

**Peptide Array, Influenza Virus
A/Wyoming/03/2003 (H3N2) Hemagglutinin
Protein Diverse Peptides**

Catalog No. NR-9474

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Contributor:

BEI Resources

Manufacturer:

New England Peptide, LLC

Product Description:

NR-9474 contains 24 peptides that represent regions of amino acid sequence diversity in the hemagglutinin (HA) protein of influenza virus A/Wyoming/03/2003 (H3N2) (GenPept: AAT08000)¹ compared to the HA of influenza virus A/Wisconsin/67e5/2005 (H3N2) (GenPept: ABO37599). Peptides are 15- to 17-mers, with 11 or 12 amino acid overlaps. Please see Table 1 for length and sequence of individual peptides.

Note: The GenPept sequence data for the HA protein of influenza virus A/Wyoming/03/2003 (H3N2) (GenPept: AAT08000)¹ covers amino acids 1 to 566. The GenPept sequence data for the HA protein of influenza virus A/Wisconsin/67e5/2005 (H3N2) (GenPept: ABO37599) covers amino acids 17 to 566.

The HA of influenza virus A/Wyoming/03/2003 (H3N2) is identical to that of the HA of A/Wisconsin/67e5/2005 (H3N2) from amino acid 17 to 566 with the exception of 14 amino acids. A peptide array covering amino acids 17 to 566 of the HA protein of A/Wyoming/03/2003 (H3N2) can be constructed using these 24 peptides and peptides from A/Wisconsin/67e5/2005 (H3N2) (BEI Resources NR-9472).

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/Wyoming/03/2003 (H3N2) Hemagglutinin Protein Diverse Peptides, NR-9474.”

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. Bragstad, K., et al. "New Avian Influenza A Virus Subtype Combination H5N7 Identified in Danish Mallard Ducks." *Virus Res.* 109 (2005): 181–190. PubMed: 15763149.

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Table 1		
Peptide	Length	Sequence
20 of 94	16	109 LRSLVASSGTLEFNNE 124
21 of 94	17	114 ASSGTLEFNNE SFNWAG 130
22 of 94	17	119 LEFNNE SFNWAGVTQNG 135
23 of 94	17	125 SFNWAGVTQNGTSSACK 141
24 of 94	16	131 VTQNGTSSACKRRSNK 146
25 of 94	17	136 TSSACKRRSNKSFFSRL 152
26 of 94	17	142 RRSNKSFFSRLNWLTHL 158
27 of 94	17	148 FFSRLNWLTHLKYKYPA 164
28 of 94	16	154 WLTHLKYKYPALNVTM 169
29 of 94	17	159 KYKYPALNVTMPNNEKF 175
31 of 94	17	171 NNEKFDKLYIWGVHHPV 187
32 of 94	17	177 KLYIWGVHHPVTDSDQI 193
33 of 94	17	183 VHHPVTDSDQISLYAQA 199
34 of 94	17	189 DNDQISLYAQASGRITV 205
37 of 94	17	207 TKRSQQTVIPNIGYRPR 223
38 of 94	15	213 TVIPNIGYRPRVRDI 227
39 of 94	17	217 NIGYRPRVRDISSRISI 233
40 of 94	17	223 RVRDISSRISYWTIVK 239
62 of 94	17	348 VDGWYGFRHQNSEGTGQ 364
63 of 94	16	354 FRHQNSEGTGQAADLK 369
64 of 94	17	359 SEGTGQAADLKSTQAAI 375
82 of 94	17	466 GCFKIYHKCDNACIESI 482
83 of 94	17	472 HKCDNACIESIRNGTYD 488
84 of 94	17	478 CIESIRNGTYDHDVYRD 494

Table 2		
Peptide	Solubility	Solvent
20 of 94	1 mg/mL	50% acetonitrile in water
21 of 94	1 mg/mL	DMSO
22 of 94	1 mg/mL	DMSO
23 of 94	1 mg/mL	DMSO
24 of 94	1 mg/mL	50% acetonitrile in water
25 of 94	1 mg/mL	50% acetonitrile in water
26 of 94	1 mg/mL	50% acetonitrile in water
27 of 94	1 mg/mL	50% acetonitrile in water
28 of 94	1 mg/mL	50% acetonitrile in water
29 of 94	1 mg/mL	50% acetonitrile in water
31 of 94	1 mg/mL	50% acetonitrile in water
32 of 94	1 mg/mL	50% acetonitrile in water
33 of 94	1 mg/mL	50% acetonitrile in water
34 of 94	1 mg/mL	DMSO
37 of 94	1 mg/mL	50% acetonitrile in water
38 of 94	1 mg/mL	50% acetonitrile in water
39 of 94	1 mg/mL	50% acetonitrile in water
40 of 94	1 mg/mL	50% acetonitrile in water
62 of 94	1 mg/mL	50% acetonitrile in water
63 of 94	1 mg/mL	50% acetonitrile in water
64 of 94	1 mg/mL	DMSO
82 of 94	1 mg/mL	50% acetonitrile in water
83 of 94	1 mg/mL	50% acetonitrile in water
84 of 94	1 mg/mL	50% acetonitrile in water