

## Peptide Array West Nile Virus Protein NS4a

### Catalog No. NR-440

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### For research use only. Not for human use.

#### Contributor:

BEI Resources

#### Product Description:

The 18-peptide array spans the NS4a protein of the NY99-flamingo382-99 strain of West Nile Virus (GenBank: AF196835).<sup>1</sup> Peptides are 17- to 18-mers, with 10 or 11 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 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 West Nile Virus Protein NS4a, NR-440.”

#### 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](http://www.cdc.gov/biosafety/publications/bmb15/index.htm).

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**References:**

1. Lanciotti, R. S., et al. "Origin of the West Nile Virus Responsible for an Outbreak of Encephalitis in the Northeastern United States." *Science* 286 (1999): 2333–2337. PubMed: 10600742.

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Table 1		
Peptide	Length	Sequence
1	17	SQIGLIEVLGKMPEHFM
2	17	VLGKMPEHFMGKTWEAL
3	17	HFMGKTWEALDTMYVVA
4	18	EALDTMYVVATAEKGGRA
5	18	VATAEKGGRAHRMALEEL
6	18	RAHRMALEELPDALQTIA
7	18	ELPDALQTIALIALLSVM
8	18	IALIALLSVMTMGVFFLL
9	18	VMTMGVFFLLMQRKGIGK
10	18	LLMQRKGIGKIGLGGAVL
11	18	GKIGLGGAVLGVATFFCW
12	18	VLGVATFFCWMAEVPGTK
13	17	CWMAEVPGTKIAGMLLL
14	18	GTKIAGMLLLSLLLMIVL
15	18	LLSLLLMIVLIPEPEKQR
16	18	VLIPEPEKQRSQTDNQLA
17	18	KQRSQTDNQLAVFLICVM
18	18	QLAVFLICVMTLVSAVAA

Table 2			
Peptide	Solubility	Solvent	Reconstitution pH, if required
1	0.5 mg/mL	Water	
2	0.5 mg/mL	Water	
3	0.5 mg/mL	Water	
4	0.5 mg/mL	Water	
5	0.5 mg/mL	Water	
6	0.5 mg/mL	Water	
7	0.5 mg/mL	Water	pH 8.0
8	0.5 mg/mL	Formic acid	
9	0.5 mg/mL	20% acetonitrile in water	
10	0.5 mg/mL	Water	
11	0.5 mg/mL	Formic acid	
12	0.5 mg/mL	20% acetonitrile in water	
13	0.5 mg/mL	Water	
14	0.5 mg/mL	Formic acid	
15	0.5 mg/mL	Water	
16	0.5 mg/mL	Water	
17	0.5 mg/mL	Water	
18	0.5 mg/mL	Formic acid	