Peptide Array, Dengue Virus Type 1 (DEN-1) Singapore/S275/1990, NS3 Protein

Catalog No. NR-2752

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Product Description:

The 106-peptide array spans the NS3 protein of Dengue virus type 1, Singapore/S275/1990 (GenPept: P33478).[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 1 (DEN-1), Singapore/S275/1990, NS3 Protein, NR-2752."

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. 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.

Support Provided by NIAID

Table 1

Peptide	Length	Sequence
1 of 106	17	1 SGVLWDTPSPPEVERAV 17
2 of 106	17	7 TPSPPEVERAVLDDGIY 23
3 of 106	17	13 VERAVLDDGIYRIMQRG 29
4 of 106	17	19 DDGIYRIMQRGLLGRSQ 35
5 of 106	17	25 IMQRGLLGRSQVGVGVF 41
6 of 106	17	31 LGRSQVGVGVFQDGVFH 47
7 of 106	17	37 GVGVFQDGVFHTMWHVT 53
8 of 106	17	43 DGVFHTMWHVTRGAVLM 59
9 of 106	17	49 MWHVTRGAVLMYQGKRL 65
10 of 106	16	55 GAVLMYQGKRLEPSWA 70
11 of 106	17	60 YQGKRLEPSWASVKKDL 76
12 of 106	17	65 LEPSWASVKKDLISYGG 81
13 of 106	17	71 SVKKDLISYGGGWRFQG 87
14 of 106	17	77 ISYGGGWRFQGSWNTGE 93
15 of 106	17	83 WRFQGSWNTGEEVQVIA 99
16 of 106	17	89 WNTGEEVQVIAVEPGKN 105
17 of 106	17	95 VQVIAVEPGKNPKNVQT 111
18 of 106	17	100 VEPGKNPKNVQTAPGTF 116
19 of 106	17	106 PKNVQTAPGTFKTPEGE 122
20 of 106	17	112 APGTFKTPEGEVGAIAL 128
21 of 106	17	118 TPEGEVGAIALDFKPGT 134
22 of 106	17	124 GAIALDFKPGTSGSPIV 140
23 of 106	17	130 FKPGTSGSPIVNREGKI 146
24 of 106	17	136 GSPIVNREGKIVGLYGN 152
25 of 106	16	142 REGKIVGLYGNGVVTT 157
26 of 106	16	147 VGLYGNGVVTTSGTYV 162
27 of 106	17	152 NGVVTTSGTYVSAIAQA 168
28 of 106	17	158 SGTYVSAIAQAKASQEG 174

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Table 1		
Peptide	**Length**	**Sequence**
29 of 106	17	164 AIAQAKASQEGPLPEIE 180
30 of 106	17	170 ASQEGPLPEIEDEVFRK 186
31 of 106	17	176 LPEIEDEVFRKRNLTIM 192
32 of 106	17	181 DEVFRKRNLTIMDLHPG 197
33 of 106	17	187 RNLTIMDLHPGSGKTRR 203
34 of 106	17	193 DLHPGSGKTRRYLPAIV 209
35 of 106	17	199 GKTRRYLPAIVREAIRR 215
36 of 106	17	205 LPAIVREAIRRNVRTLI 221
37 of 106	17	210 REAIRRNVRTLILAPTR 226
38 of 106	17	216 NVRTLILAPTRVVASEM 232
39 of 106	17	222 LAPTRVVASEMAEALKG 238
40 of 106	17	228 VASEMAEALKGMPIRYQ 244
41 of 106	17	233 AEALKGMPIRYQTTAVK 249
42 of 106	17	239 MPIRYQTTAVKSEHTGK 255
43 of 106	17	245 TTAVKSEHTGKEIVDLM 261
44 of 106	17	250 SEHTGKEIVDLMCHATF 266
45 of 106	17	255 KEIVDLMCHATFTMRLL 271
46 of 106	16	261 MCHATFTMRLLSPVRV 276
47 of 106	17	266 FTMRLLSPVRVPNYNMI 282
48 of 106	17	272 SPVRVPNYNMIIMDEAH 288
49 of 106	16	278 NYNMIIMDEAHFTDPA 293
50 of 106	17	283 IMDEAHFTDPASIARRG 299
51 of 106	17	289 FTDPASIARRGYISTRV 305
52 of 106	17	295 IARRGYISTRVGMGEAA 311
53 of 106	17	301 ISTRVGMGEAAAIFMTA 317
54 of 106	17	307 MGEAAAIFMTATPPGSV 323
55 of 106	16	313 IFMTATPPGSVEAFPQ 328
56 of 106	17	318 TPPGSVEAFPQSNAVIQ 334
57 of 106	17	323 VEAFPQSNAVIQDEERD 339
58 of 106	17	329 SNAVIQDEERDIPERSW 345
59 of 106	17	335 DEERDIPERSWNSGYEW 351
60 of 106	17	341 PERSWNSGYEWITDFPG 357
61 of 106	17	347 SGYEWITDFPGKTVWFV 363
62 of 106	17	353 TDFPGKTVWFVPSIKSG 369
63 of 106	16	359 TVWFVPSIKSGNDIAN 374
64 of 106	17	364 PSIKSGNDIANCLRKNG 380
65 of 106	17	370 NDIANCLRKNGKRVIQL 386
66 of 106	17	376 LRKNGKRVIQLSRKTFD 392
67 of 106	17	382 RVIQLSRKTFDTEYQKT 398
68 of 106	17	388 RKTFDTEYQKTKNNDWD 404
69 of 106	17	393 TEYQKTKNNDWDYVVTT 409
70 of 106	17	399 KNNDWDYVVTTDISEMG 415
71 of 106	17	405 YVVTTDISEMGANFRAD 421
72 of 106	17	411 ISEMGANFRADRVIDPR 427
73 of 106	17	417 NFRADRVIDPRRCLKPV 433
74 of 106	16	423 VIDPRRCLKPVILKDG 438
75 of 106	17	428 RCLKPVILKDGPERVIL 444
76 of 106	17	434 ILKDGPERVILAGPMPV 450
77 of 106	17	439 PERVILAGPMPVTVASA 455

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Table 1		
Peptide	**Length**	**Sequence**
78 of 106	17	445 AGPMPVTVASAAQRRGR 461
79 of 106	17	451 TVASAAQRRGRIGRNQN 467
80 of 106	17	456 AQRRGRIGRNQNKEGDQ 472
81 of 106	17	462 IGRNQNKEGDQYVYMGQ 478
82 of 106	17	468 KEGDQYVYMGQPLNNDE 484
83 of 106	17	474 VYMGQPLNNDEDHAHWT 490
84 of 106	17	480 LNNDEDHAHWTEAKMLL 496
85 of 106	16	486 HAHWTEAKMLLDNINT 501
86 of 106	17	490 TEAKMLLDNINTPEGII 506
87 of 106	16	496 LDNINTPEGIIPALFE 511
88 of 106	16	501 TPEGIIPALFEPEREK 516
89 of 106	17	506 IPALFEPEREKSAAIDG 522
90 of 106	17	512 PEREKSAAIDGEYRLRG 528
91 of 106	17	518 AAIDGEYRLRGEARKTF 534
92 of 106	17	524 YRLRGEARKTFVELMRR 540
93 of 106	17	530 ARKTFVELMRRGDLPVW 546
94 of 106	17	535 VELMRRGDLPVWLSYKV 551
95 of 106	17	541 GDLPVWLSYKVASEGFQ 557
96 of 106	17	547 LSYKVASEGFQYSDRRW 563
97 of 106	17	553 SEGFQYSDRRWCFDGER 569
98 of 106	17	559 SDRRWCFDGERNNQVLE 575
99 of 106	17	565 FDGERNNQVLEENMDVE 581
100 of 106	17	571 NQVLEENMDVEMWTKEG 587
101 of 106	17	577 NMDVEMWTKEGERKKLR 593
102 of 106	17	583 WTKEGERKKLRPRWLDA 599
103 of 106	16	589 RKKLRPRWLDARTYSD 604
104 of 106	17	594 PRWLDARTYSDPLALRE 610
105 of 106	17	600 RTYSDPLALREFKEFAA 616
106 of 106	14	606 LALREFKEFAAGRR 619

Table 2			
Peptide	**Solubility**	**Solvent**	**Reconstitution pH, if required**
1 of 106	1 mg/mL	10% acetonitrile in water	pH 6
2 of 106	1 mg/mL	10% acetonitrile in water	pH 6
3 of 106	1 mg/mL	10% acetonitrile in water	pH 6
4 of 106	1 mg/mL	10% acetonitrile in water	pH 6
5 of 106	1 mg/mL	Water	
6 of 106	1 mg/mL	10% acetonitrile in water	pH 6
7 of 106	1 mg/mL	170 µL acetonitrile and 30 µL acetic acid in water	pH 4
8 of 106	1 mg/mL	130 µL acetonitrile and 20 µL acetic acid in water	pH 4
9 of 106	1 mg/mL	10% acetonitrile in water	pH 6
10 of 106	1 mg/mL	10% acetonitrile in water	pH 6
11 of 106	1 mg/mL	10% acetonitrile in water	pH 6
12 of 106	1 mg/mL	10% acetonitrile in water	pH 6
13 of 106	1 mg/mL	10% acetonitrile in water	pH 6

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Table 2			
Peptide	**Solubility**	**Solvent**	**Reconstitution pH, if required**
14 of 106	1 mg/mL	160 µL acetonitrile and 40 µL acetic acid in water	pH 4
15 of 106	1 mg/mL	100 µL acetonitrile and 40 µL 1% ammonia in water	pH 9
16 of 106	1 mg/mL	10% acetonitrile in water	pH 6
17 of 106	1 mg/mL	10% acetonitrile in water	pH 6
18 of 106	1 mg/mL	10% acetonitrile in water	pH 6
19 of 106	1 mg/mL	10% acetonitrile in water	pH 6
20 of 106	1 mg/mL	10% acetonitrile in water	pH 6
21 of 106	1 mg/mL	10% acetonitrile in water	pH 6
22 of 106	1 mg/mL	10% acetonitrile in water	pH 6
23 of 106	1 mg/mL	10% acetonitrile in water	pH 6
24 of 106	1 mg/mL	10% acetonitrile in water	pH 6
25 of 106	1 mg/mL	10% acetonitrile in water	pH 6
26 of 106	1 mg/mL	10% acetonitrile in water	pH 6
27 of 106	1 mg/mL	150 µL acetonitrile and 50 µL formic acid in water	pH 2
28 of 106	1 mg/mL	160 µL acetonitrile and 40 µL acetic acid in water	pH 4
29 of 106	1 mg/mL	10% acetonitrile in water	pH 6
30 of 106	1 mg/mL	10% acetonitrile in water	pH 6
31 of 106	1 mg/mL	10% acetonitrile in water	pH 6
32 of 106	1 mg/mL	10% acetonitrile in water	pH 6
33 of 106	1 mg/mL	10% acetonitrile in water	pH 6
34 of 106	1 mg/mL	10% acetonitrile in water	pH 6
35 of 106	1 mg/mL	10% acetonitrile in water	pH 6
36 of 106	1 mg/mL	10% acetonitrile in water	pH 6
37 of 106	1 mg/mL	10% acetonitrile in water	pH 6
38 of 106	1 mg/mL	10% acetonitrile in water	pH 6
39 of 106	1 mg/mL	10% acetonitrile in water	pH 6
40 of 106	1 mg/mL	10% acetonitrile in water	pH 6
41 of 106	1 mg/mL	10% acetonitrile in water	pH 6
42 of 106	1 mg/mL	10% acetonitrile in water	pH 6
43 of 106	1 mg/mL	10% acetonitrile in water	pH 6
44 of 106	1 mg/mL	10% acetonitrile in water	pH 6
45 of 106	1 mg/mL	100 µL 0.1%TFA in acetonitrile and 900 µL 0.1%TFA in water	pH 3
46 of 106	1 mg/mL	100 µL 0.1%TFA in acetonitrile and 900 µL 0.1%TFA in water	pH 3
47 of 106	1 mg/mL	10% acetonitrile in water	pH 6
48 of 106	1 mg/mL	10% acetonitrile in water	pH 6
49 of 106	1 mg/mL	100 µL acetonitrile and 20 µL 1% ammonia in water	pH 8
50 of 106	1 mg/mL	10% acetonitrile in water	pH 6
51 of 106	1 mg/mL	10% acetonitrile in water	pH 6
52 of 106	1 mg/mL	10% acetonitrile in water	pH 6
53 of 106	1 mg/mL	100 µL acetonitrile and 40 µL 1% ammonia in water	pH 9
54 of 106	1 mg/mL	100 µL acetonitrile and 20 µL 1% ammonia in water	pH 8
55 of 106	1 mg/mL	10% acetonitrile in water	pH 6
56 of 106	1 mg/mL	100 µL acetonitrile and 20 µL 1% ammonia in water	pH 8
57 of 106	1 mg/mL	10% acetonitrile in water	pH 6
58 of 106	1 mg/mL	160 µL acetonitrile and 20 µL 1% ammonia in water	pH 8
59 of 106	1 mg/mL	10% acetonitrile in water	pH 6
60 of 106	1 mg/mL	160 µL acetonitrile and 20 µL 1% ammonia in water	pH 8
61 of 106	1 mg/mL	100 µL acetonitrile and 20 µL 1% ammonia in water	pH 8

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Table 2			
Peptide	**Solubility**	**Solvent**	**Reconstitution pH, if required**
62 of 106	1 mg/mL	10% acetonitrile in water	pH 6
63 of 106	1 mg/mL	10% acetonitrile in water	pH 6
64 of 106	1 mg/mL	100 µL 0.1%TFA in acetonitrile and 900 µL 0.1%TFA in water	pH 3
65 of 106	1 mg/mL	100 µL 0.1%TFA in acetonitrile and 900 µL 0.1%TFA in water	pH 3
66 of 106	1 mg/mL	10% acetonitrile in water	pH 6
67 of 106	1 mg/mL	10% acetonitrile in water	pH 6
68 of 106	1 mg/mL	10% acetonitrile in water	pH 6
69 of 106	1 mg/mL	10% acetonitrile in water	pH 6
70 of 106	1 mg/mL	100 µL acetonitrile and 20 µL 1% ammonia in water	pH 8
71 of 106	1 mg/mL	100 µL acetonitrile and 20 µL 1% ammonia in water	pH 8
72 of 106	1 mg/mL	10% acetonitrile in water	pH 6
73 of 106	1 mg/mL	10% acetonitrile in water	pH 6
74 of 106	1 mg/mL	10% acetonitrile in water	pH 6
75 of 106	1 mg/mL	100 µL 0.1%TFA in acetonitrile and 900 µL 0.1%TFA in water	pH 3
76 of 106	1 mg/mL	10% acetonitrile in water	pH 6
77 of 106	1 mg/mL	10% acetonitrile in water	pH 6
78 of 106	1 mg/mL	10% acetonitrile in water	pH 6
79 of 106	1 mg/mL	10% acetonitrile in water	pH 6
80 of 106	1 mg/mL	10% acetonitrile in water	pH 6
81 of 106	1 mg/mL	10% acetonitrile in water	pH 6
82 of 106	1 mg/mL	10% acetonitrile in water	pH 6
83 of 106	1 mg/mL	10% acetonitrile in water	pH 6
84 of 106	1 mg/mL	10% acetonitrile in water	pH 6
85 of 106	1 mg/mL	10% acetonitrile in water	pH 6
86 of 106	1 mg/mL	10% acetonitrile in water	pH 6
87 of 106	1 mg/mL	10% acetonitrile in water	pH 6
88 of 106	1 mg/mL	10% acetonitrile in water	pH 6
89 of 106	1 mg/mL	10% acetonitrile in water	pH 6
90 of 106	1 mg/mL	10% acetonitrile in water	pH 6
91 of 106	1 mg/mL	10% acetonitrile in water	pH 6
92 of 106	1 mg/mL	10% acetonitrile in water	pH 6
93 of 106	1 mg/mL	10% acetonitrile in water	pH 6
94 of 106	1 mg/mL	10% acetonitrile in water	pH 6
95 of 106	1 mg/mL	10% acetonitrile in water	pH 6
96 of 106	1 mg/mL	10% acetonitrile in water	pH 6
97 of 106	1 mg/mL	100 µL 0.1%TFA in acetonitrile and 900 µL 0.1%TFA in water	pH 3
98 of 106	1 mg/mL	100 µL 0.1%TFA in acetonitrile and 900 µL 0.1%TFA in water	pH 3
99 of 106	1 mg/mL	100 µL acetonitrile and 20 µL 1% ammonia in water	pH 8
100 of 106	1 mg/mL	100 µL acetonitrile and 40 µL 1% ammonia in water	pH 8
101 of 106	1 mg/mL	10% acetonitrile in water	pH 6
102 of 106	1 mg/mL	10% acetonitrile in water	pH 6
103 of 106	1 mg/mL	10% acetonitrile in water	pH 6
104 of 106	1 mg/mL	10% acetonitrile in water	pH 6
105 of 106	1 mg/mL	10% acetonitrile in water	pH 6
106 of 106	1 mg/mL	10% acetonitrile in water	pH 6

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