

Peptide Array, Hepatitis C Virus, H77, NS3 Protein

Catalog No. NR-3752

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Product Description: The 98-peptide array spans the NS3 protein of hepatitis C virus, H77 (genotype 1a; GenPept: AAB67036). Peptides are 15- to 19-mers, with 11 or 12 amino acid overlaps.

Lot: N671-1 to N671-98

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 ^a	Peptide Content ^b
1 of 98	7/27/2006	18	1 APITAYAQQTRGLLGCI 18	1889.26	0.69	97.4%	89.2%
2 of 98	7/27/2006	18	7 AQQTRGLLGCIITSLTGR 24	1888.24	0.26	96.2%	84.7%
3 of 98	7/27/2006	16	14 LGCIITSLTGRDKNQV 29	1718.02	0.09	89.8%	83.4%
4 of 98	7/27/2006	18	19 TSLTGRDKNQVEGEVQIV 36	1973.19	-0.64	95.2%	85.2%
5 of 98	7/27/2006	18	26 KNQVEGEVQIVSTATQTF 43	1979.19	-0.36	81.6%	89.7%
6 of 98	7/27/2006	16	33 VQIVSTATQTFLATCI 48	1696.01	1.22	88.1%	88.2%
7 of 98	7/27/2006	18	38 TATQTFLATCINGVCWTV 55	1929.26	0.91	84.5%	89.4%
8 of 98	7/27/2006	18	45 ATCINGVCWTVYHGAGTR 62	1909.19	0.27	95.4%	84.8%
9 of 98	7/27/2006	17	52 CWTVYHGAGTRTIASPK 68	1848.13	-0.25	99.3%	80.2%
10 of 98	7/27/2006	18	58 GAGTRTIASPKGPVIQMY 75	1847.18	-0.06	99.8%	84.4%
11 of 98	7/27/2006	18	65 ASPKGPVIQMYTNVDQDL 82	1976.25	-0.41	98.1%	89.7%
12 of 98	7/27/2006	16	72 IQMYTNVDQDLVGWPA 87	1850.1	-0.12	95.1%	89.0%
13 of 98	7/27/2006	18	77 NVDQDLVGWPAPQGSRL 94	1939.13	-0.59	98.7%	89.5%
14 of 98	7/27/2006	18	84 GWPAPQGSRLTPCTCGS 101	1805.04	-0.45	98.1%	88.8%
15 of 98	7/27/2006	17	91 SRSLTPCTCGSSDLYLV 107	1802.07	0.28	97.4%	88.8%
16 of 98	7/27/2006	18	97 CTCGSSDLYLVTRHADVI 114	1953.24	0.44	92.1%	85.1%
17 of 98	7/27/2006	16	104 LYLVRHADVIPVRRR 119	1964.37	-0.11	99.5%	74.2%
18 of 98	7/27/2006	18	109 RHADVIPVRRRGDSRGS 126	2047.33	-1.01	94.1%	72.0%
19 of 98	7/27/2006	17	116 VRRRGDSRGSLLSPRPI 132	1922.24	-0.95	98.3%	73.8%
20 of 98	7/27/2006	15	122 SRGSLLSPRPISYLK 136	1673.99	-0.34	98.3%	78.6%
21 of 98	7/27/2006	18	126 LLSPRPISYLKGSSGGPL 143	1842.19	0.04	98.7%	84.3%
22 of 98	7/27/2006	18	133 SYLKGSSGGPLCPAGHA 150	1714.98	0.11	98.9%	83.4%
23 of 98	7/27/2006	18	140 GGPLCPAGHAVGLFRAA 157	1707.05	0.87	98.7%	83.3%
24 of 98	7/27/2006	18	147 AGHAVGLFRAAVCTRGVA 164	1756.08	0.92	98.2%	79.4%
25 of 98	7/27/2006	17	154 FRAAVCTRGVAKAVDFI 170	1824.19	0.88	99.1%	80.0%
26 of 98	7/27/2006	16	160 TRGVAKAVDFIPVENL 175	1729.02	0.36	96.1%	83.5%
27 of 98	7/27/2006	16	165 KAVDFIPVENLGTMTMR 180	1791.12	0.06	94.8%	84.0%
28 of 98	7/27/2006	15	170 IPVENLGTMTMRSPVF 184	1660.97	0.27	97.7%	87.9%

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Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Hydrophilicity	Purity by HPLC ^a	Peptide Content ^b
29 of 98	7/27/2006	19	174 NLGTTMRSPVFTDNSSPPA 192	1992.21	-0.54	85.7%	89.7%
30 of 98	7/27/2006	18	182 PVFTDNSSPPAVPQSFQV 199	1917.12	-0.19	99.9%	89.4%
31 of 98	7/27/2006	16	189 SPPAVPQSFQVAHLHA 204	1685.92	0.04	98.4%	83.1%
32 of 98	7/27/2006	17	194 PQSFQVAHLHAPTGS GK 210	1761.97	-0.54	98.6%	79.4%
33 of 98	7/27/2006	18	200 AHLHAPTGS GKSTKVPA 217	1729.97	-0.33	99.5%	75.2%
34 of 98	7/27/2006	18	207 GSGKSTKVPAAYAAQGYK 224	1784.02	-0.64	98.5%	79.6%
35 of 98	7/27/2006	15	214 VPAAYAAQGYKVLVL 228	1562.89	1.03	99.9%	87.3%
36 of 98	7/27/2006	17	218 YAAQGYKVLVLNPSVAA 234	1764.07	0.65	98.7%	88.6%
37 of 98	7/27/2006	18	224 KVLVLNPSVAATLGFGAY 241	1820.18	1.09	98.2%	88.9%
38 of 98	7/27/2006	18	231 SVAATLGFGAYMSKAHGV 248	1767.05	0.68	95.4%	83.8%
39 of 98	7/27/2006	16	238 FGAYMSKAHGVDPNIR 253	1763.02	-0.38	98.3%	79.5%
40 of 98	7/27/2006	17	243 SKAHGVDPNIRTVGRTI 259	1821.09	-0.5	99.8%	76.2%
41 of 98	7/27/2006	17	249 DPNIRTVGRTITTTGSP 265	1798.04	-0.35	99.7%	84.0%
42 of 98	7/27/2006	18	255 GVRTITTTGSPITYSTYGK 272	1902.15	-0.32	99.5%	84.8%
43 of 98	7/27/2006	18	262 GSPITYSTYGKFLADGGC 279	1837.05	-0.04	98.2%	89.0%
44 of 98	7/27/2006	18	269 TYGKFLADGGCSGGAYDI 286	1794.97	0.01	93.3%	88.7%
45 of 98	7/27/2006	18	276 DGGCSGGAYDIIICDECH 293	1828.0	0.11	84.2%	88.9%
46 of 98	7/27/2006	18	283 AYDIIICDECHSTDATSI 300	1970.18	0.28	83.3%	89.6%
47 of 98	7/27/2006	18	290 DECHSTDATSIILGIGTVL 307	1832.03	0.38	90.0%	88.9%
48 of 98	7/27/2006	17	297 ATSILGIGTVLDQAETA 313	1659.87	0.71	92.5%	87.9%
49 of 98	7/27/2006	18	303 IGTVLDQAETAGARLVVL 320	1826.14	0.93	90.7%	88.9%
50 of 98	7/27/2006	18	310 AETAGARLVVLATATPPG 327	1694.96	0.61	90.9%	88.1%
51 of 98	7/27/2006	17	317 LVVLATATPPGSVTVSH 333	1648.93	1.03	94.6%	87.9%
52 of 98	7/27/2006	18	323 ATPPGSVTVSHPNIEEVA 340	1804.99	-0.07	99.9%	88.8%
53 of 98	7/27/2006	18	330 TVSHPNIEEVALSTTGEI 347	1897.09	0.01	98.0%	89.3%
54 of 98	7/27/2006	18	337 EEVALSTTGEIPFYGKAI 354	1925.18	0.17	99.0%	89.4%
55 of 98	7/27/2006	17	344 TGEIPFYGKAIPLEVIK 360	1875.26	0.31	99.7%	84.6%
56 of 98	7/27/2006	18	350 YGKAIPLEVIKGGRHLIF 367	2011.46	0.38	97.6%	77.9%
57 of 98	7/27/2006	17	357 EVIKGGRHLIFCHSKKK 373	1980.43	-0.55	89.8%	68.5%
58 of 98	7/27/2006	18	363 RHLIFCHSKKKCELA 380	2127.58	-0.6	98.4%	70.0%
59 of 98	7/27/2006	17	370 SKKKCELA 386	1787.21	0.25	97.8%	75.8%
60 of 98	7/27/2006	18	376 ELAAKLVALGINAVAYYR 393	1935.31	0.83	99.2%	85.0%
61 of 98	7/27/2006	18	383 ALGINAVAYYRGLDVSVI 400	1894.22	1.05	92.5%	89.3%
62 of 98	7/27/2006	18	390 AYYRGLDVSVIPTSGDVV 407	1911.16	0.45	98.6%	89.3%
63 of 98	7/27/2006	18	397 VSVIPTSGDVVVVSTDAL 414	1758.01	1.25	98.0%	88.5%
64 of 98	7/27/2006	15	404 GDVVVVSTDALMTGF 418	1510.74	1.14	82.7%	86.9%
65 of 98	7/27/2006	18	408 VVSTDALMTGFTGDFDSV 425	1862.06	0.59	91.7%	89.1%
66 of 98	7/27/2006	18	415 MTGFTGDFDSVIDCNTCV 432	1925.16	0.43	80.1%	89.4%
67 of 98	7/27/2006	17	422 FDSVIDCNTCVTQTVD 438	1907.12	0.43	Crude	89.3%
68 of 98	7/27/2006	17	428 CNTCVTQTVDFSLDPTF 444	1891.12	0.21	84.3%	89.2%
69 of 98	7/27/2006	19	433 TQTVDFSLDPTFTIETTL 451	2130.35	0.03	87.5%	90.3%
70 of 98	7/27/2006	18	441 DPTFTIETTLTPQDAVSR 458	1992.19	-0.49	98.5%	89.7%
71 of 98	7/27/2006	17	448 TTTLPQDAVSRTQRRGR 464	1943.17	-1.43	89.3%	77.3%
72 of 98	7/27/2006	16	454 DAVSRTQRRGRTGRGK 469	1801.02	-1.92	93.6%	69.3%
73 of 98	7/27/2006	18	459 TQRRGRTGRGKPGIYRFV 476	2105.45	-1.35	97.4%	72.5%
74 of 98	7/27/2006	16	466 GRGKPGIYRFVAPGER 481	1760.05	-0.86	98.6%	75.5%

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Peptide	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Hydrophilicity	Purity by HPLC ^a	Peptide Content ^b
75 of 98	7/27/2006	16	471 GIYRFVAPGERPSGMF 486	1784.09	-0.06	99.6%	83.9%
76 of 98	7/27/2006	16	476 VAPGERPSGMFDSSVL 491	1648.87	0.05	98.7%	87.9%
77 of 98	7/27/2006	17	481 RPSGMFDSSVLCECYDA 497	1880.12	-0.07	82.9%	89.2%
78 of 98	7/27/2006	18	487 DSSVLCECYDAGCAWYEL 504	2027.25	0.19	99.5%	89.9%
79 of 98	7/27/2006	18	494 CYDAGCAWYELTPAETTV 511	1993.21	0.02	99.5%	89.7%
80 of 98	7/27/2006	17	501 WYELTPAETTVRLRAYM 517	2100.44	-0.35	99.2%	86.0%
81 of 98	7/27/2006	18	507 AETTVRLRAYMNTPLPV 524	1989.34	-0.08	98.7%	85.3%
82 of 98	7/27/2006	18	514 RAYMNTPLPVCQDHLF 531	2091.41	-0.36	98.2%	85.9%
83 of 98	7/27/2006	16	521 GLPVCQDHLFWEWGF 536	1876.14	0.22	99.4%	89.2%
84 of 98	7/27/2006	18	525 CQDHLFWEWGFVFTGLTHI 542	2132.4	0.05	97.9%	86.2%
85 of 98	7/27/2006	16	532 WEGVFTGLTHIDAHFL 547	1843.09	0.45	93.2%	84.4%
86 of 98	7/27/2006	15	537 TGLTHIDAHFLSQT 551	1668.88	-0.26	98.2%	78.5%
87 of 98	7/27/2006	17	541 HIDAHFLSQTQSGENF 557	1959.12	-0.87	94.2%	81.1%
88 of 98	7/27/2006	17	547 LSQTQSGENFPYLVAY 563	1945.18	-0.49	98.2%	89.5%
89 of 98	7/27/2006	18	553 SGENFPYLVAYQATVCAR 570	1989.25	0.1	95.9%	89.7%
90 of 98	7/27/2006	19	560 LVAYQATVCARAQAPPSW 578	2029.37	0.19	81.1%	89.9%
91 of 98	7/27/2006	18	568 CARAQAPPSWDQMWKCL 585	2088.48	-0.57	99.1%	85.9%
92 of 98	7/27/2006	18	575 PPSWDQMWKCLIRLKPTL 592	2212.73	-0.39	99.4%	82.9%
93 of 98	7/27/2006	18	582 WKCLIRLKPTLHGPTPLL 599	2086.64	0.17	99.5%	78.5%
94 of 98	7/27/2006	17	589 KPTLHGPTPLLYRLGAV 605	1833.22	0.08	99.9%	80.1%
95 of 98	7/27/2006	17	595 PTPLLYRLGAVQNEVT 611	1884.22	0.24	97.4%	89.2%
96 of 98	7/27/2006	18	601 RLGAQVNEVTLTHPITKY 618	2040.37	-0.29	95.0%	81.7%
97 of 98	7/27/2006	18	608 EVTLTHPITKYIMTCMSA 625	2039.48	0.44	99.0%	85.6%
98 of 98	7/27/2006	17	615 ITKYIMTCMSADLEVVT 631	1918.34	0.84	Crude	89.4%

^a% full-length

^bRemainder 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 98	Expected	3.00	1.00			2.00	2.00		3.00	2.00				1.00		2.00		1.00	
	Actual	2.67	1.15		0.47 ^a	1.67	2.15		1.62 ^b	1.76				1.00		1.78		1.09	
2 of 98	Expected	1.00	2.00		1.00	2.00	3.00		2.00	3.00					1.00	3.00			
	Actual	0.99	2.15		0.48 ^a	1.61	3.00		0.92 ^b	2.63					1.19	2.70			
3 of 98	Expected		1.00	2.00	1.00	1.00	2.00		2.00	2.00	1.00				1.00	2.00			1.00
	Actual		1.15	1.57	0.52 ^a	0.85	2.00		0.77 ^b	1.63	0.74				1.02	1.80			0.91
4 of 98	Expected		1.00	2.00		4.00	2.00		1.00	1.00	1.00				1.00	2.00			3.00
	Actual		1.15	1.73		3.52	2.01		0.67 ^b	1.00	0.81				1.07	1.87			1.89 ^b
5 of 98	Expected	1.00		1.00		5.00	1.00		1.00		1.00		1.00		1.00	3.00			3.00
	Actual	0.91		0.74		4.45	1.00		0.55 ^b		0.83		0.97		1.03	2.74			1.64 ^b
6 of 98	Expected	2.00			1.00	2.00			2.00	1.00				1.00		4.00			2.00
	Actual	2.05			0.52 ^a	1.68			1.11 ^b	1.16			1.00		0.70	3.74			0.83 ^b
7 of 98	Expected	2.00		1.00	2.00	1.00	1.00		1.00	1.00			1.00			5.00	1.00		2.00
	Actual	1.87		0.95	0.90 ^a	1.00	1.13		0.89	1.06			1.01			4.60	0.00 ^c		1.79
8 of 98	Expected	2.00	1.00	1.00	2.00		3.00	1.00	1.00							3.00	1.00	1.00	2.00
	Actual	1.88	1.00	0.80	0.59 ^a		2.98	1.13	0.80							2.60	0.00 ^c	0.88	1.66
9 of 98	Expected	2.00	1.00		1.00		2.00	1.00	1.00		1.00			1.00	1.00	3.00	1.00	1.00	1.00
	Actual	1.89	0.96		0.54 ^a		2.03	1.10	0.84		0.90			1.00	0.98	1.97	0.00 ^c	0.83	0.95
10 of 98	Expected	2.00	1.00			1.00	3.00		2.00		1.00	1.00		2.00	1.00	2.00		1.00	1.00
	Actual	1.88	1.12			0.78	2.76		1.40 ^b		0.85	0.88		1.96	1.00	1.60		1.00	0.61 ^b

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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)
11 of 98	Expected	1.00		3.00		2.00	1.00		1.00	1.00	1.00	1.00		2.00	1.00	1.00		1.00	2.00
	Actual	0.92		2.64		1.59	1.04		0.57 ^b	0.90	0.83	0.92		1.68	0.94	1.00		1.12	1.31 ^b
12 of 98	Expected	1.00		3.00		2.00	1.00		1.00	1.00		1.00		1.00		1.00	1.00	1.00	2.00
	Actual	0.95		2.64		1.50	0.99		0.74	0.94		0.89		1.16		1.00	0.00 ^c	1.17	1.75
13 of 98	Expected	1.00	1.00	3.00		2.00	2.00			2.00				2.00	2.00		1.00		2.00
	Actual	1.01	1.20	2.72		1.75	1.98			1.77				1.95	2.00		0.00 ^c		1.83
14 of 98	Expected	1.00	1.00		2.00	1.00	3.00			1.00				3.00	3.00	2.00	1.00		
	Actual	1.00	1.15		0.92 ^a	1.00	2.80			1.00				2.74	2.68	1.56	0.00 ^c		
15 of 98	Expected		1.00	1.00	2.00		1.00			3.00				1.00	4.00	2.00		1.00	1.00
	Actual		1.00	1.04	0.96 ^a		1.02			2.70				0.80	3.72	1.52		0.82	0.91
16 of 98	Expected	1.00	1.00	2.00	2.00		1.00	1.00	1.00	2.00					2.00	2.00		1.00	2.00
	Actual	1.00	0.78	1.70	0.90 ^a		1.02	1.02	0.68 ^b	1.83					1.83	1.02		0.81	1.34 ^b
17 of 98	Expected	1.00	4.00	1.00				1.00	1.00	2.00				1.00		1.00		1.00	3.00
	Actual	0.93	3.74	0.88				1.12	0.66 ^b	1.76				0.94		1.00		0.99	1.68 ^b
18 of 98	Expected	1.00	5.00	2.00			2.00	1.00	1.00	1.00				1.00	2.00				2.00
	Actual	1.03	4.61	1.91			1.95	1.02	0.56 ^b	1.00				0.98	1.90				1.29 ^b
19 of 98	Expected		5.00	1.00			2.00		1.00	2.00				2.00	3.00				1.00
	Actual		4.58	0.97			2.00		1.00	1.77				1.77	2.62				0.95
20 of 98	Expected		2.00				1.00		1.00	3.00	1.00			2.00	4.00			1.00	
	Actual		2.00				1.03		0.93	2.64	0.81			1.67	3.64			1.03	
21 of 98	Expected		1.00				3.00		1.00	4.00	1.00			3.00	4.00			1.00	
	Actual		1.11				3.02		0.97	3.68	1.00			2.56	3.57			0.94	
22 of 98	Expected	2.00			1.00		4.00	1.00		3.00	1.00			2.00	3.00			1.00	
	Actual	1.68			0.50 ^a		3.68	1.07		2.84	1.00			1.86	2.91			1.25	
23 of 98	Expected	4.00	1.00		1.00		4.00	1.00		3.00			1.00	2.00					1.00
	Actual	3.65	1.02		0.54 ^a		3.64	1.20		2.61			0.89	2.00					1.05
24 of 98	Expected	5.00	2.00		1.00		3.00	1.00		1.00			1.00			1.00			3.00
	Actual	4.62	2.10		0.54 ^a		3.22	1.08		1.00			1.06			0.79			2.76
25 of 98	Expected	4.00	2.00	1.00	1.00		1.00		1.00		1.00		2.00			1.00			3.00
	Actual	3.57	2.00	0.90	0.53 ^a		1.14		0.93		0.90		1.72			0.93			2.66
26 of 98	Expected	2.00	1.00	2.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00			3.00
	Actual	1.88	1.17	1.59		0.79	1.14		0.76	1.02	0.77		1.00	0.96		0.92			2.64
27 of 98	Expected	1.00	1.00	2.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		2.00			2.00
	Actual	1.00	1.26	1.63		0.82	1.16		0.83	1.06	0.80	1.07	0.96	0.98		1.90			1.66
28 of 98	Expected		1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	2.00	1.00	2.00			2.00
	Actual		1.21	0.80		0.77	1.15		0.82	0.97		1.00	0.88	1.73	1.05	1.76			1.73
29 of 98	Expected	1.00	1.00	3.00			1.00			1.00		1.00	1.00	3.00	3.00	3.00			1.00
	Actual	0.90	1.11	2.52			1.09			1.00		0.88	0.89	2.58	2.78	2.71			0.82
30 of 98	Expected	1.00		2.00		2.00								2.00	4.00	3.00	1.00		3.00
	Actual	1.00		1.89		1.63								1.69	3.86	2.91	1.10		2.74
31 of 98	Expected	3.00				2.00		2.00		1.00			1.00	3.00	2.00				2.00
	Actual	2.60				1.83		2.00		0.97			1.09	3.13	2.03				1.95
32 of 98	Expected	2.00				2.00	2.00	2.00		1.00	1.00		1.00	2.00	2.00	1.00			1.00
	Actual	1.62				1.72	1.86	2.07		0.90	1.00		1.08	1.81	1.88	0.93			1.07
33 of 98	Expected	4.00					2.00	2.00		1.00	2.00			2.00	2.00	2.00			1.00
	Actual	3.67					2.25	2.38		1.00	1.92			1.80	2.10	1.65			0.96
34 of 98	Expected	4.00				1.00	3.00				3.00			1.00	2.00	1.00		2.00	1.00
	Actual	3.62				0.84	2.93				2.96			0.94	2.00	0.92		2.06	0.90
35 of 98	Expected	4.00				1.00	1.00			2.00	1.00			1.00				2.00	3.00
	Actual	3.61				1.00	1.13			1.73	0.82			0.98				2.10	2.66
36 of 98	Expected	4.00		1.00		1.00	1.00			2.00	1.00			1.00	1.00			2.00	3.00
	Actual	3.59		0.70		1.00	1.05			1.71	0.90			1.06	0.86			1.78	2.87

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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)
37 of 98	Expected	3.00		1.00			2.00			3.00	1.00		1.00	1.00	1.00	1.00		1.00	3.00
	Actual	2.83		0.69			2.08			2.56	1.05		1.06	1.00	0.98	0.83		1.00	2.99
38 of 98	Expected	4.00					3.00	1.00		1.00	1.00	1.00	1.00		2.00	1.00		1.00	2.00
	Actual	3.59					2.68	1.14		0.88	0.71	0.92	1.00		1.63	0.84		1.02	2.01
39 of 98	Expected	2.00	1.00	2.00			2.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00			1.00	1.00
	Actual	1.68	0.75	1.80			1.91	1.14	0.83		0.85	0.92	0.95	1.00	0.99			1.01	0.89
40 of 98	Expected	1.00	2.00	2.00			2.00	1.00	2.00		1.00			1.00	1.00	2.00			2.00
	Actual	1.00	2.14	1.92			2.07	1.30	1.78		0.92			1.00	0.99	1.70			1.88
41 of 98	Expected		2.00	2.00			2.00		3.00					2.00	1.00	4.00			1.00
	Actual		1.82	1.63			2.24		2.80					2.00	1.07	3.66			0.95
42 of 98	Expected		1.00				3.00		2.00		1.00			1.00	2.00	5.00		2.00	1.00
	Actual		0.80				3.00		1.73		0.95			1.05	2.03	4.47		1.92	1.12
43 of 98	Expected	1.00		1.00	1.00		4.00		1.00	1.00	1.00		1.00	1.00	2.00	2.00		2.00	
	Actual	0.97		0.89	0.47 ^a		3.83		0.90	1.04	0.76		0.97	1.00	1.86	1.66		1.83	
44 of 98	Expected	2.00		2.00	1.00		5.00		1.00	1.00	1.00		1.00		1.00	1.00		2.00	
	Actual	1.82		1.79	0.54 ^a		4.56		0.99	1.12	0.82		1.04		1.13	1.14		2.00	
45 of 98	Expected	1.00		3.00	3.00	1.00	4.00	1.00	3.00						1.00			1.00	
	Actual	1.00		2.55	1.09 ^a	0.89	3.79	1.16	1.05 ^b						1.04			1.22	
46 of 98	Expected	2.00		3.00	2.00	1.00		1.00	4.00						2.00	2.00		1.00	
	Actual	1.92		2.65	0.96 ^a	0.98		1.30	1.88 ^b						2.00	1.74		1.08	
47 of 98	Expected	1.00		2.00	1.00	1.00	2.00	1.00	2.00	2.00					2.00	3.00			1.00
	Actual	1.00		2.05	0.61 ^a	0.81	2.00	0.87	1.68	1.75					1.99	2.67			0.94
48 of 98	Expected	3.00		1.00		2.00	2.00		2.00	2.00					1.00	3.00			1.00
	Actual	2.84		1.00		1.72	2.24		1.82	1.65					0.95	2.71			0.87
49 of 98	Expected	3.00	1.00	1.00		2.00	2.00		1.00	3.00						2.00			3.00
	Actual	2.65	1.15	1.00		1.70	1.97		1.16	2.79						1.69			1.50 ^b
50 of 98	Expected	5.00	1.00			1.00	2.00			2.00				2.00		3.00			2.00
	Actual	4.57	1.07			1.00	1.79			1.89				1.62		2.51			0.99 ^b
51 of 98	Expected	2.00					1.00	1.00		2.00				2.00	2.00	3.00			4.00
	Actual	1.93					1.20	1.17		1.79				1.95	2.00	2.26			2.39 ^b
52 of 98	Expected	2.00		1.00		2.00	1.00	1.00	1.00					3.00	2.00	2.00			3.00
	Actual	1.79		0.99		2.02	1.14	1.27	0.83					3.01	2.00	1.53			2.70
53 of 98	Expected	1.00		1.00		3.00	1.00	1.00	2.00	1.00				1.00	2.00	3.00			2.00
	Actual	0.96		0.87		2.60	1.17	1.21	1.86	1.24				1.06	2.00	2.54			1.73
54 of 98	Expected	2.00				3.00	2.00		2.00	1.00	1.00		1.00	1.00	1.00	2.00		1.00	1.00
	Actual	1.60				2.66	1.95		1.90	0.98	0.94		0.85	0.89	1.00	1.52		0.96	1.00
55 of 98	Expected	1.00				2.00	2.00		3.00	1.00	2.00		1.00	2.00		1.00		1.00	1.00
	Actual	1.00				2.06	1.92		1.36 ^b	0.99	1.79		0.85	1.72		0.81		0.99	0.62 ^b
56 of 98	Expected	1.00	1.00			1.00	3.00	1.00	3.00	2.00	2.00		1.00	1.00				1.00	1.00
	Actual	0.86	1.00			1.12	2.65	1.11	1.42 ^b	1.62	1.74		0.64	0.89				0.94	0.59 ^b
57 of 98	Expected		1.00		1.00	1.00	2.00	2.00	2.00	1.00	4.00		1.00		1.00				1.00
	Actual		0.95		0.51 ^a	0.71	2.00	1.93	1.35 ^b	0.86	3.66		1.00		1.01				0.51 ^b
58 of 98	Expected	2.00	1.00	1.00	2.00	1.00		2.00	1.00	2.00	4.00		1.00		1.00				
	Actual	1.94	1.09	0.93	1.05 ^a	0.89		1.93	0.92	2.00	3.53		0.72		0.92				
59 of 98	Expected	3.00		1.00	1.00	1.00	1.00		1.00	3.00	4.00				1.00				1.00
	Actual	2.82		0.95	0.64 ^a	0.91	1.12		0.93	2.56	3.61				1.09				1.00
60 of 98	Expected	5.00	1.00	1.00		1.00	1.00		1.00	3.00	1.00							2.00	2.00
	Actual	4.55	1.08	0.77		0.87	1.22		0.78	2.93	1.00							1.90	1.92
61 of 98	Expected	3.00	1.00	2.00			2.00		2.00	2.00					1.00			2.00	3.00
	Actual	2.60	1.05	2.00			2.14		1.27 ^b	2.00					1.03			1.78	2.17 ^b
62 of 98	Expected	1.00	1.00	2.00			2.00		1.00	1.00				1.00	2.00	1.00		2.00	4.00
	Actual	0.87	0.97	1.85			1.94		0.64 ^b	0.99				1.00	1.90	0.97		1.83	1.80 ^b
63 of 98	Expected	1.00		2.00			1.00		1.00	1.00				1.00	3.00	2.00			6.00
	Actual	0.95		1.72			1.14		0.63 ^b	1.05				1.00	2.80	1.72			2.29 ^b
64 of 98	Expected	1.00		2.00			2.00			1.00		1.00	1.00		1.00	2.00			4.00
	Actual	1.05		2.00			1.98			1.06		0.87	0.99		1.09	1.79			2.00 ^b

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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)
65 of 98	Expected	1.00		3.00			2.00			1.00		1.00	2.00		2.00	3.00			3.00
	Actual	0.98		2.64			2.11			1.00		0.79	1.60		2.00	2.51			1.40 ^b
66 of 98	Expected			4.00	2.00		2.00		1.00			1.00	2.00		1.00	3.00			2.00
	Actual			3.77	0.92 ^a		2.00		0.70 ^b			0.86	2.15		1.13	2.52			1.34 ^b
67 of 98	Expected			4.00	2.00	1.00			1.00				2.00		1.00	3.00			3.00
	Actual			4.00	0.92 ^a	1.00			0.68 ^b				1.92		1.06	2.64			2.15 ^b
68 of 98	Expected			3.00	2.00	1.00				1.00			2.00	1.00	1.00	4.00			2.00
	Actual			2.56	0.99 ^a	0.89				1.03			1.73	0.97	1.00	3.56			1.96
69 of 98	Expected			2.00		2.00			1.00	2.00			2.00	1.00	1.00	7.00			1.00
	Actual			2.00		1.72			0.87	1.85			1.61	1.07	1.00	6.68			0.89
70 of 98	Expected	1.00	1.00	2.00		2.00			1.00	1.00			1.00	2.00	1.00	5.00			1.00
	Actual	0.97	1.00	1.68		1.75			0.96	1.00			0.87	1.90	0.98	4.64			1.00
71 of 98	Expected	1.00	4.00	1.00		2.00	1.00			1.00				1.00	1.00	4.00			1.00
	Actual	1.16	3.81	0.82		1.61	1.01			0.75				1.00	0.88	3.64			0.87
72 of 98	Expected	1.00	5.00	1.00		1.00	3.00				1.00				1.00	2.00			1.00
	Actual	0.98	4.56	0.88		0.84	3.06				0.78				1.07	1.88			1.00
73 of 98	Expected		5.00			1.00	4.00		1.00		1.00		1.00	1.00		2.00		1.00	1.00
	Actual		4.62			0.94	4.00		0.82		0.92		0.89	1.08		1.94		0.91	0.95
74 of 98	Expected	1.00	3.00			1.00	4.00		1.00		1.00		1.00	2.00				1.00	1.00
	Actual	0.90	3.00			0.92	4.08		0.81		0.91		1.03	1.99				0.90	0.98
75 of 98	Expected	1.00	2.00			1.00	3.00		1.00			1.00	2.00	2.00	1.00			1.00	1.00
	Actual	0.87	2.14			0.93	3.00		0.78			0.97	1.73	1.91	1.01			1.08	0.89
76 of 98	Expected	1.00	1.00	1.00		1.00	2.00			1.00		1.00	1.00	2.00	3.00				2.00
	Actual	0.81	1.02	0.92		0.74	2.00			0.80		0.77	0.96	1.84	2.98				1.76
77 of 98	Expected	1.00	1.00	2.00	2.00	1.00	1.00			1.00		1.00	1.00	1.00	3.00			1.00	1.00
	Actual	0.80	1.00	1.71	0.89 ^a	0.94	0.99			0.77		1.02	0.96	0.97	2.88			1.00	0.78
78 of 98	Expected	2.00		2.00	3.00	2.00	1.00			2.00					2.00		1.00	2.00	1.00
	Actual	2.14		2.00	1.66 ^a	1.92	1.20			1.71					1.60		0.00 ^c	1.86	0.76
79 of 98	Expected	3.00		1.00	2.00	2.00	1.00			1.00				1.00		3.00	1.00	2.00	1.00
	Actual	2.88		0.91	1.20 ^a	1.69	1.10			1.00				0.85		2.86	0.00 ^c	2.20	0.82
80 of 98	Expected	2.00	2.00			2.00				2.00		1.00		1.00		3.00	1.00	2.00	1.00
	Actual	1.89	2.11			1.84				1.96		0.98		1.00		2.58	0.00 ^c	2.03	1.15
81 of 98	Expected	2.00	2.00	1.00		1.00	1.00			2.00		1.00		2.00		3.00		1.00	2.00
	Actual	1.81	1.71	0.97		0.95	1.28			1.87		1.13		1.92		2.77		1.15	2.00
82 of 98	Expected	1.00	1.00	2.00	1.00	2.00	1.00	1.00		2.00		1.00	1.00	2.00		1.00		1.00	1.00
	Actual	0.84	0.99	1.88	0.55 ^a	1.63	1.17	0.94		1.58		1.00	0.90	1.58		0.80		1.03	0.85
83 of 98	Expected			1.00	1.00	3.00	2.00	1.00		2.00			2.00	1.00			1.00		2.00
	Actual			1.08	0.52 ^a	2.63	2.06	1.00		1.63			1.05	0.91			0.00 ^c		1.74
84 of 98	Expected			1.00	1.00	3.00	2.00	2.00	1.00	2.00			2.00			2.00	1.00		1.00
	Actual			1.00	0.49 ^a	2.86	2.38	1.98	1.08	2.03			1.63			1.64	0.00 ^c		0.87
85 of 98	Expected	1.00		1.00		1.00	2.00	2.00	1.00	2.00			2.00			2.00	1.00		1.00
	Actual	1.00		0.94		1.05	2.19	2.28	0.91	1.96			1.53			1.59	0.00 ^c		0.92
86 of 98	Expected	1.00		1.00		1.00	1.00	2.00	1.00	2.00	1.00		1.00		1.00	3.00			
	Actual	1.13		0.95		0.99	1.22	1.95	0.95	2.00	0.88		0.96		1.06	2.51			
87 of 98	Expected	1.00		2.00		3.00	1.00	2.00	1.00	1.00			2.00		2.00	1.00			
	Actual	0.90		1.68		2.59	1.03	1.83	0.91	1.08			1.63		2.00	0.86			
88 of 98	Expected	1.00		1.00		3.00	1.00			2.00	1.00		1.00	1.00	2.00	1.00		2.00	1.00
	Actual	0.80		0.93		2.56	1.21			1.66	0.93		0.89	1.00	2.16	0.83		1.84	0.77
89 of 98	Expected	3.00	1.00	1.00	1.00	2.00	1.00			1.00			1.00	1.00	1.00	1.00		2.00	2.00
	Actual	2.70	0.93	0.97	0.59 ^a	1.77	0.94			0.92			0.88	1.05	1.01	0.71		2.00	1.72
90 of 98	Expected	5.00	1.00			1.00	2.00			1.00				3.00	1.00	1.00	1.00	1.00	2.00
	Actual	4.69	1.00		0.56 ^a	1.81				1.02				2.87	1.20	0.83	0.00 ^c	0.90	1.79

Certificate of Analysis for NR-3752

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)
91 of 98	Expected	3.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00		3.00	1.00		2.00		
	Actual	2.77	1.03	0.82	1.05 ^a	1.58				1.00	1.02	1.07		2.61	1.05		0.00 ^c		
92 of 98	Expected		1.00	1.00	1.00	1.00			1.00	3.00	2.00	1.00		3.00	1.00	1.00	2.00		
	Actual		0.78	0.94	0.57 ^a	0.83			1.00	3.15	1.93	1.07		2.80	1.06	0.79	0.00 ^c		
93 of 98	Expected		1.00		1.00		1.00	1.00	1.00	5.00	2.00			3.00		2.00	1.00		
	Actual		0.88		0.52 ^a		1.00	1.04	0.83	4.71	1.69			2.65		1.62	0.00 ^c		
94 of 98	Expected	1.00	1.00				2.00	1.00		4.00	1.00			3.00		2.00		1.00	1.00
	Actual	1.00	1.03				1.86	1.12		3.66	0.97			3.06		1.56		1.00	0.98
95 of 98	Expected	1.00	1.00	1.00		2.00	1.00			4.00				2.00		2.00		1.00	2.00
	Actual	1.00	1.01	0.73		1.96	1.06			3.80				1.89		1.57		1.01	1.69
96 of 98	Expected	1.00	1.00	1.00		2.00	1.00	1.00	1.00	2.00	1.00			1.00		3.00		1.00	2.00
	Actual	0.89	1.01	0.73		1.98	1.01	1.12	0.89	1.81	0.96			1.00		2.80		1.02	1.83
97 of 98	Expected	1.00			1.00	1.00		1.00	2.00	1.00	1.00	2.00		1.00	1.00	4.00		1.00	1.00
	Actual	1.00			0.58 ^a	0.75		0.86	1.99	1.00	0.96	1.74		1.02	0.88	3.83		0.92	0.84
98 of 98	Expected	1.00		1.00	1.00	1.00			2.00	1.00	1.00	2.00			1.00	3.00		1.00	2.00
	Actual	1.00		1.19	0.50 ^a	1.04			1.84	0.99	0.71	1.62			0.89	1.99		0.81	0.96 ^b

^aCys was partially destroyed during hydrolysis

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

^cTrp was completely destroyed during hydrolysis

Date: 27 APR 2011

Signature: *Dorothy C. Young*

Title: Technical Manager, BEI Authentication or designee

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