

Peptide Array West Nile Virus Protein NS3

Catalog No. NR-439

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

Product Description: An 84-peptide array spanning the NS3 protein of the NY99-flamingo382-99 strain of West Nile Virus. Peptides are 15- to 19-mers, with 10 or 11 amino acid overlaps. Each vial contains 1 mg of lyophilized NR-439.

Lot: 3745094

The following information applies to all 84 peptides:

- Appearance White lyophilized powder
- Mass spectral analysis Electrospray "Exhibits correct MW"
- Counter Ion Ammonium acetate (Peptides 18, 60, 79)
Trifluoroacetate (all other Peptides)

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	6/18/04	15	GGVLWDTPSPKEYKK	1704.9	86.0%	76.8%
2	6/25/04	18	DTPSPKEYKKGDTTGGVY	1987.2	95.1%	80.7%
3	6/23/04	18	KKGDTTGGVYRIMTRGLL	2010.4	98.2%	79.3%
4	6/28/04	17	VYRIMTRGLLGSYQAGA	1856.2	63.0%	80.8%
5	7/16/04	18	GLLSYQAGAGVMVEGVF	1755.0	57.1%	80.7%
6	7/6/04	18	GAGVMVEGVFHTLWHTTK	1970.3	85.6%	80.4%
7	7/6/04	15	VFHTLWHTTKGAALM	1713.0	99.5%	80.9%
8	6/30/04	16	WHTTKGAALMSGEGRL	1715.0	97.9%	79.4%
9	7/6/04	18	AALMSGEGRLDPYWGSVK	1937.2	97.0%	81.9%
10	7/9/04	16	RLDPYWGSVKEDRLCY	2000.3	91.5%	78.7%
11	6/28/04	18	GSVKEDRLCYGGPWKLQH	2073.4	96.0%	80.7%
12	6/21/04	18	CYGGPWKLQHKWNGQDEV	2145.4	90.3%	80.4%
13	6/24/04	16	LQHKWNGQDEVQMIVV	1924.2	96.2%	78.1%
14	6/21/04	17	GQDEVQMIVVEPGKNVK	1870.2	88.1%	79.4%
15	6/23/04	18	IVVEPGKNVKNVQTKPGV	1906.3	97.4%	77.4%
16	6/25/04	18	VKNVQTKPGVFKTPEGEI	1971.3	98.3%	79.2%
17	6/23/04	17	GVFKTPEGEIGAVTLDF	1780.0	96.3%	78.2%
18	6/16/04	19	GEIGAVTLDFPTGTSGSPI	1819.0	>99%	78.5%
19	6/23/04	18	FPTGTSGSPIVDKNGDVI	1804.0	>99%	82.8%
20	7/6/04	18	PIVDKNGDIVGLYNGVI	1843.1	90.4%	81.2%

Table 1 (continued)						
Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC ^a	Peptide Content ^b
21	6/28/04	17	VIGLYGNGVIMPNGSYI	1767.1	88.7%	82.0%
22	6/25/04	18	GVIMPNGSYISAIVQGER	1891.7	95.4%	79.8%
23	6/29/04	17	YISAIVQGERMDEPIPA	1889.2	92.8%	81.0%
24	6/25/04	18	GERMDEPIPAGFEPEMLR	2074.4	94.0%	79.3%
25	7/6/04	17	PAGFEPEMLRKKQITVL	1957.4	98.7%	82.3%
26	7/6/04	18	MLRKKQITVLDLHPGAGK	2005.5	95.1%	78.5%
27	7/8/04	18	VLDLHPGAGKTRRILPQI	1984.4	90.9%	81.5%
28	7/6/04	18	GKTRRILPQIKEAINRR	2162.6	90.9%	79.1%
29	7/8/04	18	PQIKEAINRRLRTAVLA	2062.5	93.7%	80.0%
30	6/28/04	17	NRRLRTAVLAPTRVVA	1864.2	90.5%	79.4%
31	6/28/04	17	VLAPTRVVAEEMAEALR	1797.2	97.0%	79.5%
32	6/25/04	16	VAAEMAEALRGLPIRY	1760.1	99.0%	79.1%
33	6/28/04	17	EALRGLPIRYQTSVPR	1927.2	99.3%	81.4%
34	7/6/04	18	IRYQTSVAPREHNGNEIV	2083.3	95.8%	78.6%
35	7/1/04	18	PREHNGNEIVDMCHATL	2035.3	93.4%	80.9%
36	6/29/04	18	IVDMCHATLTHRLMSPH	2061.5	95.3%	80.8%
37	7/9/04	18	TLTHRLMSPHRVFNYNLF	2196.6	98.9%	79.0%
38	7/6/04	17	PHRVFNYNLFVMDAHF	2086.4	95.4%	79.8%
39	6/30/04	18	NLFVMDAHFDPASIAA	1949.2	91.9%	81.4%
40	6/24/04	18	HFTDPASIAARGYISTKV	1934.2	95.0%	78.8%
41	6/24/04	18	AARGYISTKVELGEEAAI	1820.1	96.0%	80.1%
42	6/30/04	18	KVELGEEAAIFMTATPPG	1803.1	68.8%	79.9%
43	6/23/04	15	AIFMTATPPGTSDPF	1552.8	98.7%	77.3%
44	6/25/04	17	ATPPGTSDPFPESNSPI	1713.8	90.7%	80.8%
45	6/24/04	17	DPFPESNSPISDLQTEI	1889.0	99.1%	79.8%
46	6/23/04	15	SPISDLQTEIPDRAW	1727.9	99.4%	79.8%
47	6/24/04	17	LQTEIPDRAWNSGYEWI	2078.3	90.2%	78.8%
48	6/25/04	18	RAWNSGYEWITEYTGKTV	2161.4	92.0%	81.5%
49	6/29/04	18	WITEYTGKTVWFVPSVKM	2172.6	98.4%	81.9%
50	7/6/04	18	TVWFVPSVKGNEIALCL	2007.4	51.7%	80.2%
51	6/29/04	18	KMGNEIALCLQRAGKKVV	1958.4	90.4%	79.8%
52	7/8/04	17	CLQRAGKKVQLNRKSY	1991.4	95.4%	81.8%
53	7/9/04	18	KVVQLNRKSYETEYPKCK	2213.6	92.4%	78.8%
54	6/29/04	18	SYETEYPKCKNDDWDFVI	2252.4	99.0%	76.9%
55	6/28/04	17	CKNDDWDFVITTDISEM	2032.2	77.9%	81.9%
56	6/24/04	18	FVITTDISEMGANFKASR	1987.3	91.5%	80.9%
57	6/24/04	18	EMGANFKASRVIDSRKSV	1995.3	95.1%	79.1%
58	6/29/04	15	SRVIDSRKSVKPTII	1699.0	98.2%	80.0%
59	6/29/04	18	SRKSVKPTIITEGEGRVI	1970.3	99.0%	80.2%
60	7/6/04	17	IITEGEGRVILGEPASV	1740.0	94.2%	82.4%

Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC ^a	Peptide Content ^b
61	7/7/04	18	RVILGEPsAVTAASAAQR	1797.0	93.8%	81.6%
62	7/8/04	16	AVTAASAAQRRGRIGR	1640.9	88.6%	81.4%
63	7/8/04	15	AAQRRGRIGRNPSQV	1665.9	93.7%	79.5%
64	7/8/04	16	GRIGRNPSQVGDEYCY	1814.0	94.7%	81.9%
65	7/8/04	18	PSQVGDEYCYGGHTNEDD	1986.0	87.3%	79.1%
66	7/8/04	16	CYGGHTNEDDSNFHAW	1852.9	98.7%	81.3%
67	7/8/04	17	NEDDSNFHAWTEARIML	2049.2	99.6%	82.7%
68	6/29/04	15	AHWTEARIMLDNINM	1815.1	88.5%	81.9%
69	7/8/04	18	ARIMLDNINMPNGLIAQF	2031.4	91.0%	82.2%
70	7/8/04	18	NMPNGLIAQFYQPEREKV	2134.4	99.2%	78.0%
71	7/6/04	18	AQFYQPEREKVYTMdGEY	2254.5	99.0%	80.8%
72	7/8/04	18	EKVYTMdGEYRLRGEERK	2259.5	71.2%	82.6%
73	7/8/04	17	EYRLRGEERKNFLELLR	2221.5	90.8%	81.8%
74	7/8/04	18	ERKNFLELLRTADLPVWL	2213.6	96.0%	80.8%
75	7/14/04	17	LRTADLPVWLAYKVAaA	1858.2	93.8%	80.5%
76	7/8/04	18	VWLAYKVAaAGVSYHdRR	2062.4	97.5%	79.9%
77	7/8/04	17	AAGVSYHdRRWCFdGPR	1993.2	91.5%	80.4%
78	7/1/04	15	DRRWCFdGPRNTIL	1850.1	91.9%	83.3%
79	7/8/04	18	FDGPRNTILEDNNEVEV	2062.2	84.0%	80.9%
80	7/6/04	18	ILEDNNEVEVITKLGERK	2099.4	93.1%	80.1%
81	7/9/04	17	EVITKLGERKILRPRWI	2107.6	91.1%	81.1%
82	7/9/04	18	ERKILRPRWIDARVYSdH	2310.6	92.0%	79.6%
83	7/9/04	17	WIDARVYSdHQALKAFK	2048.3	93.2%	78.1%
84	7/9/04	17	SDHQALKAFKdFASGKR	1906.1	91.8%	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	Expected			1.00		1.00	2.00			1.00	3.00			2.00	1.00	1.00	1.00	1.00	1.00
	Actual			0.99		0.96	2.00			0.75	3.02			1.93	0.95	0.92	0.00 ^a	0.97	0.82
2	Expected			2.00		1.00	2.00				3.00			2.00	1.00	4.00		2.00	1.00
	Actual			2.00		1.00	2.10				3.30			1.91	1.03	3.72		2.02	0.93
3	Expected		2.00	1.00			3.00		1.00	2.00	2.00	1.00				4.00		1.00	1.00
	Actual		1.98	1.00			3.00		0.97	2.06	2.06	1.02				3.70		0.77	0.84
4	Expected	2.00	2.00			1.00	3.00		1.00	2.00		1.00			1.00	1.00		2.00	1.00
	Actual	1.80	2.10			1.00	2.84		1.02	2.20		1.12			1.16	1.00		1.74	0.80
5	Expected	2.00				2.00	5.00			2.00		1.00	1.00		1.00			1.00	3.00
	Actual	2.00				1.95	5.14			1.91		0.94	0.96		1.04			0.87	3.18
6	Expected	1.00				1.00	3.00	2.00		1.00	1.00	1.00	1.00			3.00	1.00		3.00
	Actual	0.98				0.94	3.00	2.22		1.04	1.04	1.05	0.80			2.74	0.00 ^a		2.90
7	Expected	2.00					1.00	2.00		2.00	1.00	1.00	1.00			3.00	1.00		1.00
	Actual	2.00					1.06	1.97		2.00	1.03	1.00	0.90			2.89	0.00 ^a		1.08
8	Expected	2.00	1.00			1.00	3.00	1.00		2.00	1.00	1.00			1.00	2.00	1.00		
	Actual	2.00	0.98			1.00	3.09	0.84		1.95	0.90	1.14			1.04	1.68	0.00 ^a		
9	Expected	2.00	1.00	1.00		1.00	3.00			2.00	1.00	1.00		1.00	2.00		1.00	1.00	1.00
	Actual	2.00	1.07	1.03		1.02	3.16			2.18	1.03	1.18		1.10	1.87		0.00 ^a	1.16	1.16
10	Expected		2.00	2.00	1.00	1.00	1.00			2.00	1.00			1.00	1.00		1.00	2.00	1.00
	Actual		2.21	2.12	0.00 ^a	1.02	1.00			2.21	1.02			1.05	1.00		0.00 ^a	2.20	1.02

Table 2 - Amino Acid Analysis (continued)

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)	
11	Expected		1.00	1.00	1.00	2.00	3.00	1.00		2.00	2.00			1.00	1.00		1.00	1.00	1.00	
	Actual		1.04	1.01	0.00 ^a	2.00	3.13	1.19		2.06	1.85			0.70	0.86		0.00 ^a	1.11	0.83	
12	Expected			2.00	1.00	3.00	3.00	1.00		1.00	2.00			1.00			2.00	1.00	1.00	
	Actual			1.98	0.00 ^a	3.00	3.09	1.05		1.03	2.12			1.10			0.00 ^a	1.10	1.12	
13	Expected			2.00		4.00	1.00	1.00	1.00	1.00	1.00	1.00					1.00		3.00	
	Actual			1.89		4.40	1.00	1.03	0.17 ^b	1.01	0.98	0.89					0.00 ^a		0.72 ^b	
14	Expected			2.00		4.00	2.00		1.00		2.00	1.00		1.00					4.00	
	Actual			1.89		3.88	2.00		0.30 ^b		1.86	0.95		0.98					2.85 ^b	
15	Expected			2.00		2.00	2.00		1.00		3.00			2.00		1.00			5.00	
	Actual			2.14		2.00	2.25		0.33 ^b		3.14			1.96		1.13			4.56 ^b	
16	Expected			1.00		3.00	2.00		1.00		3.00		1.00	2.00		2.00			3.00	
	Actual			1.02		3.00	2.13		1.18		2.90		0.81	1.96		2.00			2.63	
17	Expected	1.00		1.00		2.00	3.00		1.00	1.00	1.00		2.00	1.00		2.00			2.00	
	Actual	1.04		1.06		2.00	3.09		1.04	1.09	1.10		1.60	0.96		1.96			1.99	
18	Expected	1.00		1.00		1.00	4.00		2.00	1.00			1.00	2.00	2.00	3.00			1.00	
	Actual	1.00		1.01		0.97	4.02		2.13	1.07			1.00	1.97	1.91	2.80			1.16	
19	Expected			3.00			3.00		2.00		1.00		1.00	2.00	2.00	2.00			2.00	
	Actual			2.88			3.00		1.17 ^b		1.12		0.88	1.84	1.88	1.89			1.22 ^b	
20	Expected			4.00			4.00		3.00	1.00	1.00			1.00				1.00	3.00	
	Actual			4.08			4.00		0.38 ^b	1.00	1.06			1.14				1.00	0.38 ^b	
21	Expected			2.00			4.00		3.00	1.00		1.00		1.00	1.00			2.00	2.00	
	Actual			2.04			4.00		1.62 ^b	1.07		1.18		1.03	0.97			2.07	0.69 ^b	
22	Expected	1.00	1.00	1.00		2.00	3.00		3.00				1.00		1.00	2.00			1.00	2.00
	Actual	1.02	1.08	1.01		2.00	3.04		2.04 ^b				1.00		0.96	1.89			1.02	1.09 ^b
23	Expected	2.00	1.00	1.00		3.00	1.00		3.00				1.00		2.00	1.00			1.00	1.00
	Actual	2.00	1.08	1.01		3.05	1.06		2.34 ^b			1.13		1.92	1.05				0.98	0.52 ^b
24	Expected	1.00	2.00	1.00		4.00	2.00		1.00	1.00			2.00	1.00	3.00					
	Actual	1.07	2.17	1.01		4.00	2.04		1.11	1.05			2.08	1.13	2.90					
25	Expected	1.00	1.00			3.00	1.00		1.00	2.00	2.00	1.00	1.00	1.00		1.00			1.00	
	Actual	1.00	1.02			3.03	1.08		1.04	2.14	2.14	1.02	1.04	2.15		1.04			1.08	
26	Expected	1.00	1.00	1.00		1.00	2.00	1.00	1.00	3.00	3.00	1.00		1.00		1.00			1.00	
	Actual	1.00	1.08	1.03		1.08	2.20	1.03	1.08	3.25	3.40	1.03		1.09		0.93			1.06	
27	Expected	1.00	2.00	1.00		1.00	2.00	1.00	2.00	3.00	1.00			2.00		1.00			1.00	
	Actual	1.02	1.90	0.95		0.91	2.00	1.02	1.97	2.64	1.13			2.08		1.05			0.84	
28	Expected	1.00	4.00	1.00		2.00	1.00		4.00	1.00	2.00			1.00		1.00				
	Actual	1.00	4.20	1.02		2.05	1.00		1.89 ^b	1.00	2.20			1.04		1.00				
29	Expected	3.00	3.00	1.00		2.00			3.00	2.00	1.00			1.00		1.00			1.00	
	Actual	3.00	2.94	1.02		2.00			2.09 ^b	1.89	1.06			1.07		1.10			1.01	
30	Expected	4.00	4.00	1.00						2.00				1.00		2.00			3.00	
	Actual	4.34	4.44	1.09						2.00				1.08		2.15			2.43 ^b	
31	Expected	5.00	2.00			2.00				2.00		1.00		1.00		1.00			3.00	
	Actual	4.85	1.84			2.00				1.59		1.07		0.99		0.86			1.88 ^b	
32	Expected	4.00	2.00			2.00	1.00		1.00	2.00		1.00		1.00				1.00	1.00	
	Actual	3.91	1.88			2.00	1.09		0.92	2.23		1.16		0.96				1.17	1.20	
33	Expected	2.00	3.00			2.00	1.00		1.00	2.00				2.00	1.00	1.00			1.00	1.00
	Actual	2.00	2.84			2.00	1.06		0.83	2.06				1.83	0.95	0.95			1.09	1.03
34	Expected	1.00	2.00	2.00		3.00	1.00	1.00	2.00					1.00	1.00	1.00			1.00	2.00
	Actual	1.09	1.97	2.18		3.10	1.00	1.00	1.69 ^b					1.03	1.00	0.97			0.97	1.74 ^b
35	Expected	1.00	1.00	3.00	1.00	2.00	1.00	2.00	1.00	1.00			1.00		1.00		1.00		2.00	
	Actual	1.03	1.00	2.74	0.00 ^a	1.92	1.06	2.02	0.22 ^b	1.00		0.92		1.07		1.00			1.04 ^b	
36	Expected	1.00	1.00	1.00	1.00			3.00	1.00	2.00		2.00		1.00	1.00	2.00			2.00	
	Actual	1.00	0.98	0.97	0.00 ^a			3.00	0.18 ^b	1.99		2.15		1.19	1.02	1.75			1.31 ^b	
37	Expected		2.00	2.00				2.00		3.00		1.00	1.00	2.00	1.00	2.00			1.00	1.00
	Actual		2.06	1.92				2.11		3.00		1.16	0.99	2.14	0.96	0.95			1.09	1.03
38	Expected	1.00	1.00	3.00		1.00		2.00		1.00		1.00	2.00	2.00					1.00	2.00
	Actual	1.00	0.98	2.88		1.01		2.24		1.04		1.08	1.91	1.96					0.99	2.04
39	Expected	4.00		3.00		1.00		1.00	1.00	1.00			1.00	2.00	1.00	1.00	1.00		1.00	
	Actual	4.22		3.07		1.06		1.18	0.89	1.00		1.09	2.00	1.06	0.89	0.99			0.91	
40	Expected	3.00	1.00	1.00			1.00	1.00	2.00		1.00			1.00	1.00	2.00	2.00		1.00	1.00
	Actual	3.00	1.09	0.97			1.07	1.04	2.00		1.08			0.93	0.97	1.86	1.90		0.92	1.08
41	Expected	5.00	1.00			2.00	2.00		2.00	1.00	1.00				1.00	1.00			1.00	1.00
	Actual	5.00	1.11			1.99	2.16		2.05	1.12	1.09				0.92	0.98			0.91	1.02
42	Expected	4.00				2.00	2.00		1.00	1.00	1.00	1.00	1.00	2.00		2.00			1.00	
	Actual	4.00				1.80	2.36		0.85	1.13	0.86	1.09	0.96	2.10		2.20			0.99	
43	Expected	2.00		1.00			1.00		1.00				1.00	2.00	3.00	1.00	3.00			
	Actual	2.00		1.04			1.12		0.75				0.95	1.55	2.67	1.04	2.81			

Table 2 - Amino Acid Analysis (continued)

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)		
44	Expected	1.00		2.00		1.00	1.00		1.00				1.00	5.00	3.00	2.00					
	Actual	0.98		1.97		1.00	1.02		1.14				1.07	4.62	2.89	1.84					
45	Expected			3.00		3.00			2.00	1.00			1.00	3.00	3.00	1.00					
	Actual			2.95		3.00			2.23	1.09			0.95	2.83	2.79	0.95					
46	Expected	1.00	1.00	2.00		2.00			2.00	1.00				2.00	2.00	1.00	1.00				
	Actual	1.09	1.00	1.78		1.82			2.01	1.00				1.63	1.77	0.86	0.00 ^a				
47	Expected	1.00	1.00	2.00		3.00	1.00		2.00	1.00				1.00	1.00	1.00	2.00	1.00			
	Actual	1.00	1.07	1.99		2.89	1.07		2.07	1.06				0.98	1.01	0.97	0.00 ^a	1.08			
48	Expected	1.00	1.00	1.00		2.00	2.00		1.00		1.00				1.00	3.00	2.00	2.00	1.00		
	Actual	1.05	1.13	1.05		2.00	2.19		1.01		1.19				1.02	2.80	0.00 ^a	2.36	1.05		
49	Expected					1.00	1.00	1.00	1.00		2.00	1.00	1.00	1.00	1.00	3.00	2.00	1.00			
	Actual					0.85	1.00		0.95		1.99	1.12	0.90	0.95	1.12	3.09	0.00 ^a	1.14			
50	Expected	1.00		1.00	1.00	1.00	1.00		1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		3.00		
	Actual	1.00		1.00	0.00 ^a	0.98	1.03		1.03	2.00	0.97	1.01	1.03	1.00	0.94	1.00	0.00 ^a		3.03		
51	Expected	2.00	1.00	1.00	1.00	2.00	2.00		1.00	2.00	3.00	1.00							2.00		
	Actual	2.00	1.07	1.04	0.00 ^a	2.00	2.12		1.04	2.19	3.01	1.19							1.60 ^b		
52	Expected	1.00	2.00	1.00	1.00	2.00	1.00		2.00	3.00					1.00				1.00	2.00	
	Actual	1.00	1.98	1.05	0.00 ^a	2.01	1.05		2.17	3.02					0.95				1.13	1.36 ^b	
53	Expected		1.00	1.00	1.00	3.00				1.00	4.00			1.00	1.00	1.00			2.00	2.00	
	Actual		1.08	0.98	0.00 ^a	3.00				1.01	4.09			1.17	0.96	0.96			1.94	1.46 ^b	
54	Expected			4.00	1.00	2.00			1.00		2.00			1.00	1.00	1.00	1.00	1.00	2.00	1.00	
	Actual			3.30	0.00 ^a	2.00			0.81 ^b		2.13			0.99	0.85	0.97	0.93	0.00 ^a	2.19	0.65 ^b	
55	Expected			5.00	1.00	1.00			2.00		1.00	1.00	1.00		1.00	2.00	1.00			1.00	
	Actual			4.38	0.00 ^a	1.00			1.81 ^b		1.07	1.15	0.99		0.96	1.73	0.00 ^a			0.55 ^b	
56	Expected	2.00	1.00	2.00		1.00	1.00		2.00		1.00	1.00	2.00		2.00	2.00				1.00	
	Actual	1.90	1.02	1.96		1.00	1.02		1.83 ^b		1.02	1.03	1.77		1.83	1.84				0.00 ^b	
57	Expected	2.00	2.00	2.00		1.00	1.00		1.00		2.00	1.00	1.00		3.00					2.00	
	Actual	2.00	2.04	1.96		0.97	1.07		0.69 ^b		2.15	1.13	1.09		2.70					1.63 ^b	
58	Expected		2.00	1.00					3.00		2.00			1.00	3.00	1.00				2.00	
	Actual		2.07	1.08					1.97 ^b		2.00			1.06	2.94	0.70				1.33 ^b	
59	Expected		2.00			2.00	2.00		3.00		2.00			1.00	2.00	2.00				2.00	
	Actual		1.82			2.00	2.12		1.88 ^b		1.88			0.99	1.97	1.50				1.38 ^b	
60	Expected	1.00	1.00			3.00	3.00		3.00	1.00				1.00	1.00	1.00				2.00	
	Actual	0.96	0.97			2.87	3.00		1.14 ^b	1.02				0.99	0.91	0.85				1.63 ^b	
61	Expected	5.00	2.00			2.00	1.00		1.00	1.00				1.00	2.00	1.00				2.00	
	Actual	5.00	2.19			2.22	1.01		0.78 ^b	1.01				1.10	1.72	0.92				1.68 ^b	
62	Expected	5.00	4.00			1.00	2.00		1.00						1.00	1.00				1.00	
	Actual	5.00	3.87			1.01	2.01		0.97						0.97	0.93				1.22	
63	Expected	2.00	4.00	1.00		2.00	2.00		1.00					1.00	1.00					1.00	
	Actual	2.00	3.83	1.04		2.03	2.08		0.98					1.11	0.97					1.20	
64	Expected		2.00	2.00	1.00	2.00	3.00		1.00					1.00	1.00				2.00	1.00	
	Actual		1.81	1.99	0.00 ^a	2.00	3.00		0.92					1.40	0.92					2.30	1.11
65	Expected			4.00	1.00	3.00	3.00	1.00						1.00	1.00	1.00			2.00	1.00	
	Actual			4.34	0.00 ^a	3.03	3.00	0.98						0.93	0.91	0.89			1.87	1.08	
66	Expected	1.00		4.00	1.00	1.00	2.00	2.00					1.00		1.00	1.00	1.00			1.00	
	Actual	1.00		4.01	0.00 ^a	1.03	2.05	1.94					1.14		0.97	0.94	0.00 ^a			1.10	
67	Expected	2.00	1.00	4.00		2.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00				
	Actual	2.00	1.00	4.22		2.11		1.02	0.98	1.00		1.04	1.08		0.97	0.91	0.00 ^a				
68	Expected	2.00	1.00	3.00		1.00		1.00	2.00	1.00		2.00				1.00	1.00				
	Actual	2.05	0.90	3.10		1.00		1.03	1.89	1.15		2.13				1.02	0.00 ^a				
69	Expected	2.00	1.00	4.00		1.00	1.00		3.00	2.00		2.00	1.00	1.00							
	Actual	2.00	0.85	3.95		1.03	1.07		3.16	2.06		1.97	1.22	1.12							
70	Expected	1.00	1.00	2.00		4.00	1.00		1.00	1.00	1.00	1.00	1.00	2.00					1.00	1.00	
	Actual	1.00	1.05	1.98		3.91	1.02		1.00	1.03	1.01	1.02	1.10	2.04					1.06	1.13	
71	Expected	1.00	1.00	1.00		5.00	1.00				1.00	1.00	1.00	1.00		1.00			3.00	1.00	
	Actual	1.00	1.08	1.00		4.73	0.98				0.99	1.12	0.97	1.07		0.95			2.95	1.12	
72	Expected		3.00	1.00		4.00	2.00			1.00	2.00	1.00				1.00			2.00	1.00	
	Actual		2.76	0.96		3.70	2.00		0.98	1.78	1.08					0.96			1.90	0.84	
73	Expected		4.00	1.00		4.00	1.00			4.00	1.00		1.00						1.00		
	Actual		4.19	1.01		4.31	2.00			4.21	1.01		1.06						1.01		
74	Expected	1.00	2.00	2.00		2.00				5.00	1.00		1.00	1.00		1.00	1.00			1.00	
	Actual	1.00	1.98	2.00		2.09				5.08	1.02		1.08	1.10		0.99	0.00 ^a			1.10	
75	Expected	5.00	1.00	1.00						3.00	1.00			1.00		1.00	1.00	1.00	1.00	2.00	
	Actual	5.00	0.94	1.02						3.06	0.96			1.05		1.00	0.00 ^a	1.12		2.50	
76	Expected	4.00	2.00	1.00			1.00	1.00		1.00	1.00				1.00		1.00	2.00	3.00		
	Actual	4.00	2.33	1.01			1.02	1.00		0.92	1.10				1.10		0.00 ^a	1.95		3.43	

Table 2 - Amino Acid Analysis (continued)																			
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)
77	Expected	2.00	3.00	2.00	1.00		2.00	1.00					1.00	1.00	1.00		1.00	1.00	1.00
	Actual	2.00	3.26	1.02	0.00 ^a		2.15	1.06					1.03	1.07	1.00		0.00 ^a	1.02	1.04
78	Expected		3.00	3.00	1.00		1.00		1.00	1.00			1.00	1.00		2.00	1.00		
	Actual		3.15	2.89	0.00 ^a		1.00		0.80	0.94			1.18	1.40		1.72	0.00 ^a		
79	Expected		1.00	5.00		3.00	1.00		1.00	1.00				1.00		2.00			2.00
	Actual		1.02	5.27		3.32	1.00		1.02	1.03			0.97	0.97		1.95			2.17
80	Expected		1.00	3.00		4.00	1.00		2.00	2.00	2.00					1.00			2.00
	Actual		1.12	3.10		4.05	1.00		1.57 ^b	2.10	2.17					0.97			1.60 ^b
81	Expected		3.00			2.00	1.00		3.00	2.00	2.00			1.00		1.00	1.00		1.00
	Actual		3.10			2.09	1.00		2.24 ^b	1.96	2.00			1.08		1.07	0.00 ^a		0.92 ^b
82	Expected	1.00	4.00	2.00		1.00		1.00	2.00	1.00	1.00			1.00	1.00		1.00	1.00	1.00
	Actual	1.00	4.14	2.00		1.01		1.04	2.02	1.06	1.05			1.04	1.01		0.00 ^a	0.99	1.01
83	Expected	3.00	1.00	2.00		1.00		1.00	1.00	1.00	2.00		1.00		1.00		1.00	1.00	1.00
	Actual	3.00	1.03	2.05		1.04		1.12	1.02	1.04	2.04		1.03		0.95		0.00 ^a	1.10	1.06
84	Expected	3.00	1.00	2.00		1.00	1.00	1.00		1.00	3.00		2.00		2.00				
	Actual	3.00	1.12	1.93		1.15	1.03	1.13		1.04	3.02		2.06		1.94				

^aCys and/or Trp were completely or partially destroyed during hydrolysis

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

Date: 24 JUL 2014

Signature: *Dorothy C. Young*

Title: Technical Manager, BEI Authentication

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