

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

Catalog No. NR-18975

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Contributor:

BEI Resources

Manufacturer:

New England Peptide, LLC.

Product Description:

The 115-peptide array spans the neuraminidase (NA) protein of the A/California/04/2009 (H1N1)pdm09 strain of influenza virus (GenPept: ACP44158.1).¹ Peptides are 13- 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 -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 Neuraminidase Protein, NR-18975."

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:

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: ACP44158.1.

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Table 1		
Peptide	Length	Sequence
001 of 115	15	1-MNPNQKIITIGSVCM-15
002 of 115	14	6-KIITIGSVCMTIGM-19
003 of 115	15	9-TIGSVCMTIGMANLI-23
004 of 115	15	13-VCMTIGMANLILQIG-27
005 of 115	15	17-IGMANLILQIGNIIS-31
006 of 115	15	21-NLILQIGNIISWIS-35
007 of 115	14	26-IGNIISWISHSIQ-39
008 of 115	15	29-IISWISHSIQLGNQ-43
009 of 115	15	33-WISHSIQLGNQNQIE-47
010 of 115	15	37-SIQLGNQNQIETCNQ-51
011 of 115	15	41-GNQNQIETCNQSVIT-55
012 of 115	14	46-IETCNQSVITYENN-59
013 of 115	15	49-CNQSVITYENNTWVN-63
014 of 115	15	53-VITYENNTWVNQTYV-67
015 of 115	15	57-ENNTWVNQTYVNISN-71
016 of 115	15	61-WVNQTYVNISNTNFA-75
017 of 115	15	65-TYVNISNTNFAAGQS-79
018 of 115	15	69-ISNTNFAAGQSVSV-83
019 of 115	15	73-NFAAGQSVSVKLAG-87
020 of 115	15	77-GQSVSVKLAGNSSL-91
021 of 115	15	81-VSVKLAGNSSLCPVS-95
022 of 115	15	85-LAGNSSLCPVSGWAI-99
023 of 115	15	89-SSLCPVSGWAIYSKD-103
024 of 115	15	93-PVSGWAIYSKDNSVR-107
025 of 115	15	97-WAIYSKDNSVRIGSK-111
026 of 115	15	101-SKDNSVRIGSKGDFV-115
027 of 115	15	105-SVRIGSKGDFVIRE-119
028 of 115	15	109-GSKGDFVIREPFIS-123
029 of 115	15	113-DVFVIREPFISCSPL-127
030 of 115	15	117-IREPFISCSPLECRT-131
031 of 115	15	121-FISCSPLECRTFFLT-135
032 of 115	15	125-SPLECRTFFLTQGAL-139
033 of 115	15	129-CRTFFLTQGALLNDK-143
034 of 115	15	133-FLTQGALLNDKHSNG-147

Table 1		
Peptide	Length	Sequence
035 of 115	15	137-GALLNDKHSNGTIKD-151
036 of 115	15	141-NDKHSNGTIKDRSPY-155
037 of 115	15	145-SNGTIKDRSPYRTLM-159
038 of 115	15	149-IKDRSPYRTLMS CPI-163
039 of 115	16	153-SPYRTLMS CPIGEVPS-168
040 of 115	15	157-TLMS CPIGEVPS PYN-171
041 of 115	15	161-CPIGEVPS PYN SRFE-175
042 of 115	15	165-EVPS PYN SRFES VAW-179
043 of 115	15	169-PYN SRFES VAW S ASA-183
044 of 115	14	173-RFES VAW S ASACHD-186
045 of 115	15	177-VAW S ASACHDGINWL-191
046 of 115	15	181-ASACHDGINWLTIGI-195
047 of 115	15	185-HDGINWLTIGISGPD-199
048 of 115	15	189-NWL TIGISGPDNGAV-203
049 of 115	15	193-IGISGPDNGAVAVLK-207
050 of 115	15	197-GPDNGAVAVLKYNGI-211
051 of 115	15	201-GAVAVLKYNGIITDT-215
052 of 115	15	205-VLKYNGIITDTIKSW-219
053 of 115	15	209-NGIITDTIKSWRNNI-223
054 of 115	15	213-TDTIKSWRNNILRTQ-227
055 of 115	15	217-KSWRNNILRTQESEC-231
056 of 115	15	221-NNILRTQESECACVN-235
057 of 115	15	225-RTQESECACVNGSCF-239
058 of 115	15	229-SECACVNGSCFTVMT-243
059 of 115	15	233-CVNGSCFTVMTDGPS-247
060 of 115	15	237-SCFTVMTDGPSNGQA-251
061 of 115	15	241-VMTDGPSNGQASYKI-255
062 of 115	15	245-GPSNGQASYKIFRIE-259
063 of 115	15	249-GQASYKIFRIEKGKI-263
064 of 115	15	253-YKIFRIEKGKIVKSV-267
065 of 115	15	257-RIEKGKIVKSVEMNA-271
066 of 115	15	261-GKIVKSVEMNAPNYH-275
067 of 115	15	265-KSVEMNAPNYHYEEC-279
068 of 115	16	269-MNAPNYHYEECSCYPD-284
069 of 115	15	273-NYHYEECSCYPDSSE-287
070 of 115	15	277-EECSCYPDSSEITCV-291
071 of 115	15	281-CYPDSSEITCVCRDN-295
072 of 115	15	285-SSEITCVCRDNWHGS-299
073 of 115	15	289-TCVCRDNWHGSNRPW-303
074 of 115	15	293-RDNWHGSNRPWVSFN-307
075 of 115	15	297-HGSNRPWVSFNQNLE-311
076 of 115	15	301-RPWVSFNQNLEYQIG-315
077 of 115	15	305-SFNQNLEYQIGYICS-319
078 of 115	15	309-NLEYQIGYICSGIFG-323

Table 1		
Peptide	Length	Sequence
079 of 115	14	314-IGYICSGIFGDNPR-327
080 of 115	15	317-ICSGIFGDNPRPNDK-331
081 of 115	15	321-IFGDNPRPNDKTGSC-335
082 of 115	15	325-NPRPNDKTGSCGPVS-339
083 of 115	15	329-NDKTGSCGPVSSNGA-343
084 of 115	15	333-GSCGPVSSNGANGVK-347
085 of 115	15	337-PVSSNGANGVKGFSF-351
086 of 115	15	341-NGANGVKGFSFKYGN-355
087 of 115	15	345-GVKGFSFKYGNVWI-359
088 of 115	15	349-FSFKYGNVWIGRTK-363
089 of 115	15	353-YGNVWIGRTKSISS-367
090 of 115	15	357-VWIGRTKSISSRNGF-371
091 of 115	15	361-RTKSISSRNGFEMIW-375
092 of 115	15	365-ISSRNGFEMIWDPNG-379
093 of 115	15	369-NGFEMIWDPNGWTGT-383
094 of 115	15	373-MIWDPNGWTGTDNNF-387
095 of 115	15	377-PNGWTGTDNNFSIKQ-391
096 of 115	15	381-TGTDNNFSIKQDIVG-395
097 of 115	15	385-NNFSIKQDIVGINEW-399
098 of 115	15	389-IKQDIVGINEWSGYS-403
099 of 115	15	393-IVGINEWSGYSGSFV-407
100 of 115	15	397-NEWSGYSGSFVQHPE-411
101 of 115	15	401-GYSGSFVQHPELTGL-415
102 of 115	15	405-SFVQHPELTGLDCIR-419
103 of 115	15	409-HPELTGLDCIRPCFW-423
104 of 115	15	413-TGLDCIRPCFWVELI-427
105 of 115	16	417-CIRPCFWVELIRGRPK-432
106 of 115	15	421-CFWVELIRGRPKENT-435
107 of 115	15	425-ELIRGRPKENTIWTS-439
108 of 115	15	429-GRPKENTIWTSGSSI-443
109 of 115	15	433-ENTIWTSGSSISFCG-447
110 of 115	15	437-WTSGSSISFCGVNSD-451
111 of 115	15	441-SSISFCGVNSDTV/GW-455
112 of 115	15	445-FCGVNSDTV/GWSWPD-459
113 of 115	15	449-NSDTV/GWSWPDGAEL-463
114 of 115	15	453-VGWSWPDGAELPFTI-467
115 of 115	13	457-WPDGAELPFTIDK-469

Table 2		
Peptide	Solubility	Solvent
001 of 115	1 mg/mL	100% acetic acid then 50% acetonitrile in water
002 of 115	1 mg/mL	100% DMSO
003 of 115	1 mg/mL	100% DMSO
004 of 115	1 mg/mL	100% DMSO
005 of 115	1 mg/mL	100% DMSO
006 of 115	1 mg/mL	50% acetonitrile in water
007 of 115	1 mg/mL	100% DMSO
008 of 115	1 mg/mL	100% DMSO
009 of 115	1 mg/mL	50% acetonitrile in water
010 of 115	1 mg/mL	50% acetonitrile in water
011 of 115	1 mg/mL	100% DMSO
012 of 115	1 mg/mL	100% DMSO
013 of 115	1 mg/mL	100% DMSO
014 of 115	1 mg/mL	100% DMSO
015 of 115	1 mg/mL	100% DMSO
016 of 115	1 mg/mL	100% DMSO
017 of 115	1 mg/mL	100% DMSO
018 of 115	1 mg/mL	50% acetonitrile in water
019 of 115	1 mg/mL	100% DMSO
020 of 115	1 mg/mL	50% acetonitrile in water
021 of 115	1 mg/mL	50% acetonitrile in water
022 of 115	1 mg/mL	50% acetonitrile in water
023 of 115	1 mg/mL	50% acetonitrile in water
024 of 115	1 mg/mL	50% acetonitrile in water
025 of 115	1 mg/mL	50% acetonitrile in water
026 of 115	1 mg/mL	50% acetonitrile in water
027 of 115	1 mg/mL	100% acetic acid then 50% acetonitrile in water
028 of 115	1 mg/mL	50% acetonitrile in water
029 of 115	1 mg/mL	100% acetic acid then 50% acetonitrile in water
030 of 115	1 mg/mL	50% acetonitrile in water
031 of 115	1 mg/mL	50% acetonitrile in water
032 of 115	1 mg/mL	50% acetonitrile in water
033 of 115	1 mg/mL	50% acetonitrile in water
034 of 115	1 mg/mL	50% acetonitrile in water
035 of 115	1 mg/mL	50% acetonitrile in water
036 of 115	1 mg/mL	50% acetonitrile in water
037 of 115	1 mg/mL	50% acetonitrile in water
038 of 115	1 mg/mL	50% acetonitrile in water
039 of 115	1 mg/mL	50% acetonitrile in water
040 of 115	1 mg/mL	50% acetonitrile in water
041 of 115	1 mg/mL	50% acetonitrile in water
042 of 115	1 mg/mL	50% acetonitrile in water
043 of 115	1 mg/mL	50% acetonitrile in water
044 of 115	1 mg/mL	100% acetic acid then 50% acetonitrile in water

Table 2		
Peptide	Solubility	Solvent
045 of 115	1 mg/mL	100% DMSO
046 of 115	1 mg/mL	100% acetic acid then 50% acetonitrile in water
047 of 115	1 mg/mL	100% acetic acid then 50% acetonitrile in water
048 of 115	1 mg/mL	100% DMSO
049 of 115	1 mg/mL	50% acetonitrile in water
050 of 115	1 mg/mL	50% acetonitrile in water
051 of 115	1 mg/mL	100% acetic acid then 50% acetonitrile in water
052 of 115	1 mg/mL	50% acetonitrile in water
053 of 115	1 mg/mL	50% acetonitrile in water
054 of 115	1 mg/mL	50% acetonitrile in water
055 of 115	1 mg/mL	50% acetonitrile in water
056 of 115	1 mg/mL	50% acetonitrile in water
057 of 115	1 mg/mL	50% acetonitrile in water
058 of 115	1 mg/mL	100% DMSO
059 of 115	1 mg/mL	100% DMSO
060 of 115	1 mg/mL	50% acetonitrile in water
061 of 115	1 mg/mL	50% acetonitrile in water
062 of 115	1 mg/mL	50% acetonitrile in water
063 of 115	1 mg/mL	50% acetonitrile in water
064 of 115	1 mg/mL	50% acetonitrile in water
065 of 115	1 mg/mL	50% acetonitrile in water
066 of 115	1 mg/mL	50% acetonitrile in water
067 of 115	1 mg/mL	50% acetonitrile in water
068 of 115	1 mg/mL	50% acetonitrile in water
069 of 115	1 mg/mL	100% DMSO
070 of 115	1 mg/mL	50% acetonitrile in water
071 of 115	1 mg/mL	50% acetonitrile in water
072 of 115	1 mg/mL	50% acetonitrile in water
073 of 115	1 mg/mL	50% acetonitrile in water
074 of 115	1 mg/mL	50% acetonitrile in water
075 of 115	1 mg/mL	50% acetonitrile in water
076 of 115	1 mg/mL	50% acetonitrile in water
077 of 115	1 mg/mL	50% acetonitrile in water
078 of 115	1 mg/mL	100% DMSO
079 of 115	1 mg/mL	50% acetonitrile in water
080 of 115	1 mg/mL	50% acetonitrile in water
081 of 115	1 mg/mL	50% acetonitrile in water
082 of 115	1 mg/mL	50% acetonitrile in water
083 of 115	1 mg/mL	50% acetonitrile in water
084 of 115	1 mg/mL	100% acetic acid then 50% acetonitrile in water
085 of 115	1 mg/mL	50% acetonitrile in water
086 of 115	1 mg/mL	50% acetonitrile in water
087 of 115	1 mg/mL	50% acetonitrile in water
088 of 115	1 mg/mL	50% acetonitrile in water

Table 2		
Peptide	Solubility	Solvent
089 of 115	1 mg/mL	50% acetonitrile in water
090 of 115	1 mg/mL	50% acetonitrile in water
091 of 115	1 mg/mL	50% acetonitrile in water
092 of 115	1 mg/mL	50% acetonitrile in water
093 of 115	1 mg/mL	100% acetic acid then 50% acetonitrile in water
094 of 115	1 mg/mL	50% acetonitrile in water
095 of 115	1 mg/mL	50% acetonitrile in water
096 of 115	1 mg/mL	50% acetonitrile in water
097 of 115	1 mg/mL	100% acetic acid then 50% acetonitrile in water
098 of 115	1 mg/mL	50% acetonitrile in water
099 of 115	1 mg/mL	100% DMSO
100 of 115	1 mg/mL	50% acetonitrile in water
101 of 115	1 mg/mL	50% acetonitrile in water
102 of 115	1 mg/mL	50% acetonitrile in water
103 of 115	1 mg/mL	50% acetonitrile in water
104 of 115	1 mg/mL	50% acetonitrile in water
105 of 115	1 mg/mL	50% acetonitrile in water
106 of 115	1 mg/mL	50% acetonitrile in water
107 of 115	1 mg/mL	50% acetonitrile in water
108 of 115	1 mg/mL	50% acetonitrile in water
109 of 115	1 mg/mL	50% acetonitrile in water
110 of 115	1 mg/mL	100% DMSO
111 of 115	1 mg/mL	100% acetic acid then 50% acetonitrile in water
112 of 115	1 mg/mL	100% acetic acid then 50% acetonitrile in water
113 of 115	1 mg/mL	50% acetonitrile in water
114 of 115	1 mg/mL	100% acetic acid then 50% acetonitrile in water
115 of 115	1 mg/mL	50% acetonitrile in water