	4.00			1.00		1.00	2.00		
	Actual	1.15	1.90	1.05		2.02	1.20			1.70	3.71			1.00		0.86	0.00 <sup>a</sup>		
102 of 105	Expected	1.00	3.00	2.00						2.00	3.00			1.00	1.00	1.00	1.00	1.00	
	Actual	1.05	2.99	2.00						1.84	2.70			1.16	0.84	0.81	0.00 <sup>a</sup>	0.77	
103 of 105	Expected	2.00	2.00	2.00		1.00				3.00	1.00			2.00	1.00	1.00	1.00	1.00	
	Actual	2.13	2.11	2.00		1.01				2.70	0.96			2.13	1.06	1.01	0.00 <sup>a</sup>	0.87	
104 of 105	Expected	3.00	1.00	2.00		1.00				2.00	2.00		2.00	1.00	1.00	1.00			1.00
	Actual	2.79	1.03	2.08		1.01				1.83	1.96		1.78	1.00	0.93	0.94			0.75
105 of 105	Expected	3.00	1.00	1.00		1.00	1.00			2.00	3.00		2.00						
	Actual	3.12	0.93	1.05		1.00	0.97			1.79	2.70		1.70						

<sup>a</sup>Trp was completely destroyed during hydrolysis  
<sup>b</sup>Val-Ile, Val-Val, Ile-Ile and/or Ile-Val bonds were only partially destroyed during hydrolysis  
<sup>c</sup>Cys was partially destroyed during hydrolysis

**Date:** 30 APR 2007

**Signature:** Signature on File

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

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