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

Catalog No. NR-18977

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Contributor:
BEI Resources

Manufacturer:
New England Peptide, LLC.

Product Description:
The 61-peptide array spans the matrix protein 1 (M1) of the A/California/04/2009 (H1N1)pdm09 strain of influenza virus (GenPept: ACP44152.1).[1] Peptides are 11- to 16-mers, with 10 to 12 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 -20ºC 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 -20ºC or colder. For long-term storage, peptides should be re-lyophilized and stored at -20ºC or colder. If long-term storage in solution is unavoidable, peptide solutions should be buffered to pH 5-6, aliquoted and stored at -20ºC 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 Matrix Protein 1, NR-18977."

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/bmbl5/index.htm.

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References:

1. 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: ACP44152.1.

Support Provided by NIAID

Table 1

Peptide	Length	Sequence
01 of 61	15	1-MSLLTEVETYVLSII-15
02 of 61	16	5-TEVETYVLSIIPSGPL-20
03 of 61	15	9-TYVLSIIPSGPLKAE-23
04 of 61	15	13-SIIPSGPLKAEIAQR-27
05 of 61	15	17-SGPLKAEIAQRLESV-31
06 of 61	15	21-KAEIAQRLESVFAGK-35
07 of 61	15	25-AQRLESVFAGKNTDL-39
08 of 61	15	29-ESVFAGKNTDLEALM-43
09 of 61	15	33-AGKNTDLEALMEWLK-47
10 of 61	15	37-TDLEALMEWLKTRPI-51
11 of 61	15	41-ALMEWLKTRPILSPL-55
12 of 61	15	45-WLKTRPILSPLTKGI-59
13 of 61	15	49-RPILSPLTKGILGFV-63
14 of 61	15	53-SPLTKGILGFVFTLT-67
15 of 61	15	57-KGILGFVFTLTVPSE-71
16 of 61	15	61-GFVFTLTVPSERGLQ-75
17 of 61	15	65-TLTVPSERGLQRRRF-79
18 of 61	15	69-PSERGLQRRRFVQNA-83
19 of 61	15	73-GLQRRRFVQNALNGN-87
20 of 61	15	77-RRFVQNALNGNGDPN-91
21 of 61	14	82-NALNGNGDPNNMDR-95
22 of 61	15	85-NGNGDPNNMDRAVKL-99
23 of 61	15	89-DPNNMDRAVKLYKKL-103
24 of 61	15	93-MDRAVKLYKKLKREI-107
25 of 61	15	97-VKLYKKLKREITFHG-111
26 of 61	15	101-KKLKREITFHGAKEV-115
27 of 61	15	105-REITFHGAKEVSLSY-119
28 of 61	15	109-FHGAKEVSLSYSTGA-123
29 of 61	15	113-KEVSLSYSTGALASC-127
30 of 61	15	117-LSYSTGALASCMGLI-131
31 of 61	15	121-TGALASCMGLIYNRM-135
32 of 61	15	125-ASCMGLIYNRMGTVT-139
33 of 61	15	129-GLIYNRMGTVTTEAA-143
34 of 61	15	133-NRMGTVTTEAAFGLV-147
35 of 61	15	137-TVTTEAAFGLVCATC-151

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Table 1		
Peptide	**Length**	**Sequence**
36 of 61	15	141-EAAFGLVCATCEQIA-155
37 of 61	15	145-GLVCATCEQIADSQH-159
38 of 61	15	149-ATCEQIADSQHRSHR-163
39 of 61	14	154-IADSQHRSHRQMAT-167
40 of 61	16	157-SQHRSHRQMATTTNPL-172
41 of 61	15	161-SHRQMATTTNPLIRH-175
42 of 61	15	165-MATTTNPLIRHENRM-179
43 of 61	15	169-TNPLIRHENRMVLAS-183
44 of 61	15	173-IRHENRMVLASTTAK-187
45 of 61	15	177-NRMVLASTTAKAMEQ-191
46 of 61	15	181-LASTTAKAMEQMAGS-195
47 of 61	15	185-TAKAMEQMAGSSEQA-199
48 of 61	15	189-MEQMAGSSEQAAEAM-203
49 of 61	15	193-AGSSEQAAEAMEVAN-207
50 of 61	15	197-EQAAEAMEVANQTRQ-211
51 of 61	15	201-EAMEVANQTRQMVHA-215
52 of 61	15	205-VANQTRQMVHAMRTI-219
53 of 61	16	209-TRQMVHAMRTIGTHPS-224
54 of 61	15	213-VHAMRTIGTHPSSSA-227
55 of 61	15	217-RTIGTHPSSSAGLKD-231
56 of 61	15	221-THPSSSAGLKDDLLE-235
57 of 61	15	225-SSAGLKDDLLENLQA-239
58 of 61	15	229-LKDDLLENLQAYQKR-243
59 of 61	15	233-LLENLQAYQKRMGVQ-247
60 of 61	15	237-LQAYQKRMGVQMQRF-251
61 of 61	11	242-KRMGVQMQRFK-252

Table 2		
Peptide	**Solubility**	**Solvent**
01 of 61	1 mg/mL	100% DMSO
02 of 61	1 mg/mL	50% acetonitrile in water
03 of 61	1 mg/mL	50% acetonitrile in water
04 of 61	1 mg/mL	50% acetonitrile in water
05 of 61	1 mg/mL	50% acetonitrile in water
06 of 61	1 mg/mL	50% acetonitrile in water
07 of 61	1 mg/mL	50% acetonitrile in water
08 of 61	1 mg/mL	50% acetonitrile in water
09 of 61	1 mg/mL	50% acetonitrile in water
10 of 61	1 mg/mL	50% acetonitrile in water
11 of 61	1 mg/mL	50% acetonitrile in water
12 of 61	1 mg/mL	50% acetonitrile in water
13 of 61	1 mg/mL	50% acetonitrile in water
14 of 61	1 mg/mL	50% acetonitrile in water
15 of 61	1 mg/mL	100% acetic acid then 50% acetonitrile in water

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Table 2		
Peptide	**Solubility**	**Solvent**
16 of 61	1 mg/mL	50% acetonitrile in water
17 of 61	1 mg/mL	50% acetonitrile in water
18 of 61	1 mg/mL	50% acetonitrile in water
19 of 61	1 mg/mL	50% acetonitrile in water
20 of 61	1 mg/mL	50% acetonitrile in water
21 of 61	1 mg/mL	50% acetonitrile in water
22 of 61	1 mg/mL	50% acetonitrile in water
23 of 61	1 mg/mL	50% acetonitrile in water
24 of 61	1 mg/mL	50% acetonitrile in water
25 of 61	1 mg/mL	50% acetonitrile in water
26 of 61	1 mg/mL	50% acetonitrile in water
27 of 61	1 mg/mL	50% acetonitrile in water
28 of 61	1 mg/mL	50% acetonitrile in water
29 of 61	1 mg/mL	50% acetonitrile in water
30 of 61	1 mg/mL	100% DMSO
31 of 61	1 mg/mL	50% acetonitrile in water
32 of 61	1 mg/mL	50% acetonitrile in water
33 of 61	1 mg/mL	100% acetic acid then 50% acetonitrile in water
34 of 61	1 mg/mL	50% acetonitrile in water
35 of 61	1 mg/mL	100% DMSO
36 of 61	1 mg/mL	5% TFA in water then dilute with 50% acetonitrile in water
37 of 61	1 mg/mL	100% acetic acid then 50% acetonitrile in water
38 of 61	1 mg/mL	50% acetonitrile in water
39 of 61	1 mg/mL	50% acetonitrile in water
40 of 61	1 mg/mL	50% acetonitrile in water
41 of 61	1 mg/mL	50% acetonitrile in water
42 of 61	1 mg/mL	50% acetonitrile in water
43 of 61	1 mg/mL	50% acetonitrile in water
44 of 61	1 mg/mL	50% acetonitrile in water
45 of 61	1 mg/mL	50% acetonitrile in water
46 of 61	1 mg/mL	50% acetonitrile in water
47 of 61	1 mg/mL	50% acetonitrile in water
48 of 61	1 mg/mL	50% acetonitrile in water, then base
49 of 61	1 mg/mL	100% acetic acid then 50% acetonitrile in water
50 of 61	1 mg/mL	50% acetonitrile in water
51 of 61	1 mg/mL	50% acetonitrile in water
52 of 61	1 mg/mL	50% acetonitrile in water
53 of 61	1 mg/mL	50% acetonitrile in water
54 of 61	1 mg/mL	50% acetonitrile in water
55 of 61	1 mg/mL	50% acetonitrile in water
56 of 61	1 mg/mL	50% acetonitrile in water
57 of 61	1 mg/mL	50% acetonitrile in water
58 of 61	1 mg/mL	50% acetonitrile in water
59 of 61	1 mg/mL	50% acetonitrile in water
60 of 61	1 mg/mL	50% acetonitrile in water
61 of 61	1 mg/mL	50% acetonitrile in water

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