

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

Catalog No. NR-507

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Contributor:

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

Product Description:

The 67-peptide array spans the E protein of Dengue virus type 2, New Guinea C (GenPept: AAA42941).¹ Peptides are 15- to 20-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 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), E Protein, NR-507.”

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:

- Irie, K., et al. "Sequence Analysis of Cloned Dengue Virus Type 2 Genome (New Guinea-C Strain)." *Gene* 75 (1989): 197-211. PubMed: 2714651.
- 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	15	MRCIGISNRDFVEGV
2	18	ISNRDFVEGVSGGSWVDI
3	18	GVSGGSWVDIVLEHGSCV
4	17	DIVLEHGSCVTTMAKNK
5	18	SCVTTMAKNKPTLDFELI
6	18	NKPTLDFELIETEAQPA
7	17	LIETEAQPATLRKYCI
8	15	KQPATLRKYCIEAKL
9	18	LRKYCIEAKLTNTTDSR
10	19	KLNTTTDSRCPTQGEPST
11	18	RCPTQGEPSTLNEEQDKRF
12	17	SLNEEQDKRFVCKHSMV
13	20	KRFVCKHSMVDRGWGNGCGL
14	17	DRGWGNGCGLFGKGGIV
15	18	CGLFGKGGIVTCAMFTCK
16	18	IVTCAMFTCKKNMKGVV
17	17	CKKNMKGVVQPENLEY
18	17	KVVQPENLEYTIVITPH
19	17	LEYTIVITPHSGEEHAV
20	17	TPHSGEEHAVGNDTGKH
21	16	HAVGNDTGKHGKEIKI
22	16	TGKHGKEIKITPQSSI
23	18	EKITPQSSITEAELTGY
24	15	SITEAELTGYGTVTM
25	18	ELTGYGTVTMECSPRTGL
26	18	TMECSPRTGLDFNEMVLL
27	18	GLDFNEMVLLQMENKAWL
28	17	LLQMENKAWLVHRQWFL
29	17	AWLVHRQWFLDLPLPWL
30	20	WFLDLPLPWLPGADTQGSNW
31	17	PGADTQGSNWIQKETLV
32	18	SNWIQKETLVTFKNPHAK
33	17	LVTFKNPHAKKQDVVVL
34	18	HAKKQDVVVLGSQEGAMH

Table 1 (continued)		
Peptide	Length	Sequence
35	16	VLGSQEGAMHTALTGA
36	15	GAMHTALTGATEIQM
37	17	ALTGATEIQMSSGNLLF
38	18	IQMSSGNLLFTGHLKCR
39	18	LFTGHLKCRRLRMDKLQK
40	16	RLRMDKLQKGMSSYSM
41	18	LQKGMSSYSMCTGKFKVV
42	18	SMCTGKFKVVKEIAETQH
43	17	VVKEIAETQHGTVIRV
44	20	TQHGTVIRVQYEGDGSPEK
45	17	VQYEGDGSPEKIPFEIM
46	18	SPCKIPFEIMDLKRVHL
47	16	IMDLKRVHLGRLITV
48	17	RHVLGRLITVNPVITEK
49	18	ITVNPVITEKDSPVNIEA
50	18	EKDSPVNIEAEPFGDSY
51	15	EAEPFGDSYIIIGV
52	17	FGDSYIIIGVEPGQLKL
53	15	IGVEPGQLKLNWFKK
54	18	GQLKLNWFKKGSSIGQMI
55	18	KKGSSIGQMIETMTRGAK
56	15	MIETMTRGAKRMAIL
57	17	MTRGAKRMAILGDTAWDF
58	17	AILGDTAWDFGSLGGVF
59	18	WDFGSLGGVFTSIGKALH
60	17	VFTSIGKALHQVFGAIY
61	17	ALHQVFGAIYGAAFSGV
62	18	AIYGAAFSGVSWIMKILI
63	17	GVSWMKILIGVITWI
64	15	ILIGVITWIGMNSR
65	18	IITWIGMNSRSTSLVSL
66	18	SRSTSLVSLVLVGVVTL
67	18	SLVLVGVVTLVGLVGMVQA

1	1 mg/mL	Water	
2	1 mg/mL	Water	pH 8.0
3	1 mg/mL	Water	
4	1 mg/mL	Water	
5	1 mg/mL	Water	
6	1 mg/mL	Water	
7	1 mg/mL	Water	
8	1 mg/mL	Water	
9	1 mg/mL	Water	
10	1 mg/mL	Water	
11	1 mg/mL	Water	
12	1 mg/mL	Water	
13	1 mg/mL	Water	
14	1 mg/mL	Water	
15	1 mg/mL	40% acetonitrile in water	
16	1 mg/mL	Water	
17	1 mg/mL	Water	
18	1 mg/mL	Water	
19	1 mg/mL	Water	
20	1 mg/mL	Water	
21	1 mg/mL	Water	
22	1 mg/mL	Water	
23	1 mg/mL	Water	
24	1 mg/mL	Water	pH 8.0
25	1 mg/mL	Water	
26	1 mg/mL	Water	
27	1 mg/mL	Water	pH 8.0
28	1 mg/mL	30% acetonitrile in water	
29	1 mg/mL	30% acetonitrile in water	
30	1 mg/mL	30% acetonitrile in water	
31	1 mg/mL	Water	
32	1 mg/mL	Water	
33	1 mg/mL	Water	
34	1 mg/mL	Water	
35	1 mg/mL	Water	
36	1 mg/mL	Water	
37	1 mg/mL	50% acetonitrile in water	pH 8.0
38	1 mg/mL	Water	
39	1 mg/mL	Water	
40	1 mg/mL	Water	

Table 2 (continued)			
41	1 mg/mL	Water	
42	1 mg/mL	Water	
43	1 mg/mL	Water	
44	1 mg/mL	20% acetonitrile in water	
45	1 mg/mL	Water	
46	1 mg/mL	Water	
47	1 mg/mL	Water	
48	1 mg/mL	Water	
49	1 mg/mL	Water	
50	1 mg/mL	Water	
51	1 mg/mL	30% acetonitrile in water	
52	1 mg/mL	30% acetonitrile in water	
53	1 mg/mL	Water	
54	1 mg/mL	Water	
55	1 mg/mL	Water	
56	1 mg/mL	Water	
57	1 mg/mL	Water	
58	1 mg/mL	30% acetonitrile in water	
59	1 mg/mL	Water	
60	1 mg/mL	Water	
61	1 mg/mL	60% acetonitrile in water	
62	1 mg/mL	60% acetonitrile in water	
63	1 mg/mL	Formic acid	
64	1 mg/mL	70% acetonitrile in water	
65	1 mg/mL	60% acetonitrile in water	
66	1 mg/mL	70% acetonitrile in water	
67	1 mg/mL	Formic acid	