

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

Catalog No. NR-18979

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Contributor:

BEI Resources

Manufacturer:

New England Peptide, LLC.

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).¹ Peptides are 14- to 17-mers, with 10 to 13 amino acid overlaps. Please see Table 1 for length and sequence of individual peptides.

Material Provided:

Peptides are provided lyophilized at 1 mg per vial.

Packaging/Storage:

Lyophilized peptides should be placed in a closed dry environment with dessicants and stored at -20°C or colder immediately upon arrival. A frost-free freezer should be avoided, since changes in moisture and temperature may affect peptide stability.

Solubility:

Solubility may vary based on the amino acid content of the individual peptide (see Table 2).

Reconstitution:

Lyophilized peptides should be warmed to room temperature for 1 hour prior to reconstitution. They should be dissolved at the highest possible concentration, and then diluted with water or buffer to the working concentration. Buffer should be added only after the peptide is completely in solution because salts may cause aggregation.

The most common dissolution process is 1 mg of peptide in 1 mL of sterile, distilled water. Peptides that are not soluble in water can almost always be dissolved in DMSO. Once a peptide is in solution, the DMSO can be slowly diluted with aqueous medium. Care must be taken to ensure that the peptide does not begin to precipitate out of solution. For cell-based assays, 0.5% DMSO in medium is usually well-tolerated.

Sonication and/or the addition of small amounts of dilute (10%) aqueous acetic acid for basic peptides, aqueous ammonia for acidic peptides or acetonitrile may also help

dissolution (see Table 2). These solvents may not be appropriate for certain applications, including cell-based assays.

Storage of Reconstituted Peptides:

The shelf life of peptides in solution is very limited, especially for sequences containing cysteine, methionine, tryptophan, asparagine, glutamine, and N-terminal glutamic acid. In general, peptides may be aliquoted and stored in solution for a few days at -20°C or colder. For long-term storage, peptides should be re-lyophilized and stored at -20°C or colder. If long-term storage in solution is unavoidable, peptide solutions should be buffered to pH 5-6, aliquoted and stored at -20°C or colder. Freeze-thaw cycles should be avoided.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Peptide Array, Influenza Virus A/California/04/2009 (H1N1)pdm09 Nonstructural Protein 1, NR-18979."

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmb15/index.htm.

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References:

- Garten, R. J., et al. "Antigenic and Genetic Characteristics of Swine-Origin 2009 A(H1N1) Influenza Viruses Circulating in Humans." *Science* 325 (2009): 197-201. PubMed: 19465683. GenPept: ACP41110.1.

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Table 1		
Peptide	Length	Sequence
01 of 52	15	1-MDSNTMSSFQVDCFL-15
02 of 52	15	5-TMSSFQVDCFLWHIR-19
03 of 52	15	9-FQVDCFLWHIRKRF-23
04 of 52	15	13-CFLWHIRKRFADNGL-27
05 of 52	16	17-HIRKRFADNGLGDAPF-32
06 of 52	15	21-RFADNGLGDAPFLDR-35
07 of 52	15	25-NGLGDAPFLDRLRRD-39
08 of 52	15	29-DAPFLDRLRRDQKSL-43
09 of 52	15	33-LDRLRRDQKSLKGRG-47
10 of 52	15	37-RRDQKSLKGRGNTLG-51
11 of 52	15	41-KSLKGRGNTLGLDIE-55
12 of 52	15	45-GRGNTLGLDIETATL-59
13 of 52	15	49-TLGLDIETATLVGKQ-63
14 of 52	15	53-DIETATLVGKQIVEW-67
15 of 52	15	57-ATLVGKQIVEWILKE-71
16 of 52	15	61-GKQIVEWILKEESSE-75
17 of 52	15	65-VEWILKEESSETLRM-79
18 of 52	15	69-LKEESSETLRMTIAS-83
19 of 52	15	73-SSETLRMTIASVPTS-87
20 of 52	15	77-LRMTIASVPTSRYLS-91
21 of 52	15	81-IASVPTSRYLSDMTL-95
22 of 52	15	85-PTSRYLSDMTLEEMS-99
23 of 52	15	89-YLSDMTLEEMSRDWF-103
24 of 52	16	93-MTLEEMSRDWFMLMPR-108
25 of 52	15	97-EMSRDWFMLMPRQKI-111
26 of 52	15	101-DWFMLMPRQKIIGPL-115
27 of 52	15	105-LMPRQKIIGPLCVRL-119
28 of 52	14	110-KIIGPLCVRLDQAI-123
29 of 52	15	113-GPLCVRLDQAIMEKN-127
30 of 52	15	117-VRLDQAIMEKNIVLK-131
31 of 52	14	122-AIMEKNIVLKANFS-135
32 of 52	15	125-EKNIVLKANFSVIFN-139
33 of 52	15	129-VLKANFSVIFNRLET-143
34 of 52	15	133-NFSVIFNRLETILL-147
35 of 52	15	137-IFNRLETILLRAFT-151

Table 1		
Peptide	Length	Sequence
36 of 52	15	141-LETLLRAFTEEGA-155
37 of 52	15	145-ILLRAFTEEGAIVGE-159
38 of 52	15	149-AFTEEGAIVGEISPL-163
39 of 52	16	153-EGAIVGEISPLPSLPG-168
40 of 52	15	157-VGEISPLPSLPGHTY-171
41 of 52	15	161-SPLPSLPGHTYEDVK-175
42 of 52	15	165-SLPGHTYEDVKNAV-179
43 of 52	15	169-HTYEDVKNAVGLIG-183
44 of 52	15	173-DVKNAVGLIGGLEW-187
45 of 52	15	177-AVGVLIGGLEWNGNT-191
46 of 52	15	181-LIGGLEWNGNTRVRS-195
47 of 52	15	185-LEWNGNTRVRSENIQ-199
48 of 52	15	189-GNTRVRSENIQRF-203
49 of 52	15	193-RVRSENIQRFWRNCD-207
50 of 52	15	197-NIQRFWRNCDENGR-211
51 of 52	17	201-FAWRNCDENGRPSLPPE-217
52 of 52	15	205-NCDENGRPSLPPEQK-219

Table 2		
Peptide	Solubility	Solvent
01 of 52	1 mg/mL	100% trifluoroacetic acid
02 of 52	1 mg/mL	50% acetonitrile in water
03 of 52	1 mg/mL	50% acetonitrile in water
04 of 52	1 mg/mL	50% acetonitrile in water
05 of 52	1 mg/mL	50% acetonitrile in water
06 of 52	1 mg/mL	50% acetonitrile in water
07 of 52	1 mg/mL	50% acetonitrile in water
08 of 52	1 mg/mL	50% acetonitrile in water
09 of 52	1 mg/mL	50% acetonitrile in water
10 of 52	1 mg/mL	50% acetonitrile in water
11 of 52	1 mg/mL	50% acetonitrile in water
12 of 52	1 mg/mL	100% trifluoroacetic acid
13 of 52	1 mg/mL	50% acetonitrile in water
14 of 52	1 mg/mL	100% DMSO
15 of 52	1 mg/mL	50% acetonitrile in water
16 of 52	1 mg/mL	50% acetonitrile in water add base
17 of 52	1 mg/mL	100% DMSO
18 of 52	1 mg/mL	50% acetonitrile in water
19 of 52	1 mg/mL	50% acetonitrile in water
20 of 52	1 mg/mL	50% acetonitrile in water
21 of 52	1 mg/mL	50% acetonitrile in water
22 of 52	1 mg/mL	50% acetonitrile in water

Table 2		
Peptide	Solubility	Solvent
23 of 52	1 mg/mL	100% acetic acid then dilute with 50% acetonitrile in water
24 of 52	1 mg/mL	50% acetonitrile in water
25 of 52	1 mg/mL	50% acetonitrile in water
26 of 52	1 mg/mL	50% acetonitrile in water
27 of 52	1 mg/mL	50% acetonitrile in water
28 of 52	1 mg/mL	50% acetonitrile in water
29 of 52	1 mg/mL	50% acetonitrile in water
30 of 52	1 mg/mL	100% trifluoroacetic acid
31 of 52	1 mg/mL	50% acetonitrile in water
32 of 52	1 mg/mL	50% acetonitrile in water
33 of 52	1 mg/mL	100% trifluoroacetic acid
34 of 52	1 mg/mL	100% trifluoroacetic acid
35 of 52	1 mg/mL	100% DMSO
36 of 52	1 mg/mL	50% acetonitrile in water
37 of 52	1 mg/mL	50% acetonitrile in water
38 of 52	1 mg/mL	50% acetonitrile in water
39 of 52	1 mg/mL	50% acetonitrile in water
40 of 52	1 mg/mL	50% acetonitrile in water
41 of 52	1 mg/mL	50% acetonitrile in water
42 of 52	1 mg/mL	50% acetonitrile in water
43 of 52	1 mg/mL	50% acetonitrile in water
44 of 52	1 mg/mL	50% acetonitrile in water
45 of 52	1 mg/mL	100% trifluoroacetic acid
46 of 52	1 mg/mL	50% acetonitrile in water
47 of 52	1 mg/mL	50% acetonitrile in water
48 of 52	1 mg/mL	50% acetonitrile in water
49 of 52	1 mg/mL	100% trifluoroacetic acid
50 of 52	1 mg/mL	50% acetonitrile in water
51 of 52	1 mg/mL	50% acetonitrile in water
52 of 52	1 mg/mL	50% acetonitrile in water