

Peptide Array, Influenza Virus A/California/04/2009 (H1N1)pdm09 Nonstructural Protein 1

Catalog No. NR-18979

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Product Description: The 52-peptide array spans the nonstructural protein 1 (NS1) of the A/California/04/2009 (H1N1)pdm09 strain of influenza virus (GenPept: ACP41110.1). Peptides are 14- to 17-mers, with 10 to 13 amino acid overlaps.

Lot: 586447-3

Note: The lot numbers of the individual peptides are shown on the vial labels and in Table 1 below.

The following information applies to all peptides:

- Appearance White lyophilized powder
- Mass spectral analysis Correct MW by MALDI or Electrospray
- Counter Ion Trifluoroacetate

Peptide-specific information is shown in the two tables below.

Table 1							
Peptide	Lot #	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC	Peptide Content
01 of 52	LH1718	9/27/2010	15	1-MDSNTMSSFQVDCFL-15	1725	83.72%	74.67%
02 of 52	LH1717	9/1/2010	15	5-TMSSFQVDCFLWHIR-19	1870	84.41%	49.70%
03 of 52	LH1713	9/1/2010	15	9-FQVDCFLWHIRKRF-23	1966	92.28%	71.87%
04 of 52	LH1712	9/24/2010	15	13-CFLWHIRKRFADNGL-27	1876	89.62%	66.73%
05 of 52	LH1711	9/1/2010	16	17-HIRKRFADNGLGDAPF-32	1814	97.35%	62.18%
06 of 52	LH1710	9/1/2010	15	21-RFADNGLGDAPFLDR-35	1664	83.43%	78.75%
07 of 52	LH1709	9/2/2010	15	25-NGLGDAPFLDRLRRD-39	1715	100.00%	69.44%
08 of 52	LH1716	9/1/2010	15	29-DAPFLDRLRRDQKSL-43	1830	94.76%	74.58%
09 of 52	LH1715	9/1/2010	15	33-LDRLRRDQKSLKGRG-47	1798	96.87%	54.02%
10 of 52	LH1714	8/17/2010	15	37-RRDQKSLKGRGNTLG-51	1686	99.42%	47.04%
11 of 52	LH1708	9/1/2010	15	41-KSLKGRGNTLGLDIE-55	1601	98.30%	62.86%
12 of 52	LH1707	9/1/2010	15	45-GRGNTLGLDIETATL-59	1531	83.73%	82.92%
13 of 52	LH1706	9/13/2010	15	49-TLGLDIETATLVGKQ-63	1559	87.33%	78.70%
14 of 52	LH1703	9/9/2010	15	53-DIETATLVGKQIVEW-67	1702	94.81%	79.96%
15 of 52	LH1702	9/2/2010	15	57-ATLVGKQIVEWILKE-71	1727	88.26%	77.59%
16 of 52	LH1701	9/28/2010	15	61-GKQIVEWILKEESSE-75	1775	95.84%	76.12%
17 of 52	LH1700	9/13/2010	15	65-VEWILKEESSETLRM-79	1850	96.58%	73.62%
18 of 52	LH1699	9/9/2010	15	69-LKEESSETLRMTIAS-83	1695	93.67%	70.19%
19 of 52	LH1698	9/13/2010	15	73-SSETLRMTIASVPTS-87	1580	87.39%	72.33%
20 of 52	LH1697	9/1/2010	15	77-LRMTIASVPTSRYLS-91	1695	99.65%	69.66%
21 of 52	LH1694	8/17/2010	15	81-IASVPTSRYLSDMTL-95	1654	96.96%	63.38%
22 of 52	LH1693	9/1/2010	15	85-PTSRYLSDMTLEEMS-99	1760	98.11%	75.66%
23 of 52	LH1692	9/27/2010	15	89-YLSDMTLEEMSRDWF-103	1923	93.06%	58.06%
24 of 52	LH1691-2	9/29/2010	16	93-MTLEEMSRDWFMLMPR-108	2073	99.51%	68.42%
25 of 52	LH1690	9/13/2010	15	97-EMSRDWFMLMPRQKI-111	1968	97.97%	79.33%
26 of 52	LH1689	9/2/2010	15	101-DWFMLMPRQKIIGPL-115	1845	90.82%	72.76%

Certificate of Analysis for NR-18979

Peptide	Lot #	Date of Mfg.	Length	Sequence	Molecular Weight (amu)	Purity by HPLC	Peptide Content
27 of 52	LH1688	9/1/2010	15	105-LMPRQKIIGPLCVRL-119	1737	96.95%	68.53%
28 of 52	LH1687	9/1/2010	14	110-KIIGPLCVRLDQAI-123	1539	91.25%	73.10%
29 of 52	LH1696	9/9/2010	15	113-GPLCVRLDQAI MEKN-127	1687	82.03%	65.40%
30 of 52	LH1686	9/1/2010	15	117-VRLDQAI MEKNIVLK-131	1770	99.10%	67.01%
31 of 52	LH1685	9/27/2010	14	122-AI MEKNIVLKANFS-135	1578	94.24%	79.04%
32 of 52	LH1684	10/5/2010	15	125-EKNIVLKANFSVIFN-139	1736	Crude	63.19%
33 of 52	LH1683	9/1/2010	15	129-VLKANFSVIFNRLET-143	1751	96.30%	73.86%
34 of 52	LS1612	9/22/2010	15	133-NFSVIFNRLET LILL-147	1792	90.30%	63.94%
35 of 52	LH1681	9/2/2010	15	137-IFNRLET LILLRAFT-151	1820	92.82%	73.88%
36 of 52	LH1680	9/13/2010	15	141-LET LILLRAFTEEGA-155	1676	83.62%	23.05%
37 of 52	LH1676	9/2/2010	15	145-ILLRAFTEEGAIVGE-159	1618	89.71%	75.66%
38 of 52	LH1675	9/1/2010	15	149-AFTEEGAIVGEISPL-163	1533	86.98%	75.14%
39 of 52	LH1674	8/17/2010	16	153-EGAI VGEISPLPSLPG-168	1536	93.57%	69.50%
40 of 52	LH1673	9/1/2010	15	157-VGEISPLPSLPGHTY-171	1567	99.36%	72.76%
41 of 52	LH1705	9/1/2010	15	161-SPLPSLPGHTYEDVK-175	1640	99.77%	76.24%
42 of 52	LH1704	9/2/2010	15	165-SLPGHTYEDVKNVAVG-179	1587	98.39%	74.81%
43 of 52	LH1679	9/1/2010	15	169-HTYEDVKNVAVGLIG-183	1615	92.91%	75.26%
44 of 52	LH1678-2	9/29/2010	15	173-DVKNVAVGLIGGLEW-187	1570	83.31%	70.74%
45 of 52	LH1677	9/13/2010	15	177-AVGLIGGLEWNGNT-191	1500	94.55%	77.51%
46 of 52	LH1671	9/2/2010	15	181-LIGGLEWNGNTRVRS-195	1615	99.12%	76.90%
47 of 52	LH1670	9/27/2010	15	185-LEWNGNTRVRS ENIQ-199	1759	99.38%	78.87%
48 of 52	LH1669-2	9/29/2010	15	189-GNTRVRS ENIQRF AW-203	1777	90.66%	75.14%
49 of 52	LH1668	9/1/2010	15	193-RVSENQRFAWRNCD-207	1894	94.27%	64.26%
50 of 52	LH1667	9/1/2010	15	197-NIQRF AWRNCDENGR-211	1879	99.74%	76.97%
51 of 52	LH1666	8/17/2010	17	201-FAWRNCDENGRPSLPE-217	1988	81.10%	65.09%
52 of 52	LH1665	9/13/2010	15	205-NCDENGRPSLPEQK-219	1684	85.74%	78.17%

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)
01 of 52	Expected			3.00	1.00	1.00				1.00		2.00	2.00		3.00	1.00			1.00
	Actual			3.03	0.00 ^c	1.04				1.05		1.95	2.10		2.91	1.00			1.04
02 of 52	Expected		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	2.00		2.00	1.00	1.00		1.00
	Actual		0.94	1.06	0.00 ^c	1.01		1.02	0.95	1.02		0.98	2.13		2.06	0.98	0.00 ^a		1.05
03 of 52	Expected	1.00	2.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		3.00				1.00		1.00
	Actual	0.98	1.90	1.01	0.00 ^c	0.98		1.00	0.94	1.02	1.03		3.16				0.00 ^a		1.04
04 of 52	Expected	1.00	2.00	2.00	1.00		1.00	1.00	1.00	2.00	1.00		2.00				1.00		
	Actual	1.01	1.90	2.00	0.00 ^c		1.00	1.01	0.97	2.06	0.99		2.09				0.00 ^a		
05 of 52	Expected	2.00	2.00	3.00			2.00	1.00	1.00	1.00	1.00		2.00	1.00					
	Actual	2.03	1.89	3.01			2.03	0.96	0.93	1.05	1.01		2.10	1.02					
06 of 52	Expected	2.00	2.00	4.00			2.00			2.00			2.00	1.00					
	Actual	2.00	1.89	3.90			1.99			2.03			2.07	1.04					
07 of 52	Expected	1.00	3.00	4.00			2.00			3.00			1.00	1.00					
	Actual	1.02	2.98	3.90			1.97			3.09			1.08	0.92					
08 of 52	Expected	1.00	3.00	3.00		1.00				3.00	1.00		1.00	1.00	1.00				
	Actual	0.97	2.98	3.02		0.94				3.12	1.01		1.10	1.05	0.97				
09 of 52	Expected		4.00	2.00		1.00	2.00			3.00	2.00				1.00				
	Actual		3.91	2.04		0.99	2.00			3.16	2.10				1.00				
10 of 52	Expected		3.00	2.00		1.00	3.00			2.00	2.00				1.00	1.00			
	Actual		2.85	2.04		0.98	3.08			2.12	2.02				0.93	1.02			
11 of 52	Expected		1.00	2.00		1.00	3.00		1.00	3.00	2.00				1.00	1.00			
	Actual		0.97	2.03		0.99	3.05		1.02	3.13	2.06				0.94	0.98			

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)
12 of 52	Expected	1.00	1.00	2.00		1.00	3.00		1.00	3.00						3.00			
	Actual	1.05	0.97	1.92		0.99	3.04		1.02	3.16						2.83			
13 of 52	Expected	1.00		1.00		2.00	2.00		1.00	3.00	1.00					3.00			1.00
	Actual	1.04		0.93		1.97	2.04		1.02	3.14	1.01					2.90			0.98
14 of 52	Expected	1.00		1.00		3.00	1.00		2.00	1.00	1.00					2.00	1.00		2.00
	Actual	1.06		1.01		2.87	1.09		1.73	1.05	1.06					2.04	0.00 ^a		1.76
15 of 52	Expected	1.00				3.00	1.00		2.00	2.00	2.00					1.00	1.00		2.00
	Actual	1.03				2.95	1.03		1.84	2.13	2.10					1.03	0.00 ^a		1.89
16 of 52	Expected					5.00	1.00		2.00	1.00	2.00				2.00		1.00		1.00
	Actual					5.07	1.07		1.86	1.05	2.16				1.87		0.00 ^a		0.83
17 of 52	Expected		1.00			4.00			1.00	2.00	1.00	1.00			2.00	1.00	1.00		1.00
	Actual		1.00			4.04			1.02	2.16	0.99	1.02			2.00	0.99	0.00 ^a		0.98
18 of 52	Expected	1.00	1.00			3.00			1.00	2.00	1.00	1.00			3.00	2.00			
	Actual	0.98	1.03			3.07			1.07	2.16	0.94	0.97			3.00	2.08			
19 of 52	Expected	1.00	1.00			1.00			1.00	1.00		1.00		1.00	4.00	3.00			1.00
	Actual	0.98	0.94			0.95			1.05	1.08		1.03		1.08	4.10	2.86			1.00
20 of 52	Expected	1.00	2.00						1.00	2.00		1.00		1.00	3.00	2.00		1.00	1.00
	Actual	0.99	1.93						1.01	2.07		1.01		0.93	3.12	1.94		1.01	1.04
21 of 52	Expected	1.00	1.00	1.00					1.00	2.00		1.00		1.00	3.00	2.00		1.00	1.00
	Actual	0.95	1.00	1.02					1.01	2.08		0.95		0.96	3.00	1.94		1.08	1.02
22 of 52	Expected		1.00	1.00		2.00				2.00	2.00			1.00	3.00	2.00			1.00
	Actual		0.92	1.06		2.04				2.13	2.07			1.03	3.11	1.96			0.95
23 of 52	Expected		1.00	2.00		2.00				2.00	2.00	1.00			2.00	1.00	1.00	1.00	
	Actual		1.00	2.03		2.02				2.08	1.99	1.05			1.92	1.03	0.00 ^a	1.05	
24 of 52	Expected		2.00	1.00		2.00				2.00		4.00	1.00	1.00	1.00	1.00	1.00		
	Actual		2.03	1.01		1.99				2.06		3.97	1.03	1.00	1.05	1.01	0.00 ^a		
25 of 52	Expected		2.00	1.00		2.00			1.00	1.00	1.00	3.00	1.00	1.00	1.00		1.00		
	Actual		1.96	0.94		2.01			0.99	1.05	0.99	3.02	1.06	0.96	0.91		0.00 ^a		
26 of 52	Expected		1.00	1.00		1.00	1.00		2.00	2.00	1.00	2.00	1.00	2.00			1.00		
	Actual		0.97	0.96		0.95	1.04		1.87	2.15	1.03	2.00	1.03	2.03			0.00 ^a		
27 of 52	Expected		2.00		1.00	1.00	1.00		2.00	3.00	1.00	1.00		2.00					1.00
	Actual		1.98		0.00 ^c	0.97	1.03		1.75	3.25	1.04	1.04		1.91					1.02
28 of 52	Expected	1.00	1.00	1.00	1.00	1.00	1.00		3.00	2.00	1.00			1.00					1.00
	Actual	0.97	0.96	1.03	0.00 ^c	0.99	1.04		2.75	2.15	1.03			0.99					1.00
29 of 52	Expected	1.00	1.00	2.00	1.00	2.00	1.00		1.00	2.00	1.00	1.00		1.00					1.00
	Actual	1.00	0.98	2.07	0.00 ^c	1.89	1.02		0.98	2.17	1.03	0.99		0.92					1.02
30 of 52	Expected	1.00	1.00	2.00		2.00			2.00	2.00	2.00	1.00							2.00
	Actual	0.99	0.98	2.05		1.99			1.69	2.11	2.09	1.06							1.59
31 of 52	Expected	2.00		2.00		1.00			2.00	1.00	2.00	1.00	1.00		1.00				1.00
	Actual	2.03		2.17		1.05			1.76	1.00	1.98	1.00	1.06		1.05				0.97
32 of 52	Expected	1.00		3.00		1.00			2.00	1.00	2.00		2.00		1.00				2.00
	Actual	1.02		2.98		1.03			2.00	0.99	2.05		2.04		1.06				1.93
33 of 52	Expected	1.00	1.00	2.00		1.00			1.00	2.00	1.00		2.00		1.00	1.00			2.00
	Actual	1.00	1.00	2.15		1.08			0.86	2.05	0.96		2.16		1.09	1.05			1.74
34 of 52	Expected		1.00	2.00		1.00			2.00	4.00			2.00		1.00	1.00			1.00
	Actual		0.96	1.99		1.09			1.76	4.28			2.13		1.01	1.06			0.92
35 of 52	Expected	1.00	2.00	1.00		1.00			2.00	4.00			2.00			2.00			
	Actual	0.97	1.99	1.01		0.99			1.93	4.14			2.04			2.01			
36 of 52	Expected	2.00	1.00			3.00	1.00		1.00	4.00			1.00			2.00			
	Actual	1.93	1.03			2.83	0.89		1.06	4.32			1.18			2.06			
37 of 52	Expected	2.00	1.00			3.00	2.00		2.00	2.00			1.00			1.00			1.00
	Actual	2.10	0.97			3.02	2.03		1.92	2.09			1.02			1.02			0.97
38 of 52	Expected	2.00				3.00	2.00		2.00	1.00			1.00	1.00	1.00	1.00			1.00
	Actual	1.92				3.15	2.15		1.74	1.06			1.12	1.10	1.05	1.01			0.86

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)
39 of 52	Expected	1.00				2.00	3.00		2.00	2.00				3.00	2.00				1.00
	Actual	1.00				1.92	3.16		2.03	2.24				3.08	1.89				0.97
40 of 52	Expected					1.00	2.00	1.00	1.00	2.00				3.00	2.00	1.00		1.00	1.00
	Actual					0.99	2.03	1.00	1.01	2.06				3.01	2.04	1.01		1.02	1.03
41 of 52	Expected			1.00		1.00	1.00	1.00		2.00	1.00			3.00	2.00	1.00		1.00	1.00
	Actual			1.02		0.98	1.00	1.03		2.05	1.00			3.05	1.92	0.99		0.99	0.98
42 of 52	Expected	1.00		2.00		1.00	2.00	1.00		1.00	1.00			1.00	1.00	1.00		1.00	2.00
	Actual	1.02		2.02		1.04	2.00	1.01		0.99	1.00			1.06	1.01	1.00		0.98	2.02
43 of 52	Expected	1.00		2.00		1.00	2.00	1.00	1.00	1.00	1.00					1.00		1.00	3.00
	Actual	0.99		2.05		0.98	2.03	0.99	1.00	0.98	0.97					1.08		1.02	3.01
44 of 52	Expected	1.00		2.00		1.00	3.00		1.00	2.00	1.00						1.00		3.00
	Actual	1.00		1.99		0.96	3.06		1.01	2.07	0.96						0.00 ^a		3.08
45 of 52	Expected	1.00		2.00		1.00	4.00		1.00	2.00						1.00	1.00		2.00
	Actual	1.01		2.03		0.96	4.07		1.01	2.09						1.01	0.00 ^a		1.87
46 of 52	Expected		1.00	2.00		1.00	3.00		1.00	2.00					1.00	1.00	1.00		2.00
	Actual		0.98	2.05		0.98	3.06		1.01	2.11					0.92	0.99	0.00 ^a		2.06
47 of 52	Expected		1.00	3.00		3.00	1.00		1.00	1.00					1.00	1.00	1.00		2.00
	Actual		1.05	2.90		2.90	1.00		1.02	1.00					1.06	0.99	0.00 ^a		2.09
48 of 52	Expected	1.00	2.00	2.00		2.00	1.00		1.00				1.00		1.00	1.00	1.00		2.00
	Actual	1.02	2.09	2.02		2.02	1.00		0.99				1.03		0.98	1.02	0.00 ^a		2.04
49 of 52	Expected	1.00	3.00	3.00	1.00	2.00			1.00				1.00		1.00		1.00		1.00
	Actual	0.99	2.98	3.12	0.00 ^c	2.05			1.02				1.05		0.96		0.00 ^a		1.00
50 of 52	Expected	1.00	3.00	4.00	1.00	2.00	1.00		1.00				1.00				1.00		
	Actual	0.99	3.09	3.99	0.00 ^c	1.89	0.99		0.99				1.06				0.00 ^a		
51 of 52	Expected	1.00	2.00	3.00	1.00	2.00	1.00			1.00			1.00	3.00	1.00			1.00	
	Actual	0.98	1.96	3.01	0.00 ^c	1.95	1.01			1.07			1.02	2.93	0.91			0.00 ^a	
52 of 52	Expected		1.00	3.00	1.00	3.00	1.00			1.00	1.00			3.00	1.00				
	Actual		1.00	3.01	0.00 ^c	3.02	1.03			1.07	0.98			2.93	1.03				

*Crude peptides may show AAA variability

^aTrp was completely destroyed during hydrolysis

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

^cCys was completely destroyed during hydrolysis

Date: 22 MAY 2013

Signature: *Dorothy C. Young*

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