

Peptide Array, Dengue Virus Type 2, S1 Candidate Vaccine, E Protein

Catalog No. NR-510

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Contributor:

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Product Description:

The 67-peptide array spans the E protein of Dengue virus type 2, S1 candidate vaccine (GenPept: AAA42962).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, S1 Candidate Vaccine, E Protein, NR-510.”

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. Hahn, Y. S., et al. "Nucleotide Sequence of Dengue 2 RNA and Comparison of the Encoded Proteins with Those of Other Flaviviruses." *Virology* 162 (1988): 167-180. PubMed: 2827375. GenPept: AAA42962.

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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	NKPTLDFELIKTEAKQPA
7	17	LIKTEAKQPATLRKYCI
8	15	KQPATLRKYCIEAKL
9	18	LRKYCIEAKLNTTTTDSR
10	19	KLNTTTTDSRCPTQGEPTL
11	18	RCPTQGEPTLNEEQDKRF
12	17	TLNEEQDKRFVCKHSMV
13	20	KRFVCKHSMVDRGWGNGCGL
14	17	DRGWGNGCGLFGKGGIV
15	18	CGLFGKGGIVTCAMFTCK
16	18	IVTCAMFTCKKNMEGKIV
17	17	CKKNMEGKIVQPENLEY
18	17	KIVQPENLEYTVVITPH
19	17	LEYTVVITPHSGEEHAV
20	17	TPHSGEEHAVGNDTGKH
21	16	HAVGNDTGKHGKEVKI
22	16	TGKHGKEVKITPQSSI
23	18	EVKITPQSSITEAELTGY
24	15	SITEAELTGYGTVM
25	18	ELTGYGTVMECSPRTGL
26	18	TMECSPRTGLDFNEMVLL
27	18	GLDFNEMVLLQMKDKAWL
28	17	LLQMKDKAWLVHRQWFL
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	IQMSSGNLLFTGHLKRL
39	18	LFTGHLKRLRMDKLQLK
40	16	RLRMDKLQLKGMSYSM
41	18	LQLKGMSYSMCTGKFKVV
42	18	SMCTGKFKVVKEIAETQH
43	17	VVKEIAETQHGTIVIRV
44	20	TQHGTIVIRVQYEGDGSPCK
45	17	VQYEGDGSPCKTPFEIM
46	18	SPCKTPFEIMDLEKRHVL
47	16	IMDLEKRHVLRLLTTV
48	17	RHVLRLLTTVNPIVTEK
49	18	TTVNPIVTEKDSPVNIEA
50	18	EKDSPVNIEAEPFPGDSY
51	15	EAEPFPGDSYIIIGV
52	17	FGDSYIIIGVEPGQLKL
53	15	IGVEPGQLKLDWFKK
54	18	GQLKLDWFKKGSSIGQMF
55	18	KKGSSIGQMFETTMRGAK
56	15	MFETTMRGAKRMAIL
57	17	MRGAKRMAILGDTAWDF
58	17	AILGDTAWDFGSLGGVF
59	18	WDFGSLGGVFTSIGKALH
60	17	VFTSIGKALHQVFGAIY
61	17	ALHQVFGAIYGAAFSGV
62	18	AIYGAAFSGVSWTMKILI
63	17	GVSWTMKILIGVIITWI
64	15	ILIGVIITWIGMNSR
65	18	IITWIGMNSRSTLSVSL
66	18	SRSTLSVSLVVLVGIIVTL
67	18	SLVVLVGIIVTLYLGVMMQA

Table 2			
Peptide	Solubility	Solvent	Reconstitution pH, if required
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 and 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	20% acetonitrile and water	
28	1 mg/mL	Water	
29	1 mg/mL	30% acetonitrile and water	
30	1 mg/mL	30% acetonitrile and 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 and water	pH 8.0
38	1 mg/mL	Water	
39	1 mg/mL	Water	
40	1 mg/mL	Water	

Table 2 (continued)			
Peptide	Solubility	Solvent	Reconstitution pH, if required
41	1 mg/mL	Water	
42	1 mg/mL	Water	
43	1 mg/mL	Water	
44	1 mg/mL	20% acetonitrile and 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 and water	
52	1 mg/mL	30% acetonitrile and 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 and water	
59	1 mg/mL	Water	
60	1 mg/mL	Water	
61	1 mg/mL	60% acetonitrile and water	
62	1 mg/mL	Formic acid	
63	1 mg/mL	Formic acid	
64	1 mg/mL	70% acetonitrile and water	
65	1 mg/mL	60% acetonitrile and water	
66	1 mg/mL	Formic acid	
67	1 mg/mL	Formic acid	