

**Peptide Array West Nile Virus Protein NS1**

**Catalog No. NR-436**

**Product Description:** A 46-peptide array spanning the NS1 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-436.

**Lot: 3745091**

The following information applies to all 46 peptides:

- Appearance White lyophilized powder
- Mass spectral analysis Electrospray "Exhibits correct MW"
- Counter Ion Ammonium acetate (Peptides 3, 11)  
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 <sup>a</sup>	Peptide Content <sup>b</sup>
1	7/12/2004	19	DTGCAIDISRQELRCGSGV	1980.2	90.4%	80.1%
2	6/29/2004	18	RQELRCGSGVFIHNDVEA	2030.3	75.3%	76.7%
3	6/18/2004	18	GVFIHNDVEAWMDRYKYY	2306.6	72.7%	79.5%
4	6/15/2004	18	EAWMDRYKYYPETPQGLA	2218.5	97.7%	83.9%
5	6/15/2004	18	YYPETPQGLAKIIQKAHK	2085.4	96.3%	77.2%
6	6/29/2004	17	LAKIIQKAHKEGVCGLR	1864.3	93.2%	78.8%
7	7/9/2004	17	AHKEGVCGLRSVSRLEH	1878.1	90.8%	81.3%
8	6/16/2004	17	GLRSVSRLEHQMWWEAVK	2026.4	81.9%	78.2%
9	6/16/2004	18	LEHQMWWEAVKDELNTLLK	2197.5	99.2%	82.1%
10	6/16/2004	18	VKDELNTLLKENGVDLSV	1986.3	97.3%	81.5%
11	6/24/2004	18	LKENGVDLSVVVEKQEGM	1974.3	64.9%	79.3%
12	6/21/2004	18	SVVVEKQEGMYKSAPKRL	2049.4	89.8%	82.4%
13	6/23/2004	17	GMYSAPKRLTATTEKL	1895.3	91.0%	79.7%
14	6/23/2004	17	KRLTATTEKLEIGWKAW	2031.4	99.0%	78.7%
15	6/14/2004	17	EKLEIGWKAWGKSILFA	1976.3	81.4%	77.8%
16	6/10/2004	18	KAWGKSILFAPELANNTF	2007.3	97.7%	80.7%
17	6/7/2004	18	FAPELANNTFVVDGPETK	1949.1	97.3%	80.6%
18	6/25/2004	18	TFVVDGPETKECPTQNRA	1992.2	88.7%	79.7%
19	6/8/2004	16	TKECPTQNRAWNSLEV	1876.1	93.2%	78.9%
20	6/8/2004	18	TQNRAWNSLEVEDFGFGL	2083.2	92.3%	82.3%

Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC <sup>a</sup>	Peptide Content <sup>b</sup>
21	6/15/2004	18	LEVEDFGFGLTSTRMFLK	2090.4	98.1%	79.1%
22	6/30/2004	18	GLTSTRMFLKVRESNTTE	2070.4	90.5%	80.8%
23	6/11/2004	16	LKVRESNTTECDISKII	1836.1	86.0%	79.8%
24	7/9/2004	18	NTTECDSKIIGTAVKNNL	1921.2	38.3%	79.0%
25	6/16/2004	18	IIGTAVKNNLAIHSDLSY	1929.2	97.0%	80.9%
26	6/14/2004	16	NLAIHSDLSYWIESRL	1917.2	91.6%	81.5%
27	6/10/2004	18	DSLYWIESRLNDTWKLER	2324.6	81.4%	81.9%
28	6/28/2004	17	RLNDTWKLERAVLGEVK	2027.4	96.6%	79.5%
29	6/24/2004	18	LERAVLGEVKCTWPETH	2055.3	63.4%	80.3%
30	6/11/2004	18	VKSCTWPETHLWGDGIL	2043.3	97.8%	80.4%
31	6/28/2004	18	THTLWGDGILESDLIIPV	1979.3	90.8%	81.3%
32	6/23/2004	16	ILESDLIIPVTLGPR	1707.0	92.2%	83.5%
33	6/21/2004	16	IIPVTLGPRSNHNR	1801.1	90.9%	80.4%
34	6/29/2004	18	AGPRSNHNRPGYKTQNNQ	2081.2	92.2%	81.5%
35	6/25/2004	18	RRPGYKTQNNQGPWDEGRV	2144.3	94.7%	80.9%
36	6/23/2004	16	NQGPWDEGRVEIDFDY	1940.0	94.1%	81.6%
37	6/25/2004	18	EGRVEIDFDYCPGTTVTL	2015.2	63.0%	80.5%
38	6/28/2004	17	DYCPGTTVTLSESCGHR	1826.0	92.4%	81.2%
39	6/25/2004	15	VTLSESCGHRGPATR	1570.7	92.3%	79.9%
40	6/21/2004	18	SCGHRGPATRRTTESGKL	1859.1	95.4%	78.7%
41	7/6/2004	17	TRTTTESGKLITDWCCR	1971.2	79.0%	81.8%
42	6/28/2004	18	GKLITDWCCRSTLPLLR	2062.5	79.2%	79.3%
43	6/29/2004	18	CRSCTLPLRYQTDSGCW	2086.4	99.0%	81.5%
44	6/28/2004	16	LRVYQTDSCWYGMIEIR	1978.2	79.1%	79.4%
45	6/28/2004	17	SGCWYGMIEIRPQRHDEK	2092.3	43.5%	80.8%
46	7/6/2004	19	EIRPQRHDEKTLVQSQVNA	2248.5	78.7%	79.1%

<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	Expected	1.00	2.00	2.00	2.00	2.00	3.00		2.00	1.00					2.00	1.00			1.00
	Actual	1.00	2.20	1.99	0.00 <sup>a</sup>	2.25	3.01		0.98	1.00					1.95	0.81			1.20
2	Expected	1.00	2.00	2.00	1.00	3.00	2.00	1.00	1.00	1.00			1.00		1.00				2.00
	Actual	1.12	1.99	2.23	0.00 <sup>a</sup>	3.00	2.37	0.80	0.80	1.01			0.81		1.10				1.83
3	Expected	1.00	1.00	3.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00				1.00	3.00	2.00
	Actual	1.00	1.03	2.96		0.84	1.03	0.74	0.81		1.09	1.17	0.70				0.00 <sup>a</sup>	3.23	1.73
4	Expected	2.00	1.00	1.00		3.00	1.00			1.00	1.00	1.00		2.00		1.00	1.00	3.00	
	Actual	2.00	1.04	1.02		3.02	1.03			1.07	1.05	0.80		2.02		1.00	0.00 <sup>a</sup>	3.28	
5	Expected	2.00				3.00	1.00	1.00	2.00	1.00	3.00			2.00		1.00		2.00	
	Actual	2.00				3.12	1.04	1.05	1.01 <sup>b</sup>	1.08	3.14			1.89		0.94		1.90	
6	Expected	2.00	1.00		1.00	2.00	2.00	1.00	2.00	2.00	3.00								1.00
	Actual	2.02	1.03		0.00 <sup>a</sup>	2.00	2.15	1.03	0.88 <sup>b</sup>	2.09	3.03								1.06
7	Expected	1.00	2.00		1.00	2.00	2.00	2.00		2.00	1.00				2.00				2.00
	Actual	1.00	2.00		0.00 <sup>a</sup>	2.14	2.06	2.20		1.97	1.04				1.95				2.06
8	Expected	1.00	2.00			3.00	1.00	1.00		2.00	1.00	1.00			2.00		1.00		2.00
	Actual	1.00	2.02			2.91	0.96	1.17		1.95	0.88	1.03			1.72		0.00 <sup>a</sup>		2.07
9	Expected	1.00		2.00		4.00		1.00		4.00	2.00	1.00				1.00	1.00		1.00
	Actual	1.00		2.02		4.16		1.09		4.20	1.93	1.04				0.97	0.00 <sup>a</sup>		0.98
10	Expected			4.00		2.00	1.00			4.00	2.00				1.00	1.00			3.00
	Actual			3.73		2.00	1.04			4.21	1.74				0.89	0.92			3.03

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			2.00		4.00	2.00			2.00	2.00	1.00			1.00				4.00
	Actual			1.95		4.00	2.19			2.07	2.16	0.98			1.04				3.59 <sup>P</sup>
12	Expected	1.00	1.00			3.00	1.00			1.00	3.00	1.00		1.00	2.00			1.00	3.00
	Actual	1.02	0.99			3.03	1.01			1.00	3.06	1.04		0.93	1.71			1.04	2.09 <sup>P</sup>
13	Expected	2.00	1.00			1.00	1.00			2.00	3.00	1.00		1.00	1.00	3.00			1.00
	Actual	1.94	1.00			1.00	0.97			2.09	3.08	0.87		0.89	0.97	2.78			0.98
14	Expected	2.00	1.00			2.00	1.00		1.00	2.00	3.00					3.00	2.00		
	Actual	2.00	0.98			1.93	1.01		1.01	2.04	3.19					2.92	0.00 <sup>A</sup>		
15	Expected	2.00				2.00	2.00		2.00	2.00	3.00		1.00		1.00			2.00	
	Actual	2.12				2.00	2.13		2.06	2.05	3.29		1.12		1.02			0.00 <sup>A</sup>	
16	Expected	3.00		2.00		1.00	1.00		1.00	2.00	2.00		2.00	1.00	1.00	1.00	1.00		
	Actual	3.00		2.07		1.02	1.02		1.04	2.07	2.10		1.97	0.98	0.98	0.97	0.00 <sup>A</sup>		
17	Expected	2.00		3.00		2.00	1.00			1.00	1.00		2.00	2.00		2.00			2.00
	Actual	2.00		3.00		2.03	1.06			1.05	1.00		1.99	1.99		2.00			1.71
18	Expected	1.00	1.00	2.00	1.00	3.00	1.00				1.00		1.00	2.00		3.00			2.00
	Actual	0.99	1.07	1.92	0.00 <sup>A</sup>	3.00	1.01				1.07		1.12	2.21		2.81			1.33 <sup>P</sup>
19	Expected	1.00	1.00	2.00	1.00	3.00				1.00	1.00			1.00	1.00	2.00	1.00		1.00
	Actual	1.02	1.07	2.02	0.00 <sup>A</sup>	3.00				1.11	1.12			1.02	1.01	1.87	0.00 <sup>A</sup>		1.12
20	Expected	1.00	1.00	3.00		3.00	2.00			2.00			2.00		1.00	1.00	1.00		1.00
	Actual	1.00	0.99	2.98		3.06	2.14			2.10			1.97		1.01	0.94	0.00 <sup>A</sup>		1.20
21	Expected		1.00	1.00		2.00	2.00			3.00	1.00	1.00	3.00		1.00	2.00			1.00
	Actual		1.01	0.97		1.88	2.00			3.01	1.05	0.80	2.70		0.93	1.84			1.11
22	Expected		2.00	1.00		2.00	1.00			2.00	1.00	1.00	1.00		2.00	4.00			1.00
	Actual		1.82	1.12		2.00	1.03			1.96	1.07	1.20	1.05		2.09	3.48			0.80
23	Expected		1.00	2.00	1.00	2.00			2.00	1.00	2.00				2.00	2.00			1.00
	Actual		0.97	1.98	0.00 <sup>A</sup>	2.00			1.42 <sup>P</sup>	1.01	2.14				1.90	1.79			1.04
24	Expected	1.00		4.00	1.00	1.00	1.00			2.00	1.00	2.00			1.00	3.00			1.00
	Actual	1.00		4.08	0.00 <sup>A</sup>	1.01	0.97			1.33 <sup>P</sup>	1.01	2.03			0.95	2.62			1.06
25	Expected	2.00		3.00			1.00	1.00	3.00	2.00	1.00				2.00	1.00		1.00	1.00
	Actual	2.00		3.01			1.05	0.80	1.37 <sup>P</sup>	2.16	0.85				1.87	0.96		1.04	0.91
26	Expected	1.00	1.00	2.00		1.00			1.00	2.00	3.00				3.00		1.00	1.00	
	Actual	1.00	1.09	2.03		1.04		0.80	1.82	3.28					2.86		0.00 <sup>A</sup>	1.07	
27	Expected		2.00	3.00		2.00			1.00	3.00	1.00				2.00	1.00	2.00	1.00	
	Actual		2.12	2.72		2.00			0.87	2.99	1.03				1.69	0.90	0.00 <sup>A</sup>	0.97	
28	Expected	1.00	2.00	2.00		2.00	1.00			3.00	2.00					1.00	1.00		2.00
	Actual	1.00	2.03	1.85		1.96	1.06			2.72	1.87					0.91	0.00 <sup>A</sup>		1.71
29	Expected	1.00	1.00		1.00	3.00	1.00	1.00		2.00	1.00			1.00	1.00	2.00	1.00		2.00
	Actual	1.06	1.10		0.00 <sup>A</sup>	3.34	1.10	1.16		2.00	0.97			0.96	0.80	1.96	0.00 <sup>A</sup>		1.86
30	Expected			1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00			1.00	1.00	3.00	2.00		1.00
	Actual			0.97	0.00 <sup>A</sup>	1.20	2.11	1.15	1.00	2.00	0.90			1.15	0.80	2.83	0.00 <sup>A</sup>		0.97
31	Expected			2.00		1.00	2.00	1.00	3.00	3.00				1.00	1.00	2.00	1.00		1.00
	Actual			1.97		1.00	2.04	0.96	1.90 <sup>P</sup>	2.59				0.96	0.97	1.68	0.00 <sup>A</sup>		1.17
32	Expected	1.00	1.00	1.00		1.00	1.00			3.00	3.00			2.00	1.00	1.00			1.00
	Actual	1.00	0.98	0.92		0.87	1.06			1.80 <sup>P</sup>	2.48			1.62	1.04	0.85			1.03
33	Expected	1.00	3.00	2.00			1.00	1.00	2.00	1.00				2.00	1.00	1.00			1.00
	Actual	1.00	3.18	1.96			0.99	1.11	0.47 <sup>P</sup>	1.06				1.86	0.94	0.95			1.16
34	Expected	1.00	3.00	3.00		2.00	2.00	1.00			1.00			2.00	1.00	1.00		1.00	
	Actual	0.92	2.97	2.91		2.04	2.00	1.03			1.01			1.90	0.95	0.97		1.04	
35	Expected	3.00		2.00		3.00	3.00				1.00			2.00		1.00	1.00	1.00	1.00
	Actual	3.13		2.00		3.00	3.05				1.08			1.88		1.02	0.00 <sup>A</sup>	1.05	1.05
36	Expected		1.00	4.00		3.00	2.00		1.00				1.00	1.00			1.00	1.00	1.00
	Actual		0.97	3.82		3.00	2.00		1.11				0.97	0.91			0.00 <sup>A</sup>	1.09	1.09
37	Expected		1.00	2.00	1.00	2.00	2.00		1.00	1.00			1.00	1.00		3.00		1.00	2.00
	Actual		0.93	2.10	0.00 <sup>A</sup>	2.00	2.07		1.16	1.06			1.14	1.11		2.76		1.15	2.04
38	Expected		1.00	1.00	2.00	1.00	2.00	1.00		1.00				1.00	2.00	3.00		1.00	1.00
	Actual		0.91	1.00	0.00 <sup>A</sup>	1.03	2.00	0.94		1.12				0.96	1.42	2.59		1.20	0.95
39	Expected	1.00	2.00		1.00	1.00	2.00	1.00		1.00				1.00	2.00	2.00			1.00
	Actual	0.95	1.97		0.00 <sup>A</sup>	1.30	2.00	1.05		1.02				1.05	1.40	1.79			1.10
40	Expected	1.00	2.00		1.00	1.00	3.00	1.00		1.00	1.00			1.00	2.00	4.00			
	Actual	0.93	2.08		0.00 <sup>A</sup>	1.00	3.10	1.02		1.09	1.20			1.10	1.47	3.70			
41	Expected		2.00	1.00	2.00	1.00	1.00		1.00	1.00	1.00				1.00	5.00	1.00		
	Actual		1.88	0.95	0.00 <sup>A</sup>	1.02	1.00		0.97	0.94	1.04				0.97	4.73	0.00 <sup>A</sup>		
42	Expected		2.00	1.00	3.00		1.00			1.00	3.00	1.00		2.00	1.00	2.00	1.00		
	Actual		1.87	0.80	0.00 <sup>A</sup>		1.00		0.93	2.69	1.06			2.05	0.65	1.66	0.00 <sup>A</sup>		

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)
43	Expected		2.00	1.00	3.00	1.00	1.00			2.00				2.00	2.00	2.00	1.00	1.00	
	Actual		1.82	0.98	0.00 <sup>a</sup>	0.94	1.00			1.98				2.23	1.78	1.84	0.00 <sup>a</sup>	0.96	
44	Expected		2.00	1.00	1.00	2.00	2.00		1.00	1.00		1.00			1.00	1.00	1.00	2.00	
	Actual		1.67	1.01	0.00 <sup>a</sup>	2.00	2.17		0.80	0.87		1.16			0.96	0.94	0.00 <sup>a</sup>	2.12	
45	Expected		2.00	1.00	1.00	3.00	2.00	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
	Actual		1.70	1.04	0.00 <sup>a</sup>	3.00	2.04	1.05	0.80		1.02	1.14		1.19	0.80		0.00 <sup>a</sup>	1.06	
46	Expected	1.00	2.00	2.00		5.00		1.00	1.00	1.00	1.00			1.00	1.00	1.00			2.00
	Actual	1.00	2.24	2.20		5.42		1.00	1.00	0.98	1.03			1.00	0.91	0.97			2.23

<sup>a</sup>Cys and/or Trp were completely destroyed during hydrolysis

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

Date: 23 JUL 2014

Signature: *Dorothy C. Young*

Title: Technical Manager, BEI Authentication

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