Certificate of Analysis for NR-2608

Peptide Array, Influenza Virus A/New York/384/2005 (H3N2) Neuraminidase Protein

Catalog No. NR-2608
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 York/384/2005 (H3N2) strain of influenza virus (GenPept: AAZ79977). Peptides are 14- to 17-mers, with 11 or 12 amino acid overlaps.

Lot: 334108 to 334185

The following information applies to all peptides:

- Appearance — Off-white lyophilized powder (Peptide 20); White lyophilized powder (All other peptides)
- 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	05/16/06	17	1 MNPNQKIITIGSVSLTI 17	1829.2	77.6%	80.7%
2 of 78	05/17/06	17	7 IITIGSVSLTISTICFF 23	1815.2	14.5%	71.7%
3 of 78	05/17/06	17	13 VSLTISTICFFMQIAIL 29	1900.4	25.0%	75.4%
4 of 78	05/17/06	17	19 TICFFMQIAILITTVTL 35	1928.4	15.2%	82.8%
5 of 78	09/08/11	17	24 MQIAILITTVTLHFKQY 40	2020.5	85.8%	81.8%
6 of 78	05/17/06	17	30 ITTVTLHFKQYEFNSPP 46	2022.3	90.9%	72.2%
7 of 78	08/31/11	17	36 HFKQYEFNSPPNNQVML 52	2093.4	97.3%	79.8%
8 of 78	05/18/06	17	42 FNSPPNNQVMLCEPTII 58	1917.2	78.8%	84.1%
9 of 78	05/12/06	17	48 NQVMLCEPTIIERNITE 64	2003.3	91.5%	79.1%
10 of 78	06/07/06	17	54 EPTIIERNITEIVYLTN 70	2018.3	78.0%	80.8%
11 of 78	05/17/06	17	60 RNITEIVYLTNTTIEKE 76	2037.3	61.1%	81.5%
12 of 78	08/31/11	17	66 VYLTNTTIEKEICPKLA 82	1936.3	90.6%	76.1%
13 of 78	08/31/11	17	72 TIEKEICPKLAEYRNWS 88	2080.4	92.3%	74.2%
14 of 78	08/30/11	17	78 CPKLAEYRNWSKPQCDI 94	2051.4	93.9%	76.2%
15 of 78	09/02/11	17	84 YRNWSKPQCDITGFAPF 100	2030.3	97.6%	76.7%
16 of 78	08/30/11	17	90 PQCDITGFAPFSKDNSI 106	1840.0	92.6%	81.6%
17 of 78	08/31/11	17	96 GFAPFSKDNSIRLSAGG 112	1723.9	93.3%	80.1%
18 of 78	05/11/06	17	102 KDNSIRLSAGGDIWVTR 118	1888.1	88.3%	77.8%
19 of 78	05/11/06	16	108 LSAGGDIWVTREPYVS 123	1749.9	68.6%	82.4%
20 of 78	08/29/11	16	113 DIWVTREPYVSCDPDK 128	1923.1	96.7%	75.5%
21 of 78	08/26/11	17	118 REPYVSCDPDKCYQFAL 134	2034.3	97.5%	80.3%
22 of 78	08/30/11	17	124 CDPDKCYQFALGQGTTL 140	1860.1	87.3%	82.6%
23 of 78	08/29/11	17	130 YQFALGQGTTLNNVHSN 146	1864.0	91.3%	83.7%
24 of 78	05/10/06	17	135 GQGTTLNNVHSNDTVHD 151	1808.8	82.7%	80.4%
25 of 78	09/01/11	17	141 NNVHSNDTVHDRTPYRT 157	2026.1	82.9%	73.5%

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Table 1						
Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC[a]	Peptide Content[b]
26 of 78	08/29/11	17	147 DTVHDRTPYRTLLMNEL 163	2074.4	95.9%	80.9%
27 of 78	08/30/11	17	153 TPYRTLLMNELGVPFHL 169	2001.4	91.9%	81.3%
28 of 78	09/02/11	16	159 LMNELGVPFHLGTKQV 174	1783.1	97.4%	76.2%
29 of 78	09/02/11	17	164 GVPFHLGTKQVCIAWSS 180	1830.2	94.0%	83.6%
30 of 78	09/15/11	17	170 GTKQVCIAWSSSSCHDG 186	1765.9	85.3%	82.3%
31 of 78	09/02/11	17	176 IAWSSSSCHDGKAWLHV 192	1884.1	80.5%	77.1%
32 of 78	05/17/06	17	182 SCHDGKAWLHVCVTGDD 198	1843.0	48.6%	85.8%
33 of 78	08/30/11	17	188 AWLHVCVTGDDKNATAS 204	1788.0	87.8%	75.2%
34 of 78	05/17/06	17	194 VTGDDKNATASFIYNGR 210	1829.0	91.3%	78.3%
35 of 78	08/03/06	17	200 NATASFIYNGRLVDSIV 216	1840.1	87.5%	83.5%
36 of 78	08/31/11	17	206 IYNGRLVDSIVSWSKEI 222	1979.3	95.9%	76.0%
37 of 78	09/01/11	17	212 VDSIVSWSKEILRTQES 228	1977.2	80.5%	76.1%
38 of 78	05/11/06	17	218 WSKEILRTQESECVCIN 234	2038.3	24.8%	78.4%
39 of 78	05/03/06	17	224 RTQESECVCINGTCTVV 240	1842.1	82.4%	90.0%
40 of 78	05/17/06	17	230 CVCINGTCTVVMTDGSA 246	1674.0	12.4%	88.7%
41 of 78	05/10/06	17	236 TCTVVMTDGSASGKADT 252	1643.8	80.0%	85.4%
42 of 78	05/17/06	17	242 TDGSASGKADTKILFIE 258	1752.9	82.8%	79.6%
43 of 78	09/02/11	17	248 GKADTKILFIEEGKIVH 264	1898.2	87.7%	68.8%
44 of 78	05/24/06	17	254 ILFIEEGKIVHTSTLSG 270	1844.1	89.0%	80.1%
45 of 78	05/11/06	17	260 GKIVHTSTLSGSAQHVE 276	1750.9	83.1%	80.8%
46 of 78	08/29/11	17	266 STLSGSAQHVEECSCYP 282	1797.9	95.0%	79.9%
47 of 78	09/02/11	17	272 AQHVEECSCYPRYPGVR 288	1994.2	92.6%	72.1%
48 of 78	05/10/06	17	278 CSCYPRYPGVRCVCRDN 294	1991.3	83.2%	79.2%
49 of 78	05/12/06	17	284 YPGVRCVCRDNWKGSNR 300	2010.3	83.4%	80.0%
50 of 78	05/17/06	17	290 VCRDNWKGSNRPIVDIN 306	1986.2	90.8%	71.2%
51 of 78	09/01/11	17	296 KGSNRPIVDINIKDYSI 312	1932.2	96.1%	81.4%
52 of 78	05/17/06	16	302 IVDINIKDYSIVSSYV 317	1828.1	75.4%	85.2%
53 of 78	05/12/06	17	307 IKDYSIVSSYVCSGLVG 323	1790.1	81.3%	85.4%
54 of 78	09/06/11	17	313 VSSYVCSGLVGDTPRKN 329	1782.0	88.0%	74.3%
55 of 78	09/02/11	17	319 SGLVGDTPRKNDSSSSS 335	1693.8	85.8%	76.5%
56 of 78	05/17/06	17	325 TPRKNDSSSSSHCLDPN 341	1844.9	81.7%	86.7%
57 of 78	05/03/06	17	331 SSSSSHCLDPNNEEGGH 347	1756.7	80.3%	78.4%
58 of 78	05/10/06	17	337 CLDPNNEEGGHGVKGWA 353	1782.9	80.1%	77.7%
59 of 78	05/11/06	17	343 EEGGHGVKGWAFDDGND 359	1789.8	88.2%	81.3%
60 of 78	05/11/06	17	349 VKGWAFDDGNDVWMGRT 365	1954.2	89.8%	80.8%
61 of 78	08/30/11	17	355 DDGNDVWMGRTISEKLR 371	1992.2	92.2%	79.4%
62 of 78	9/11/2009	17	361 WMGRTISEKLRSGYETF 377	2061.4	97.0%	76.7%
63 of 78	05/17/06	17	367 SEKLRSGYETFKVIEGW 383	2029.3	80.6%	86.0%
64 of 78	09/02/11	17	373 GYETFKVIEGWSNPNSK 389	1956.2	88.7%	83.6%
65 of 78	05/17/06	17	379 VIEGWSNPNSKLQINRQ 395	1983.2	83.1%	83.7%

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66 of 78	09/01/11	17	385 NPNSKLQINRQVIVDRG 401	1951.2	93.0%	72.7%
67 of 78	09/01/11	17	390 LQINRQVIVDRGNRSGY 406	1988.2	82.4%	78.4%
68 of 78	08/30/11	17	396 VIVDRGNRSGYSGIFSV 412	1826.1	95.0%	78.2%
69 of 78	08/31/11	17	402 NRSGYSGIFSVEGKSCI 418	1804.0	88.9%	80.5%
70 of 78	05/11/06	17	408 GIFSVEGKSCINRCFYV 424	1922.3	80.7%	77.3%
71 of 78	08/29/11	17	414 GKSCINRCFYVELIRGR 430	2014.4	97.2%	72.9%
72 of 78	05/12/06	17	420 RCFYVELIRGRKEETEV 436	2127.5	94.8%	83.8%
73 of 78	05/17/06	17	426 LIRGRKEETEVLWTSNS 442	2018.3	89.6%	80.8%
74 of 78	05/12/06	17	432 EETEVLWTSNSIVVFCG 448	1913.1	82.7%	50.0%
75 of 78	05/30/06	17	438 WTSNSIVVFCGTSGTYG 454	1779.0	52.1%	87.4%
76 of 78	09/05/11	17	444 VVFCGTSGTYGTGSWPD 460	1733.9	91.0%	88.0%
77 of 78	08/31/11	17	450 SGTYGTGSWPDGADINL 466	1710.8	85.2%	86.2%
78 of 78	08/25/11	14	456 GSWPDGADINLMPI 469	1485.7	92.0%	86.0%

[a]% full-length

[b]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 78	Expected			2.00		1.00	1.00		4.00	1.00	1.00	1.00		1.00	2.00	2.00			1.00
	Actual			1.93		1.00	1.14		3.90	1.20	1.05	0.97		0.96	1.78	1.84			1.20
2 of 78	Expected				1.00		1.00		5.00	1.00			2.00		3.00	3.00			1.00
	Actual				0.00[a]		1.00		4.24	1.23			2.15		2.76	3.15			0.96
3 of 78	Expected	1.00			1.00	1.00			4.00	2.00		1.00	2.00		2.00	2.00			1.00
	Actual	1.00			0.00[a]	0.88			3.55	2.30		0.93	2.37		1.67	1.61			1.04
4 of 78	Expected	1.00			1.00	1.00			4.00	2.00		1.00	2.00			4.00			1.00
	Actual	1.00			0.00[a]	0.96			4.31	2.03		1.00	2.00			3.89			1.06
5 of 78	Expected	1.00				2.00		1.00	3.00	2.00	1.00	1.00	1.00			3.00		1.00	1.00
	Actual	1.00				1.91		1.07	2.46	1.89	1.06	1.02	1.00			2.99		1.03	
6 of 78	Expected			1.00		2.00		1.00	1.00	1.00	1.00		2.00	2.00	1.00	3.00		1.00	1.00
	Actual			1.00		1.94		1.03	0.98	1.04	1.04		2.27	2.09	0.83	2.45		0.97	1.05
7 of 78	Expected			3.00		3.00		1.00		1.00	1.00	1.00	2.00	2.00	1.00			1.00	1.00
	Actual			3.00		3.16		0.94		1.03	0.98	0.98	1.88	1.98	0.92	0.96		0.96	
8 of 78	Expected			3.00	1.00	2.00			2.00	1.00		1.00	1.00	3.00	1.00	1.00			1.00
	Actual			3.00	0.00[a]	2.07			2.00	1.34		0.65[c]	0.97	3.03	0.81	0.99			1.08
9 of 78	Expected		1.00	2.00	1.00	4.00			3.00	1.00		1.00		1.00		2.00			1.00
	Actual		1.09	2.00	0.00[a]	3.81			2.81	1.08		0.99		0.86		1.85			0.99
10 of 78	Expected		1.00	2.00		3.00			4.00	1.00				1.00		3.00		1.00	1.00
	Actual		0.90	2.00		2.56			3.20[d]	1.08				0.88		2.69		1.01	0.82
11 of 78	Expected		1.00	2.00		3.00			3.00	1.00	1.00					4.00		1.00	1.00
	Actual		1.10	2.11		3.00			3.10	1.19	1.10					3.57		1.13	0.99
12 of 78	Expected	1.00		1.00	1.00	2.00			2.00	2.00	2.00			1.00		3.00		1.00	1.00
	Actual	1.00		1.01	0.00[a]	2.14			1.98	2.07	2.11			1.00		2.85		0.89	0.94
13 of 78	Expected	1.00	1.00	1.00	1.00	3.00			2.00	1.00	2.00			1.00	1.00	1.00	1.00	1.00	
	Actual	1.03	1.00	0.86	0.00[a]	3.14			1.98	1.04	2.05			0.98	0.97	0.95	0.00[h]	1.02	
14 of 78	Expected	1.00	1.00	2.00	2.00	2.00			1.00	1.00	2.00			2.00	1.00		1.00	1.00	
	Actual	1.03	1.00	1.72	0.00[a]	2.18			1.05	1.05	2.11			2.06	1.00		0.00[h]	1.02	
15 of 78	Expected	1.00	1.00	2.00	1.00	1.00	1.00		1.00		1.00		2.00	2.00	1.00	1.00	1.00	1.00	
	Actual	1.01	0.96	1.73	0.00[a]	1.02	1.00		1.02		1.01		2.00	1.97	0.92	0.95	0.00[h]	1.00	

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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		3.00	1.00	1.00	1.00		2.00		1.00		2.00	2.00	2.00	1.00			
	Actual	1.00		3.02	0.00[a]	1.00	1.01		1.98		1.00		1.90	1.97	1.84	0.94			
17 of 78	Expected	2.00	1.00	2.00			3.00		1.00	1.00	1.00		2.00	1.00	3.00				
	Actual	1.92	0.88	1.96			2.89		0.90	1.04	1.00		1.96	1.01	2.68				
18 of 78	Expected	1.00	2.00	3.00			2.00		2.00	1.00	1.00				2.00	1.00	1.00		1.00
	Actual	1.10	2.21	3.00			2.25		2.02	1.07	0.99				1.65	0.97	0.00[h]		1.15
19 of 78	Expected	1.00	1.00	1.00		1.00	2.00		1.00	1.00				1.00	2.00	1.00	1.00	1.00	2.00
	Actual	0.93	1.05	1.00		1.01	1.98		0.97	0.93				0.97	1.45[b]	0.88	0.00[h]	0.86	2.10
20 of 78	Expected		1.00	3.00	1.00	1.00			1.00		1.00			2.00	1.00	1.00	1.00	1.00	2.00
	Actual		1.03	3.23	0.00[a]	1.11			0.80		1.10			2.02	0.86	1.02	0.00[h]	1.00	2.08
21 of 78	Expected	1.00	1.00	2.00	2.00	2.00				1.00	1.00		1.00	2.00	1.00			2.00	1.00
	Actual	1.00	0.94	1.92	0.00[a]	2.03				1.01	1.01		0.99	1.84	0.96			1.95	0.94
22 of 78	Expected	1.00		2.00	2.00	2.00	2.00			2.00	1.00		1.00	1.00		2.00		1.00	
	Actual	1.00		1.91	0.00[a]	2.04	2.03			2.06	0.96		0.97	0.90		1.90		0.95	
23 of 78	Expected	1.00		3.00		2.00	2.00	1.00		2.00			1.00		1.00	2.00		1.00	1.00
	Actual	1.03		2.96		2.13	2.06	0.92		2.14			1.05		0.88	1.89		1.00	0.82
24 of 78	Expected			5.00		1.00	2.00	2.00		1.00					1.00	3.00			2.00
	Actual			4.60		1.00	2.20	2.13		1.10					0.89	2.76			2.25
25 of 78	Expected		2.00	5.00				2.00						1.00	1.00	3.00		1.00	2.00
	Actual		2.04	5.34				1.70						1.09	0.91	3.00		1.04	1.66
26 of 78	Expected		2.00	3.00		1.00		1.00		3.00		1.00		1.00		3.00		1.00	1.00
	Actual		1.93	3.00		1.07		0.91		3.16		0.98		0.98		2.88		0.96	0.85
27 of 78	Expected		1.00	1.00		1.00	1.00	1.00		4.00		1.00	1.00	2.00		2.00		1.00	1.00
	Actual		0.95	1.00		1.01	1.02	0.89		4.10		0.96	0.96	2.00		1.90		0.97	0.99
28 of 78	Expected			1.00		2.00	2.00	1.00		3.00	1.00	1.00	1.00	1.00		1.00			2.00
	Actual			0.95		2.00	1.94	0.97		3.15	1.00	0.95	0.98	0.98		0.90			1.91
29 of 78	Expected	1.00			1.00	1.00	2.00	1.00	1.00	1.00	1.00		1.00	1.00	2.00	1.00	1.00		2.00
	Actual	1.00			0.00[a]	1.04	1.97	0.96	0.93	1.03	1.01		0.99	0.91	1.84	0.96	0.00[h]		1.99
30 of 78	Expected	1.00		1.00	2.00	1.00	2.00	1.00	1.00		1.00				4.00	1.00	1.00		1.00
	Actual	1.01		1.02	0.00[a]	1.01	2.00	0.99	0.90		0.95				3.82	0.92	0.00[h]		0.95
31 of 78	Expected	2.00		1.00	1.00		1.00	2.00	1.00	1.00	1.00				4.00		2.00		1.00
	Actual	2.00		0.96	0.00[a]		1.01	1.96	0.96	1.07	1.04				3.56		0.00[h]		0.97
32 of 78	Expected	1.00		3.00	2.00		2.00	2.00		1.00	1.00				1.00	1.00	1.00		2.00
	Actual	1.01		2.20[f]	0.00[a]		1.96	1.91		1.00	0.98				0.80	0.90	0.00[h]		2.04
33 of 78	Expected	3.00		3.00	1.00		1.00	1.00		1.00	1.00				1.00	2.00	1.00		2.00
	Actual	3.00		3.16	0.00[a]		0.99	0.95		0.97	1.04				0.90	1.98	0.00[h]		1.98
34 of 78	Expected	2.00	1.00	4.00			2.00		1.00		1.00		1.00		1.00	2.00		1.00	1.00
	Actual	2.08	1.02	3.85			2.00		0.98		1.02		1.11		0.84	1.72		0.95	0.99
35 of 78	Expected	2.00	1.00	3.00			1.00		2.00	1.00			1.00		2.00	1.00		1.00	2.00
	Actual	2.15	1.15	3.00			1.09		1.98	1.09			1.11		1.74	0.89		1.03	2.15
36 of 78	Expected		1.00	2.00		1.00	1.00		3.00	1.00	1.00				3.00		1.00	1.00	2.00
	Actual		0.98	2.06		1.06	1.02		2.52	1.00	1.04				2.79		0.00[h]	1.00	1.68
37 of 78	Expected		1.00	1.00		3.00			2.00	1.00	1.00				4.00	1.00	1.00		2.00
	Actual		1.00	1.04		2.88			1.61[d]	0.96	1.06				3.54	0.94	0.00[h]		1.74[d]
38 of 78	Expected		1.00	1.00	2.00	4.00			2.00	1.00	1.00				2.00	1.00	1.00		1.00
	Actual		1.06	1.13	0.00[a]	3.63			2.06	1.00	0.80				1.70	0.91	0.00[h]		1.29
39 of 78	Expected		1.00	1.00	3.00	3.00	1.00		1.00						1.00	3.00			3.00
	Actual		1.13	1.00	0.00[a]	3.07	1.17		1.06						1.11	2.48			2.95
40 of 78	Expected	1.00		2.00	3.00		2.00		1.00			1.00			1.00	3.00			3.00
	Actual	0.92		2.00	0.00[a]		2.07		0.93			1.06			0.93	2.48			3.20
41 of 78	Expected	2.00		2.00	1.00		2.00				1.00	1.00			2.00	4.00			2.00
	Actual	2.00		1.89	0.00[a]		2.01				0.99	0.95			1.60	3.97			1.82
42 of 78	Expected	2.00		2.00		1.00	2.00		2.00	1.00	2.00		1.00		2.00	2.00			
	Actual	2.13		2.01		1.00	2.10		2.03	1.06	2.14		1.10		1.59[b]	1.78			
43 of 78	Expected	1.00		1.00		2.00	2.00	1.00	3.00	1.00	3.00		1.00			1.00			1.00
	Actual	1.03		1.02		2.00	2.07	0.96	2.25[d]	0.86	2.93		0.92			0.91			0.59[d]
44 of 78	Expected					2.00	2.00	1.00	3.00	2.00	1.00		1.00		2.00	2.00			1.00
	Actual					1.82	2.00	0.99	2.73	2.01	1.00		1.09		1.54[b]	1.72			0.86
45 of 78	Expected	1.00				2.00	2.00	2.00	1.00	1.00	1.00				3.00	2.00			2.00
	Actual	1.11				2.00	2.15	2.11	0.85	1.09	1.04				2.38[b]	1.71			2.05

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Certificate of Analysis for NR-2608

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)
46 of 78	Expected	1.00			2.00	3.00	1.00	1.00		1.00				1.00	4.00	1.00		1.00	1.00
	Actual	1.06			0.00[a]	3.13	1.00	0.91		1.03				0.95	3.60	0.85		0.94	0.96
47 of 78	Expected	1.00	2.00		2.00	3.00	1.00	1.00						2.00	1.00			2.00	2.00
	Actual	1.00	1.76		0.00[a]	3.07	1.01	0.91						1.91	0.96			2.02	1.71
48 of 78	Expected		3.00	2.00	4.00		1.00							2.00	1.00			2.00	2.00
	Actual		3.34	2.00	0.00[a]		1.11							2.30	0.80			2.14	2.21
49 of 78	Expected		3.00	3.00	2.00		2.00				1.00			1.00	1.00		1.00	1.00	2.00
	Actual		3.09	2.50	0.00[a]		2.00				1.01			0.84	0.79[b]		0.00[h]	0.86	2.01
50 of 78	Expected		2.00	5.00	1.00		1.00		2.00		1.00			1.00	1.00		1.00		2.00
	Actual		2.06	4.48	0.00[a]		1.00		1.94		0.98			0.90	0.78[b]		0.00[h]		1.95
51 of 78	Expected		1.00	4.00			1.00		4.00		2.00			1.00	2.00			1.00	1.00
	Actual		0.94	4.00			1.00		3.36[d]		1.81			1.04	1.76			1.01	0.53[d]
52 of 78	Expected			3.00					4.00		1.00				3.00			2.00	3.00
	Actual			3.00					3.60		1.02				2.42			1.74	2.83
53 of 78	Expected			1.00	1.00		2.00		2.00	1.00	1.00				4.00			2.00	3.00
	Actual			0.95	0.00[a]		1.98		1.76	1.00	0.93				3.50			1.80	2.84
54 of 78	Expected		1.00	2.00	1.00		2.00			1.00	1.00			1.00	3.00	1.00		1.00	3.00
	Actual		1.00	2.04	0.00[a]		2.07			1.03	1.03			0.97	2.70	0.85		0.94	2.99
55 of 78	Expected		1.00	3.00			2.00			1.00	1.00			1.00	6.00	1.00			1.00
	Actual		0.98	3.04			2.00			1.07	1.02			1.06	5.11	0.95			1.00
56 of 78	Expected		1.00	4.00	1.00			1.00		1.00	1.00			2.00	5.00	1.00			
	Actual		0.94	3.67	0.00[a]			0.99		1.00	0.95			1.75	4.30	0.81			
57 of 78	Expected			3.00	1.00	2.00	2.00	2.00		1.00				1.00	5.00				
	Actual			3.11	0.00[a]	2.00	2.06	2.09		1.13				1.05	3.90[b]				
58 of 78	Expected	1.00		3.00	1.00	2.00	4.00	1.00		1.00	1.00			1.00			1.00		1.00
	Actual	1.05		3.00	0.00[a]	1.94	4.26	1.06		1.05	1.06			0.97			0.00[h]		1.07
59 of 78	Expected	1.00		4.00		2.00	5.00	1.00			1.00		1.00				1.00		1.00
	Actual	1.08		4.00		1.93	5.39	1.07			1.07		1.15				0.00[h]		1.07
60 of 78	Expected	1.00	1.00	4.00			3.00				1.00	1.00	1.00			1.00	2.00		2.00
	Actual	1.04	1.21	4.00			3.26				1.01	1.02	1.02			1.13	0.00[h]		2.14
61 of 78	Expected		2.00	4.00		1.00	2.00		1.00	1.00	1.00	1.00			1.00	1.00	1.00		1.00
	Actual		1.91	3.84		1.02	1.93		0.96	1.03	1.00	0.98			0.92	0.93	0.00[h]		0.88
62 of 78	Expected		2.00			2.00	2.00		1.00	1.00	1.00	1.00	1.00		2.00	2.00	1.00	1.00	
	Actual		1.88			2.08	1.91		0.94	0.97	1.00	0.99	1.04		1.88	1.88	0.00[h]	0.98	
63 of 78	Expected		1.00			3.00	2.00		1.00	1.00	2.00		1.00		2.00	1.00	1.00	1.00	1.00
	Actual		1.02			3.02	2.05		0.99	1.00	2.17		1.07		1.61	1.01	0.00[h]	1.22	1.08
64 of 78	Expected			2.00		2.00	2.00		1.00		2.00		1.00	1.00	2.00	1.00	1.00	1.00	1.00
	Actual			2.03		2.00	1.95		0.58[d]		1.99		1.01	1.00	1.82	0.90	0.00[h]	0.98	0.59[d]
65 of 78	Expected		1.00	3.00		3.00	1.00		2.00	1.00	1.00			1.00	2.00		1.00		1.00
	Actual		1.11	3.00		2.81	1.01		1.73[d]	1.05	1.03			0.97	1.52[b]		0.00[h]		0.77[d]
66 of 78	Expected		2.00	4.00		2.00	1.00		2.00	1.00	1.00			1.00	1.00				2.00
	Actual		1.95	3.96		2.00	1.02		1.37[d]	1.02	1.00			0.98	0.87				1.43[d]
67 of 78	Expected		3.00	3.00		2.00	2.00		2.00	1.00					1.00			1.00	2.00
	Actual		3.00	3.06		2.09	2.06		1.44[d]	1.01					0.85			0.88	1.52[d]
68 of 78	Expected		2.00	2.00			3.00		2.00				1.00		3.00			1.00	3.00
	Actual		1.97	2.00			3.16		1.32[d]				0.94		2.81			1.01	2.42[d]
69 of 78	Expected		1.00	1.00	1.00	1.00	3.00		2.00		1.00		1.00		4.00			1.00	1.00
	Actual		0.97	0.99	0.00[a]	1.07	3.00		1.81		1.06		0.90		3.61			0.95	1.06
70 of 78	Expected		1.00	1.00	2.00	1.00	2.00		2.00		1.00		2.00		2.00			1.00	2.00
	Actual		1.05	1.00	0.00[a]	0.91	1.92		1.87		1.01		2.06		1.60			0.91	2.12
71 of 78	Expected		3.00	1.00	2.00	1.00	2.00		2.00	1.00	1.00		1.00		1.00			1.00	1.00
	Actual		2.79	0.98	0.00[a]	1.03	2.00		182.00	0.97	0.98		0.98		0.93			0.92	1.04
72 of 78	Expected		3.00		1.00	4.00	1.00		1.00	1.00	1.00		1.00			1.00		1.00	2.00
	Actual		3.00		0.00[a]	3.50	1.01		0.96	1.02	1.00		0.93			0.89		0.87	2.04
73 of 78	Expected		2.00	1.00		3.00	1.00		1.00	2.00	1.00				2.00	2.00	1.00		1.00
	Actual		1.99	1.00		2.79	0.95		0.88	1.97	1.03				1.58[b]	1.77	0.00[h]		1.06
74 of 78	Expected			1.00	1.00	3.00	1.00		1.00	1.00			1.00		2.00	2.00	1.00		3.00
	Actual			1.15	0.00[a]	2.71	1.17		0.89	1.00			1.73		1.92	1.83	0.00[h]		2.85

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Certificate of Analysis for NR-2608

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)**
75 of 78	Expected			1.00	1.00		3.00		1.00				1.00		3.00	3.00	1.00	1.00	2.00
	Actual			1.00	0.00[a]		3.15		0.81				1.26		2.45	2.62	0.00[h]	0.83	2.27
76 of 78	Expected			1.00	1.00		4.00						1.00	1.00	2.00	3.00	1.00	1.00	2.00
	Actual			1.03	0.00[a]		4.00						0.94	0.96	1.83	2.87	0.00[h]	1.01	0.70[d]
77 of 78	Expected	1.00		3.00			4.00		1.00	1.00				1.00	2.00	2.00	1.00	1.00	
	Actual	1.00		2.99			3.91		0.98	1.00				0.99	1.78	1.86	0.00[h]	0.96	
78 of 78	Expected	1.00		3.00			2.00		2.00	1.00		1.00		2.00	1.00		1.00		
	Actual	1.00		3.04			1.96		1.98	1.03		1.00		1.96	0.87		0.00[h]		

[a]Cys was completely destroyed during hydrolysis
[b]Ser was only partially hydrolyzed during hydrolysis
[c]Met was only partially hydrolyzed during hydrolysis
[d]Val-Ile, Ile-Ile and/or Ile-Val bonds were partially hydrolyzed during hydrolysis
[e]Ile was only partially hydrolyzed during hydrolysis
[f]Asp/Asn was only partially destroyed during hydrolysis
[g]Pro was only partially hydrolyzed during hydrolysis
[h]Trp was completely destroyed during hydrolysis

Date: 22 JUN 2012

Signature: Dorothy C. Young

Title: Technical Manager, BEI Authentication or designee

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