

Peptide Array, Influenza Virus A/Solomon Islands/3/2006 (H1N1) Hemagglutinin Protein Diverse Peptides

Catalog No. NR-18971

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Contributor:

NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH

Manufacturer:

C S Bio Company, Inc.

Product Description:

NR-18971 contains 21 peptides that represent regions of amino acid sequence diversity in the hemagglutinin (HA) protein of influenza virus A/Solomon Islands/3/2006 (H1N1) (GenPept: ABU50586)¹ compared to the HA of influenza virus A/Brisbane/59/2007 (H1N1) (GenPept: ACA28844). Peptides are 17-mers with 11 amino acid overlaps. Please see Table 1 for length and sequence of individual peptides.

The HA of influenza virus A/Solomon Islands/3/2006 (H1N1) is identical to that of the HA of A/Brisbane/59/2007 (H1N1) with the exception of 8 amino acids. A peptide array covering the entire HA protein of A/Solomon Islands/3/2006 (H1N1) can be constructed using these 21 peptides and peptides from A/Brisbane/59/2007 (H1N1) (BEI Resources NR-18970).

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 the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Peptide Array, Influenza Virus A/Solomon Islands/3/2006 (H1N1) Hemagglutinin Protein Diverse Peptides, NR-18971."

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, 2007; see www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm.

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References:

1. Garten, R., et al. Direct submission (2007). GenPept: ABU50586.

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Table 1		
Peptide	Length	Sequence
7 of 93	17	37-LEKNVTVTHSVNLEDS-53
8 of 93	17	43-VTHSVNLEDSHNGKLC-59
9 of 93	17	49-LLEDSHNGKLCCLKGIA-65
14 of 93	17	79-LGNPECELLISRESWSY-95
15 of 93	17	85-ELLISRESWSYIVEKPN-101
23 of 93	17	133-IFPKESSWPNHNTTGV-149
24 of 93	17	139-SWPNHNTTGVASCSHN-155
25 of 93	17	145-TTGVASCSHNGESSFY-161
26 of 93	17	151-SCSHNGESSFYKNLLWL-167
27 of 93	17	157-ESSFYKNLLWLTGKNGL-173
33 of 93	17	193-WGVHHPNIGDQRALYH-209
34 of 93	17	199-PNIGDQRALYHTENAYV-215
35 of 93	17	205-RALYHTENAYVSVSSH-221
38 of 93	17	223-SRKFTPEIAKRPKVRDR-239
39 of 93	17	229-EIAKRPKVRDREGRINY-245
40 of 93	17	235-KVRDREGRINYWTLLE-251
47 of 93	17	277-FGSGIINSNAPMDECD-293
48 of 93	17	283-NSNAPMDECDKACQTPQ-299
49 of 93	17	289-DECDKACQTPQGAINSS-305
89 of 93	17	529-ILAIYSTVASSRVLLVS-545
90 of 93	17	535-TVASSRVLLVSLGAISF-551

Table 2		
Peptide	Concentration	Solvent
7 of 93	1 mg/mL	25% acetonitrile in water
8 of 93	1 mg/mL	25% acetonitrile in water
9 of 93	1 mg/mL	25% acetonitrile in water
14 of 93	1 mg/mL	25% acetonitrile in water
15 of 93	1 mg/mL	25% acetonitrile in water
23 of 93	1 mg/mL	25% acetonitrile in water
24 of 93	1 mg/mL	25% acetonitrile in water
25 of 93	1 mg/mL	25% acetonitrile in water
26 of 93	1 mg/mL	25% acetonitrile in water
27 of 93	1 mg/mL	25% acetonitrile in water
33 of 93	1 mg/mL	25% acetonitrile in water
34 of 93	1 mg/mL	25% acetonitrile in water
35 of 93	1 mg/mL	25% acetonitrile in water
38 of 93	1 mg/mL	25% acetonitrile in water
39 of 93	1 mg/mL	25% acetonitrile in water
40 of 93	1 mg/mL	25% acetonitrile in water
47 of 93	1 mg/mL	25% acetonitrile in water
48 of 93	1 mg/mL	25% acetonitrile in water
49 of 93	1 mg/mL	25% acetonitrile in water
89 of 93	1 mg/mL	25% acetonitrile in water
90 of 93	1 mg/mL	25% acetonitrile in water