

### Peptide Array, Dengue Virus Type 2 (DEN-2), New Guinea C (NGC), NS2b Protein

#### Catalog No. NR-2748

This reagent is the tangible property of the U.S. Government.

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

#### Contributor:

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

#### Product Description:

The 22-peptide array spans the NS2b protein of Dengue virus type 2, New Guinea C (GenPept: AAA42941).<sup>1</sup> Peptides are 13- to 17-mers, with 11 to 14 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 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), NS2b Protein, NR-2748.”

#### 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](http://www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm).

#### Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at [www.beiresources.org](http://www.beiresources.org).

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government make any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI

Resources are not liable for damages arising from the misidentification or misrepresentation of products.

### Use Restrictions:

**This material is distributed for internal research, non-commercial purposes only.** This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale. This material may be subject to third party patent rights.

### 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.

ATCC® is a trademark of the American Type Culture Collection.



Peptide	Length	Sequence
1 of 22	17	1 SWPLNEAIMAVGMVSIL 17
2 of 22	17	7 AIMAVGMVSILASSLLK 23
3 of 22	17	13 MVSILASSLLKNDIPMT 29
4 of 22	17	19 SLLKNDIPMTGPLVAG 35
5 of 22	16	25 DIPMTGPLVAGGLLTV 40
6 of 22	17	30 GPLVAGGLLTVCYVLTG 46
7 of 22	17	36 GLLTVCYVLTGRSADLE 52
8 of 22	17	42 YVLTGRSADLELERAAD 58
9 of 22	17	48 SADLELERAADVKWEDQ 64
10 of 22	17	53 LERAADVKWEDQAEISG 69
11 of 22	16	59 VKWEDQAEISGSSPIL 74
12 of 22	16	63 DQAEISGSSPILSITI 78
13 of 22	17	68 SGSSPILSITISEDGSM 84
14 of 22	17	74 LSITISEDGSM SIKNEE 90
15 of 22	17	79 SEDGSM SIKNEEEEQTL 95
16 of 22	17	85 SIKNEEEEQTLTILIRT 101
17 of 22	17	88 NEEEEQTLTILIRTGLL 104
18 of 22	17	94 TLTILIRTGLLVISGLF 110
19 of 22	17	100 RTGLLVISGLFPVSIPI 116
20 of 22	17	106 ISGLFPVSIPI TAAAWY 122
21 of 22	17	112 VSIPITAAAWYLWEVKK 128
22 of 22	13	118 AAWYLWEVKKQR 130

<b>Table 2</b>		
<b>Peptide</b>	<b>Solubility</b>	<b>Solvent</b>
1 of 22	1 mg/mL	100% DMSO
2 of 22	1 mg/mL	50% acetonitrile in water
3 of 22	1 mg/mL	25% acetonitrile in water
4 of 22	1 mg/mL	25% acetonitrile in water
5 of 22	1 mg/mL	25% acetonitrile in water
6 of 22	1 mg/mL	50% acetonitrile in water
7 of 22	1 mg/mL	25% acetonitrile in water
8 of 22	1 mg/mL	25% acetonitrile in water
9 of 22	1 mg/mL	25% acetonitrile in water
10 of 22	1 mg/mL	25% acetonitrile in water
11 of 22	1 mg/mL	25% acetonitrile in water
12 of 22	1 mg/mL	25% acetonitrile in water
13 of 22	1 mg/mL	25% acetonitrile in water
14 of 22	1 mg/mL	50% acetonitrile in water
15 of 22	1 mg/mL	25% acetonitrile in water
16 of 22	1 mg/mL	25% acetonitrile in water
17 of 22	1 mg/mL	25% acetonitrile in water
18 of 22	1 mg/mL	75% acetonitrile in water
19 of 22	1 mg/mL	25% acetonitrile in water
20 of 22	1 mg/mL	25% acetonitrile in water
21 of 22	1 mg/mL	25% acetonitrile in water
22 of 22	1 mg/mL	25% acetonitrile in water