Peptide Array, Dengue Virus Type 2 (DEN-2), New Guinea C (NGC), NS4a Protein

Catalog No. NR-2749

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Product Description:

The 48-peptide array spans the NS4a protein of Dengue virus type 2, New Guinea C (GenPept: AAA42941).[1] Peptides are 14- to 17-mers, with 11 or 12 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), NS4a Protein, NR-2749."

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.

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Table 1

Peptide	Length	Sequence
1 of 48	17	1 SLTLNLITEMGRLPTFM 17
2 of 48	17	7 ITEMGRLPTFMTQKARD 23
3 of 48	17	13 LPTFMTQKARDALDNLA 29
4 of 48	17	18 TQKARDALDNLAVLHTA 34
5 of 48	17	24 ALDNLAVLHTAEAGGRA 40
6 of 48	16	30 VLHTAEAGGRAYNHAL 45
7 of 48	17	34 AEAGGRAYNHALSELPE 50
8 of 48	17	40 AYNHALSELPETLETLL 56
9 of 48	17	46 SELPETLETLLLLTLLA 62
10 of 48	17	52 LETLLLLTLLATVTGGI 68
11 of 48	16	58 LTLLATVTGGIFLFLM 73
12 of 48	17	63 TVTGGIFLFLMSGRGIG 79
13 of 48	17	69 FLFLMSGRGIGKMTLGM 85
14 of 48	17	75 GRGIGKMTLGMCCIITA 91
15 of 48	17	81 MTLGMCCIITASILLWY 97
16 of 48	17	87 CIITASILLWYAQIQPH 103
17 of 48	17	93 ILLWYAQIQPHWIAASI 109
18 of 48	17	98 AQIQPHWIAASIILEFF 114
19 of 48	17	104 WIAASIILEFFLIVLLI 120
20 of 48	17	110 ILEFFLIVLLIPEPEKQ 126
21 of 48	17	116 IVLLIPEPEKQRTPQDN 132
22 of 48	17	121 PEPEKQRTPQDNQLTYV 137
23 of 48	17	127 RTPQDNQLTYVVIAILT 143
24 of 48	17	132 NQLTYVVIAILTVVAAT 148
25 of 48	17	138 VIAILTVVAATMANEMG 154
26 of 48	17	144 VVAATMANEMGFLEKTK 160

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Table 1		
Peptide	**Length**	**Sequence**
27 of 48	17	150 ANEMGFLEKTKKDLGLG 166
28 of 48	17	156 LEKTKKDLGLGSITTQQ 172
29 of 48	17	162 DLGLGSITTQQPESNIL 178
30 of 48	16	168 ITTQQPESNILDIDLR 183
31 of 48	17	173 PESNILDIDLRPASAWT 189
32 of 48	17	179 DIDLRPASAWTLYAVAT 195
33 of 48	17	185 ASAWTLYAVATTFVTPM 201
34 of 48	17	191 YAVATTFVTPMLRHSIE 207
35 of 48	17	197 FVTPMLRHSIENSSVNV 213
36 of 48	17	203 RHSIENSSVNVSLTAIA 219
37 of 48	17	209 SSVNVSLTAIANQATVL 225
38 of 48	17	215 LTAIANQATVLMGLGKG 231
39 of 48	17	220 NQATVLMGLGKGWPLSK 236
40 of 48	16	226 MGLGKGWPLSKMDIGV 241
41 of 48	17	231 GWPLSKMDIGVPLLAIG 247
42 of 48	17	237 MDIGVPLLAIGCYSQVN 253
43 of 48	17	243 LLAIGCYSQVNPITLTA 259
44 of 48	17	249 YSQVNPITLTAALFLLV 265
45 of 48	17	255 ITLTAALFLLVAHYAII 271
46 of 48	17	261 LFLLVAHYAIIGPGLQA 277
47 of 48	17	267 HYAIIGPGLQAKATREA 283
48 of 48	14	273 PGLQAKATREAQKR 286

Table 2		
Peptide	**Solubility**	**Solvent**
1 of 48	1 mg/mL	25% acetonitrile in water
2 of 48	1 mg/mL	25% acetonitrile in water
3 of 48	1 mg/mL	25% acetonitrile in water
4 of 48	1 mg/mL	25% acetonitrile in water
5 of 48	1 mg/mL	25% acetonitrile in water
6 of 48	1 mg/mL	50% acetonitrile in water
7 of 48	1 mg/mL	25% acetonitrile in water
8 of 48	1 mg/mL	25% acetonitrile in water
9 of 48	1 mg/mL	50% acetonitrile in water
10 of 48	1 mg/mL	50% acetonitrile in water
11 of 48	1 mg/mL	100% DMSO
12 of 48	1 mg/mL	25% acetonitrile in water
13 of 48	1 mg/mL	25% acetonitrile in water
14 of 48	1 mg/mL	25% acetonitrile in water
15 of 48	1 mg/mL	100% DMSO

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Table 2		
Peptide	**Solubility**	**Solvent**
16 of 48	1 mg/mL	25% acetonitrile in water
17 of 48	1 mg/mL	25% acetonitrile in water
18 of 48	1 mg/mL	100% DMSO
19 of 48	1 mg/mL	100% DMSO
20 of 48	1 mg/mL	50% acetonitrile in water
21 of 48	1 mg/mL	25% acetonitrile in water
22 of 48	1 mg/mL	25% acetonitrile in water
23 of 48	1 mg/mL	25% acetonitrile in water
24 of 48	1 mg/mL	100% DMSO
25 of 48	1 mg/mL	75% acetonitrile in water
26 of 48	1 mg/mL	25% acetonitrile in water
27 of 48	1 mg/mL	25% acetonitrile in water
28 of 48	1 mg/mL	25% acetonitrile in water
29 of 48	1 mg/mL	25% acetonitrile in water
30 of 48	1 mg/mL	25% acetonitrile in water
31 of 48	1 mg/mL	25% acetonitrile in water
32 of 48	1 mg/mL	25% acetonitrile in water
33 of 48	1 mg/mL	100% DMSO
34 of 48	1 mg/mL	25% acetonitrile in water
35 of 48	1 mg/mL	25% acetonitrile in water
36 of 48	1 mg/mL	25% acetonitrile in water
37 of 48	1 mg/mL	100% DMSO
38 of 48	1 mg/mL	25% acetonitrile in water
39 of 48	1 mg/mL	25% acetonitrile in water
40 of 48	1 mg/mL	25% acetonitrile in water
41 of 48	1 mg/mL	25% acetonitrile in water
42 of 48	1 mg/mL	75% acetonitrile in water
43 of 48	1 mg/mL	25% acetonitrile in water
44 of 48	1 mg/mL	50% acetonitrile in water
45 of 48	1 mg/mL	75% acetonitrile in water
46 of 48	1 mg/mL	75% acetonitrile in water
47 of 48	1 mg/mL	25% acetonitrile in water
48 of 48	1 mg/mL	25% acetonitrile in water

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