

Peptide Array, Dengue Virus Type 2, New Guinea C (NGC), PreM Protein

Catalog No. NR-506

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Contributor:

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

Product Description:

The 21-peptide array spans the PreM protein of Dengue virus type 2, New Guinea C (GenPept: AAA42941).¹ Peptides are 15- to 20-mers, with 10 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 desiccants 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 the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: Peptide Array, Dengue Virus Type 2, New Guinea C (NGC), PreM Protein, NR-506.”

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/bmb15/bmb15toc.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. Putnak, J. R., et al. "Functional and Antigenic Domains of the Dengue-2 Virus Nonstructural Glycoprotein NS-1." *Virology* 163 (1988): 93–103. PubMed: 2964755.

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Table 1

Peptide	Length	Sequence
1	16	FHLTTRNGEPHMIVSR
2	18	NGEPHMIVSRQEKGKSL
3	17	SRQEKGKSLLFKTEDGV
4	18	SLLFKTEDGVNMCTLMAM
5	15	GVNMCTLMAMDLGEL
6	18	TLMAMDLGELCEDTITYK
7	15	ELCEDTITYKCPFLK
8	17	TITYKCPFLKQNEPEDI
9	20	FLKQNEPEDIDCW/CNSTSTW
10	18	DCWCNSTSTWVTYGTCTT
11	18	TWVTYGTCTTTGEHRREK
12	18	TTTGEHRREKRSVALVPH
13	18	EKRSVALVPHVGMGLETR
14	15	PHVGMGLETRTETWM
15	18	GLETRTETWMSSEGAWKH
16	18	WMSSEGAWKHAQRIETWI
17	18	KHAQRIETWILRHPGFTI
18	17	WILRHPGFTIMAILAY
19	17	FTIMAILAYTIGTTHF
20	18	LAYTIGTTHFQRALIFIL
21	19	HFQRALIFILLTAVAPSMT

Table 2

Peptide	Solubility	Solvent
1	1 mg/mL	Water
2	1 mg/mL	Water
3	1 mg/mL	20% acetonitrile in water
4	1 mg/mL	10% acetic acid, 10% acetonitrile in water
5	1 mg/mL	20% acetic acid, 20% acetonitrile in water
6	1 mg/mL	20% acetonitrile in water
7	1 mg/mL	20% acetonitrile in water
8	1 mg/mL	Water
9	1 mg/mL	20% acetonitrile in water
10	1 mg/mL	20% acetonitrile in water
11	1 mg/mL	20% acetonitrile in water
12	1 mg/mL	Water
13	1 mg/mL	Water
14	1 mg/mL	Water
15	1 mg/mL	20% acetonitrile in water
16	1 mg/mL	Water
17	1 mg/mL	Water
18	1 mg/mL	20% acetonitrile in water
19	1 mg/mL	10% formic acid, 20% acetonitrile in water
20	1 mg/mL	20% acetonitrile in water
21	1 mg/mL	20% acetonitrile in water