Peptide Array, Dengue Virus Type 2 (DEN-2), New Guinea C (NGC), NS4b Protein

Catalog No. NR-2750

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Product Description:

The 18-peptide array spans the NS4b protein of Dengue virus type 2, New Guinea C (GenPept: AAA42941).[1] Peptides are 12- to 17-mers, with 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 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, Dengue Virus Type 2 (DEN-2), New Guinea C (NGC), NS4b Protein, NR-2750."

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. Irie, K., et al. "Sequence Analysis of Cloned Dengue Virus Type 2 Genome (New Guinea-C Strain)." Gene 75 (1989): 197–211. PubMed: 2714651.
2. Gruenberg, A., et al. "Partial Nucleotide Sequence and Deduced Amino Acid Sequence of the Structural Proteins of Dengue Virus Type 2, New Guinea C and PUO-218 Strains." J. Gen. Virol. 69 (1988): 1391–1398. PubMed: 3385407.
3. Gualano, R. C., et al. "Identification of a Major Determinant of Mouse Neurovirulence of Dengue Virus Type 2 Using Stably Cloned Genomic-Length cDNA." J. Gen. Virol. 79 (1998): 437–446. PubMed: 9519821.

Support Provided by NIAID

Table 1

Peptide	Length	Sequence
1 of 18	17	1 AAAGIMKNPTVDGITVI 17
2 of 18	16	7 KNPTVDGITVIDLDPI 22
3 of 18	17	12 DGITVIDLDPIPYDPKF 28
4 of 18	17	18 DLDPIPYDPKFEKQLGQ 34
5 of 18	17	24 YDPKFEKQLGQVMLLVL 40
6 of 18	17	30 KQLGQVMLLVLCVTQVL 46
7 of 18	17	36 MLLVLCVTQVLMMRTTW 52
8 of 18	17	42 VTQVLMMRTTWALCEAL 58
9 of 18	16	48 MRTTWALCEALTLATG 63
10 of 18	17	53 ALCEALTLATGPISTLW 69
11 of 18	17	59 TLATGPISTLWEGNPGR 75
12 of 18	17	65 ISTLWEGNPGRFWNTTI 81
13 of 18	17	71 GNPGRFWNTTIAVSMAN 87
14 of 18	17	77 WNTTIAVSMANIFRGSY 93
15 of 18	17	83 VSMANIFRGSYLAGAGL 99
16 of 18	17	89 FRGSYLAGAGLLFSIMK 105
17 of 18	17	95 AGAGLLFSIMKNTTNTR 111
18 of 18	12	101 FSIMKNTTNTRR 112

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Table 2		
Peptide	**Solubility**	**Solvent**
1 of 18	1 mg/mL	25% acetonitrile in water
2 of 18	1 mg/mL	25% acetonitrile in water
3 of 18	1 mg/mL	25% acetonitrile in water
4 of 18	1 mg/mL	25% acetonitrile in water
5 of 18	1 mg/mL	25% acetonitrile in water
6 of 18	1 mg/mL	75% acetonitrile in water
7 of 18	1 mg/mL	25% acetonitrile in water
8 of 18	1 mg/mL	50% acetonitrile in water
9 of 18	1 mg/mL	100% DMSO
10 of 18	1 mg/mL	25% acetonitrile in water
11 of 18	1 mg/mL	25% acetonitrile in water
12 of 18	1 mg/mL	25% acetonitrile in water
13 of 18	1 mg/mL	25% acetonitrile in water
14 of 18	1 mg/mL	50% acetonitrile in water
15 of 18	1 mg/mL	25% acetonitrile in water
16 of 18	1 mg/mL	25% acetonitrile in water
17 of 18	1 mg/mL	25% acetonitrile in water
18 of 18	1 mg/mL	25% acetonitrile in water

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