

Peptide Array, Dengue Virus Type 1 (DEN-1) Singapore/S275/1990, E Protein

Catalog No. NR-4551

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Contributor:

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Product Description:

The 84-peptide array spans the E protein of Dengue virus type 1, Singapore/S275/1990 (GenPept: P33478).¹ Peptides are 13- to 18-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 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 1 (DEN-1), Singapore/S275/1990, E Protein, NR-4551.”

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. Fu, J., et al. "Full-Length cDNA Sequence of Dengue Type 1 Virus (Singapore Strain S275/90)." *Virology* 188 (1992): 953–958. PubMed: 1585663.

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Table 1		
Peptide	Length	Sequence
1 of 84	17	1-MRCVIGISRDFVEGLSG-17
2 of 84	17	7-GSRDFVEGLSGATWVDV-23
3 of 84	17	12-VEGLSGATWVDVLEHG-28
4 of 84	17	18-ATWVDVLEHGSCVTTM-34
5 of 84	17	24-VLEHGSCVTTMAKDKPT-40
6 of 84	17	30-CVTTMAKDKPTLDIELL-46
7 of 84	17	36-KDKPTLDIELLKTEVTN-52
8 of 84	17	42-DIELLKTEVTNPAVLRK-58
9 of 84	17	48-TEVTNPAVLRKLCIEAK-64
10 of 84	17	54-AVLRKLCIEAKISNTTT-70
11 of 84	17	60-CIEAKISNTTTDSRCPT-76
12 of 84	17	66-SNTTTDSRCPTQGEATL-82
13 of 84	17	72-SRCPTQGEATLVEEQDA-88
14 of 84	17	78-GEATLVEEQDANFVCRR-94
15 of 84	17	83-VEEQDANFVCRRTFVDR-99
16 of 84	16	89-NFVCRRTFVDRGWGNG-104
17 of 84	17	94-RTFVDRGWGNGCGLFGK-110
18 of 84	16	100-GWGNGCGLFGKGSLLT-115
19 of 84	16	105-CGLFGKGSLLTCAKFK-120
20 of 84	17	110-KGSLLTCAKFKCVTKLE-126
21 of 84	17	116-CAKFKCVTKLEGKIVQY-132
22 of 84	16	122-VTKLEGKIVQYENLKY-137
23 of 84	17	127-GKIVQYENLKYSVIVTV-143
24 of 84	17	132-YENLKYSVIVTVHTGDQ-148
25 of 84	17	138-SVIVTVHTGDQHQVGNE-154
26 of 84	17	144-HTGDQHQVGNETTEHGT-160
27 of 84	17	149-HQVGNETTEHGTIATIT-165
28 of 84	16	155-TTEHGTIATITPQAPT-170
29 of 84	17	160-TIATITPQAPTSEIQLT-176
30 of 84	17	166-PQAPTSEIQLTDYGALT-182

Table 1		
Peptide	Length	Sequence
31 of 84	18	171-SEIQLTDYGALTLDCSPR-188
32 of 84	17	178-YGALTLDCSPRTGLDFN-194
33 of 84	17	184-DCSPRTGLDFNEMVLLT-200
34 of 84	17	190-GLDFNEMVLLTMKEKSW-206
35 of 84	17	196-MVLLTMKEKSWLVHKQW-212
36 of 84	17	202-KEKSWLVHKQWFLDLPL-218
37 of 84	17	208-VHKQWFLDLPLPWTSGA-224
38 of 84	17	214-LDLPLPWTSGASTSQET-230
39 of 84	17	220-WTSGASTSQETWNRQDL-236
40 of 84	17	226-TSQETWNRQDLLVTFKT-242
41 of 84	17	232-NRQDLLVTFKTAHAKKQ-248
42 of 84	17	238-VTFKTAHAKKQEVVVLG-254
43 of 84	17	244-HAKKQEVVVLGSQEGAM-260
44 of 84	17	250-VVVLGSQEGAMHTALTG-266
45 of 84	17	255-SQEGAMHTALTGATEIQ-271
46 of 84	17	261-HTALTGATEIQTSGTTT-277
47 of 84	17	267-ATEIQTSGTTTIFAGHL-283
48 of 84	17	273-SGTTTIFAGHLKRLKM-289
49 of 84	17	279-FAGHLKRLKMDKLTLLK-295
50 of 84	17	285-CRLKMDKLTLLKGMSYVM-301
51 of 84	17	291-KLTLKGMSYVMCTGSFK-307
52 of 84	17	297-MSYVMCTGSFKLEKEVA-313
53 of 84	17	303-TGSFKLEKEVAETQHGT-319
54 of 84	17	308-LEKEVAETQHGTVLVQV-324
55 of 84	17	313-AETQHGTVLVQVKYEGT-329
56 of 84	17	319-TVLVQVKYEGTDAPCKI-335
57 of 84	17	325-KYEGTDAPCKIPFSTQD-341
58 of 84	17	331-APCKIPFSTQDEKGVTD-347
59 of 84	17	337-FSTQDEKGVTDQNRLITA-353
60 of 84	17	343-KGVTDQNRLITANPIVTD-359
61 of 84	17	349-RLITANPIVTDKEKPVN-365
62 of 84	15	355-PIVTDKEKPVNIETE-369
63 of 84	16	359-DKEKPVNIETEPFGE-374
64 of 84	17	364-VNIETEPFGEYIVVG-380
65 of 84	17	370-PPFGESYIVVGAGEKAL-386
66 of 84	17	376-YIVVGAGEKALKQCWFK-392
67 of 84	17	382-GEKALKQCWFKKGSSIG-398
68 of 84	17	387-KQCWFKKGSSIGKMFEA-403
69 of 84	17	393-KGSSIGKMFEATARGAR-409
70 of 84	17	399-KMFEATARGARRMAILG-415
71 of 84	17	405-ARGARRMAILGDTAWDF-421
72 of 84	17	411-MAILGDTAWDFGSIGGV-427
73 of 84	17	417-TAWDFGSIGGVFTSVGK-433
74 of 84	17	423-SIGGVFTSVGKLVHQVF-439

Table 1		
Peptide	Length	Sequence
75 of 84	17	429-TSVGKLVHQVFGTAYGV-445
76 of 84	16	435-VHQVFGTAYGVLFSGV-450
77 of 84	17	440-GTAYGVLFSGVSWTMKI-456
78 of 84	17	446-LFSGVSWTMKIGIGILL-462
79 of 84	17	452-WTMKIGIGILLTWLGLN-468
80 of 84	17	458-IGILLTWLGLNSRSTSL-474
81 of 84	17	464-WLGLNSRSTSLSMTCIA-480
82 of 84	17	470-RSTLSMTCIAVGMVTL-486
83 of 84	17	476-MTCIAVGMVTLYLGVMV-492
84 of 84	13	482-GMVTLYLGVMVQA-494

Table 2		
Peptide	Solubility	Solvent
1 of 84	1 mg/mL	50% acetic acid in water
2 of 84	1 mg/mL	100% DMSO
3 of 84	1 mg/mL	100% DMSO
4 of 84	1 mg/mL	100% DMSO
5 of 84	1 mg/mL	50% acetic acid in water
6 of 84	1 mg/mL	100% DMSO
7 of 84	1 mg/mL	100% DMSO
8 of 84	1 mg/mL	50% acetic acid in water
9 of 84	1 mg/mL	50% acetic acid in water
10 of 84	1 mg/mL	100% DMSO
11 of 84	1 mg/mL	100% DMSO
12 of 84	1 mg/mL	100% DMSO
13 of 84	1 mg/mL	100% DMSO
14 of 84	1 mg/mL	100% DMSO
15 of 84	1 mg/mL	100% DMSO
16 of 84	1 mg/mL	50% acetic acid in water
17 of 84	1 mg/mL	50% acetic acid in water
18 of 84	1 mg/mL	50% acetic acid in water
19 of 84	1 mg/mL	50% acetic acid in water
20 of 84	1 mg/mL	50% acetic acid in water
21 of 84	1 mg/mL	50% acetic acid in water
22 of 84	1 mg/mL	50% acetic acid in water
23 of 84	1 mg/mL	50% acetic acid in water
24 of 84	1 mg/mL	50% acetic acid in water
25 of 84	1 mg/mL	50% acetic acid in water
26 of 84	1 mg/mL	50% acetic acid in water

Table 2		
Peptide	Solubility	Solvent
27 of 84	1 mg/mL	50% acetic acid in water
28 of 84	1 mg/mL	50% acetic acid in water
29 of 84	1 mg/mL	50% acetic acid in water
30 of 84	1 mg/mL	100% DMSO
31 of 84	1 mg/mL	100% DMSO
32 of 84	1 mg/mL	100% DMSO
33 of 84	1 mg/mL	100% DMSO
34 of 84	1 mg/mL	100% DMSO
35 of 84	1 mg/mL	50% acetic acid in water
36 of 84	1 mg/mL	50% acetic acid in water
37 of 84	1 mg/mL	70% acetonitrile in water
38 of 84	1 mg/mL	100% DMSO
39 of 84	1 mg/mL	100% DMSO
40 of 84	1 mg/mL	50% acetic acid in water
41 of 84	1 mg/mL	50% acetic acid in water
42 of 84	1 mg/mL	50% acetic acid in water
43 of 84	1 mg/mL	50% acetic acid in water
44 of 84	1 mg/mL	50% acetic acid in water
45 of 84	1 mg/mL	100% DMSO
46 of 84	1 mg/mL	50% acetic acid in water
47 of 84	1 mg/mL	50% acetic acid in water
48 of 84	1 mg/mL	50% acetic acid in water
49 of 84	1 mg/mL	50% acetic acid in water
50 of 84	1 mg/mL	50% acetic acid in water
51 of 84	1 mg/mL	50% acetic acid in water
52 of 84	1 mg/mL	100% DMSO
53 of 84	1 mg/mL	50% acetic acid in water
54 of 84	1 mg/mL	50% acetic acid in water
55 of 84	1 mg/mL	50% acetic acid in water
56 of 84	1 mg/mL	100% DMSO
57 of 84	1 mg/mL	100% DMSO
58 of 84	1 mg/mL	100% DMSO
59 of 84	1 mg/mL	50% acetic acid in water
60 of 84	1 mg/mL	50% acetic acid in water
61 of 84	1 mg/mL	50% acetic acid in water
62 of 84	1 mg/mL	100% DMSO
63 of 84	1 mg/mL	70% acetonitrile in water
64 of 84	1 mg/mL	70% acetonitrile in water
65 of 84	1 mg/mL	70% acetonitrile in water
66 of 84	1 mg/mL	50% acetic acid in water
67 of 84	1 mg/mL	50% acetic acid in water
68 of 84	1 mg/mL	50% acetic acid in water

Table 2		
Peptide	Solubility	Solvent
69 of 84	1 mg/mL	50% acetic acid in water
70 of 84	1 mg/mL	50% acetic acid in water
71 of 84	1 mg/mL	50% acetic acid in water
72 of 84	1 mg/mL	70% acetonitrile in water
73 of 84	1 mg/mL	100% DMSO
74 of 84	1 mg/mL	100% DMSO
75 of 84	1 mg/mL	100% DMSO
76 of 84	1 mg/mL	100% DMSO
77 of 84	1 mg/mL	100% DMSO
78 of 84	1 mg/mL	100% DMSO
79 of 84	1 mg/mL	100% DMSO
80 of 84	1 mg/mL	100% DMSO
81 of 84	1 mg/mL	100% DMSO
82 of 84	1 mg/mL	100% DMSO
83 of 84	1 mg/mL	100% DMSO
84 of 84	1 mg/mL	100% DMSO