

### Peptide Array, Dengue Virus Type 1 (DEN-1), Singapore/S275/1990, NS1 Protein

#### Catalog No. NR-2751

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#### Contributor:

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#### Product Description:

The 61-peptide array spans the NS1 protein of Dengue virus type 1, Singapore/S275/1990 (GenPept: P33478).<sup>1</sup> Peptides are 13- 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 1 (DEN-1), Singapore/S275/1990, NS1 Protein, NR-2751."

#### 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).

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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.
2. Tolou, H. J. G., et al. "Evidence for Recombination in Natural Populations of Dengue Virus Type 1 Based on the Analysis of Complete Genome Sequences." *J. Gen. Virol.* 82 (2001): 1283–1290. PubMed: 11369871.

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Table 1		
Peptide	Length	Sequence
1 of 61	16	1 DSGCVINWKGRELKCG 16
2 of 61	17	6 INWKGRELKCGSGIFVT 22
3 of 61	17	11 RELKCGSGIFVTNEVHT 27
4 of 61	17	17 SGIFVTNEVHTWTEQYK 33
5 of 61	15	23 NEVHTWTEQYKFQAD 37
6 of 61	16	27 TWTEQYKFQADSPKRL 42
7 of 61	17	32 YKFQADSPKRLSAAIGK 48
8 of 61	17	38 SPKRLSAAIGKAWEEGV 54
9 of 61	17	44 AAIGKAWEEGVCGIRSA 60
10 of 61	17	50 WEEGVCGIRSATRLNI 66
11 of 61	16	56 GIRSATRLNIMWKQI 71
12 of 61	17	61 TRLENIMWKQISNELNH 77
13 of 61	17	67 MWKQISNELNHILLEND 83
14 of 61	17	73 NELNHILLENDMKFTVV 89
15 of 61	17	79 LLENDMKFTVVVGDDVG 95
16 of 61	17	85 KFTVVVGDDVVGILAQGK 101
17 of 61	17	91 GDVVGILAQGKKMIRPQ 107
18 of 61	17	97 LAQGKKMIRPQPMHEKY 113
19 of 61	17	103 MIRPQPMHEKYSWKS WG 119
20 of 61	17	109 MEHKYSWKS WGKAKIIG 125
21 of 61	17	115 WKS WGKAKIIGADIQNT 131
22 of 61	17	121 AKIIGADIQNTTFIIDG 137
23 of 61	16	127 DIQNTTFIIDGPDTP E 142
24 of 61	17	132 TFIIDGPDTP ECPDDQR 148
25 of 61	17	138 PDTPECPDDQR A WNIWE 154
26 of 61	17	144 PDDQR A WNIWE VEDYGF 160
27 of 61	17	150 WNIWE VEDYGF GIFTTN 166
28 of 61	17	155 VEDYGF GIFTTN IWLKL 171
29 of 61	17	161 GIFTTN IWLKL RDSY TQ 177
30 of 61	17	167 IWLKL RDSY TQ MCDHRL 183
31 of 61	17	173 DSY TQ MCDHRL MSAAIK 189
32 of 61	17	179 CDHRL MSAAIK DSKAVH 195

Table 1		
Peptide	Length	Sequence
33 of 61	17	185 SAAIKDSKAVHADMGYW 201
34 of 61	17	191 SKAVHADMGYWIESEKN 207
35 of 61	17	197 DMGYWIESEKNETWKLA 213
36 of 61	17	202 IESEKNETWKLARASFI 218
37 of 61	16	207 NETWKLARASFIEVKT 222
38 of 61	16	212 LARASFIEVKTCVWPK 227
39 of 61	16	217 FIEVKTCVWPKSHTLW 232
40 of 61	17	222 TCVWPKSHTLWSNGVLE 238
41 of 61	16	228 SHTLWSNGVLESEMII 243
42 of 61	17	233 SNGVLESEMIIPKIYGG 249
43 of 61	17	239 SEMIIPKIYGGPISQHN 255
44 of 61	17	245 KIYGGPISQHNYRPGYF 261
45 of 61	16	251 ISQHNYRPGYFTQTAG 266
46 of 61	17	256 YRPGYFTQTAGPWHLGK 272
47 of 61	17	262 TQTAGPWHLGKLELDFD 278
48 of 61	17	268 WHLGKLELDFDLCEGTT 284
49 of 61	17	273 LELDFDLCEGTTVVVDE 289
50 of 61	17	279 LCEGTTVVVDEHCGNRG 295
51 of 61	17	285 VVVDEHCGNRGPSLRTT 301
52 of 61	17	291 CGNRGPSLRTTTVTGKI 307
53 of 61	15	297 SLRTTTVTGKIIHEW 311
54 of 61	17	301 TTVTGKIIHEWCCRSC 317
55 of 61	17	307 IIHEWCCRSC 323
56 of 61	16	313 CRSC 328
57 of 61	17	318 LPPLRFKGEDGCWYGME 334
58 of 61	17	324 KGEDGCWYGMEIRPVKE 340
59 of 61	17	330 WYGMEIRPVKEKEENLV 346
60 of 61	17	336 RVPVKEKEENLVKSMVSA 352
61 of 61	13	341 KEENLVKSMVSAG 353

Table 2			
Peptide	Solubility	Solvent	Reconstitution pH, if required
1 of 61	1 mg/mL	Water	
2 of 61	1 mg/mL	Water	
3 of 61	1 mg/mL	Water	
4 of 61	1 mg/mL	Water	
5 of 61	1 mg/mL	Water	
6 of 61	1 mg/mL	Water	
7 of 61	1 mg/mL	Water	
8 of 61	1 mg/mL	Water	

Table 2			
Peptide	Solubility	Solvent	Reconstitution pH, if required
9 of 61	1 mg/mL	Water	
10 of 61	1 mg/mL	Water	
11 of 61	1 mg/mL	Water	
12 of 61	1 mg/mL	Water	
13 of 61	1 mg/mL	5% ammonium hydroxide in water	pH 11
14 of 61	1 mg/mL	Water	
15 of 61	1 mg/mL	Water	
16 of 61	1 mg/mL	Water	
17 of 61	1 mg/mL	Water	
18 of 61	1 mg/mL	Water	
19 of 61	1 mg/mL	Water	
20 of 61	1 mg/mL	Water	
21 of 61	1 mg/mL	Water	
22 of 61	1 mg/mL	5% ammonium hydroxide in water	pH 11
23 of 61	1 mg/mL	5% ammonium hydroxide in water	pH 11
24 of 61	1 mg/mL	Water	
25 of 61	1 mg/mL	Water	
26 of 61	1 mg/mL	5% ammonium hydroxide in water	pH 11
27 of 61	1 mg/mL	5% ammonium hydroxide in water	pH 11
28 of 61	1 mg/mL	Water	
29 of 61	1 mg/mL	Water	
30 of 61	1 mg/mL	Water	
31 of 61	1 mg/mL	Water	
32 of 61	1 mg/mL	Water	
33 of 61	1 mg/mL	Water	
34 of 61	1 mg/mL	Water	
35 of 61	1 mg/mL	Water	
36 of 61	1 mg/mL	Water	
37 of 61	1 mg/mL	Water	
38 of 61	1 mg/mL	Water	
39 of 61	1 mg/mL	Water	
40 of 61	1 mg/mL	Water	
41 of 61	1 mg/mL	Water	
42 of 61	1 mg/mL	Water	
43 of 61	1 mg/mL	Water	
44 of 61	1 mg/mL	Water	
45 of 61	1 mg/mL	Water	
46 of 61	1 mg/mL	Water	
47 of 61	1 mg/mL	Water	
48 of 61	1 mg/mL	5% ammonium hydroxide in water	pH 11
49 of 61	1 mg/mL	5% ammonium hydroxide in water	pH 11
50 of 61	1 mg/mL	5% ammonium hydroxide in water	pH 11
51 of 61	1 mg/mL	Water	
52 of 61	1 mg/mL	Water	

Table 2			
Peptide	Solubility	Solvent	Reconstitution pH, if required
53 of 61	1 mg/mL	Water	
54 of 61	1 mg/mL	Water	
55 of 61	1 mg/mL	Water	
56 of 61	1 mg/mL	Water	
57 of 61	1 mg/mL	Water	
58 of 61	1 mg/mL	Water	
59 of 61	1 mg/mL	Water	
60 of 61	1 mg/mL	Water	
61 of 61	1 mg/mL	Water	