Peptide Array, Hepatitis C Virus, K3a/650, NS3 Protein

Catalog No. NR-4066

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Product Description:

The 97-peptide array spans the NS3 protein of hepatitis C virus, K3a/650 (genotype 3a; GenPept: BAA06044).[1] Peptides are 15- to 19-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, Hepatitis C Virus, K3a/650, NS3 Protein, NR-4066."

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. 4th ed. Washington, DC: U.S. Government Printing Office, 1999. HHS Publication No. (CDC) 93-8395. This text is available online at www.cdc.gov/od/ohs/biosfty/bmbl4/bmbl4toc.htm.

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References:

1. Yamada, N., et al. "Full-Length Sequence of the Genome of Hepatitis C Virus Type 3a: Comparative Study with Different Genotypes." J. Gen. Virol. 75 (1994): 3279–3284. PubMed: 7964640. GenPept: BAA06044.

Support Provided by NIAID

Table 1

Peptide	Length	Sequence
1 of 97	18	1 APITAYAQQTRGLLGTIV 18
2 of 97	18	7 AQQTRGLLGTIVTSLTGR 24
3 of 97	17	14 LGTIVTSLTGRDKNVVA 30
4 of 97	17	20 SLTGRDKNVVAGEVQVL 36
5 of 97	18	26 KNVVAGEVQVLSTATQTF 43
6 of 97	16	33 VQVLSTATQTFLGTTV 48
7 of 97	18	38 TATQTFLGTTVGGVMWTV 55
8 of 97	18	45 GTTVGGVMWTVYHGAGSR 62
9 of 97	18	52 MWTVYHGAGSRTLAGVKH 69
10 of 97	17	59 AGSRTLAGVKHPALQMY 75
11 of 97	18	65 AGVKHPALQMYTNVDQDL 82
12 of 97	16	72 LQMYTNVDQDLVGWPA 87
13 of 97	18	77 NVDQDLVGWPAPPGAKSL 94
14 of 97	19	84 GWPAPPGAKSLEPCTCGSA 102
15 of 97	18	92 KSLEPCTCGSADLYLVTR 109
16 of 97	18	99 CGSADLYLVTRDADVIPA 116
17 of 97	19	106 LVTRDADVIPARRRGDSTA 124
18 of 97	17	114 IPARRRGDSTASLLSPR 130
19 of 97	17	120 GDSTASLLSPRPLARLK 136
20 of 97	18	126 LLSPRPLARLKGSSGGPV 143
21 of 97	18	133 ARLKGSSGGPVMCPSGHV 150
22 of 97	18	140 GGPVMCPSGHVAGIFRAA 157
23 of 97	18	147 SGHVAGIFRAAVCTRGVA 164
24 of 97	17	154 FRAAVCTRGVAKALQFI 170
25 of 97	16	160 TRGVAKALQFIPVETL 175
26 of 97	16	165 KALQFIPVETLSTQAR 180
27 of 97	15	170 IPVETLSTQARSPSF 184
28 of 97	19	174 TLSTQARSPSFSDNSTPPA 192
29 of 97	18	182 PSFSDNSTPPAVPQSYQV 199
30 of 97	16	189 TPPAVPQSYQVGYLHA 204
31 of 97	17	194 PQSYQVGYLHAPTGSGK 210
32 of 97	18	200 GYLHAPTGSGKSTKVPAA 217
33 of 97	17	207 GSGKSTKVPAAYVAQGY 223
34 of 97	16	213 KVPAAYVAQGYNVLVL 228
35 of 97	17	218 YVAQGYNVLVLNPSVAA 234
36 of 97	18	224 NVLVLNPSVAATLGFGSF 241
37 of 97	18	231 SVAATLGFGSFMSRAYGI 248
38 of 97	16	238 FGSFMSRAYGIDPNIR 253
39 of 97	17	243 SRAYGIDPNIRTGNRTV 259
40 of 97	17	249 DPNIRTGNRTVTTGAKL 265
41 of 97	18	255 GNRTVTTGAKLTYSTYGK 272
42 of 97	18	262 GAKLTYSTYGKFLAGGGC 279

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Table 1		
Peptide	**Length**	**Sequence**
43 of 97	18	269 TYGKFLAGGGCSGGAYDV 286
44 of 97	18	276 GGGCSGGAYDVIICDDCH 293
45 of 97	18	283 AYDVIICDDCHAQDATSI 300
46 of 97	18	290 DDCHAQDATSILGIGTVL 307
47 of 97	17	297 ATSILGIGTVLDQAETA 313
48 of 97	18	303 IGTVLDQAETAGVRLTVL 320
49 of 97	18	310 AETAGVRLTVLATATPPG 327
50 of 97	17	317 LTVLATATPPGSITVPH 333
51 of 97	18	323 ATPPGSITVPHSNIEEVA 340
52 of 97	18	330 TVPHSNIEEVALGSEGEI 347
53 of 97	18	337 EEVALGSEGEIPFYGKAI 354
54 of 97	17	344 EGEIPFYGKAIPIACIK 360
55 of 97	18	350 YGKAIPIACIKGGRHLIF 367
56 of 97	17	357 ACIKGGRHLIFCHSKKK 373
57 of 97	18	363 RHLIFCHSKKKCDKMASK 380
58 of 97	17	370 SKKKCDKMASKLRGMGL 386
59 of 97	18	376 KMASKLRGMGLNAVAYYR 393
60 of 97	18	383 GMGLNAVAYYRGLDVSVI 400
61 of 97	18	390 AYYRGLDVSVIPTTGDVV 407
62 of 97	18	397 VSVIPTTGDVVVCATDAL 414
63 of 97	15	404 GDVVVCATDALMTGF 418
64 of 97	18	408 VCATDALMTGFTGDFDSV 425
65 of 97	18	415 MTGFTGDFDSVIDCNVAV 432
66 of 97	17	422 FDSVIDCNVAVEQYVDF 438
67 of 97	17	428 CNVAVEQYVDFSLDPTF 444
68 of 97	19	433 EQYVDFSLDPTFSIETCTA 451
69 of 97	18	441 DPTFSIETCTAPQDAVSR 458
70 of 97	17	448 TCTAPQDAVSRSQRRGR 464
71 of 97	17	454 DAVSRSQRRGRTGRGRL 470
72 of 97	18	459 SQRRGRTGRGRLGTYRYV 476
73 of 97	16	466 GRGRLGTYRYVTPGER 481
74 of 97	16	471 GTYRYVTPGERPSGMF 486
75 of 97	16	476 VTPGERPSGMFDSVVL 491
76 of 97	17	481 RPSGMFDSVVLCECYDA 497
77 of 97	18	487 DSVVLCECYDAGCSWYDL 504
78 of 97	18	494 CYDAGCSWYDLQPAETTV 511
79 of 97	17	501 WYDLQPAETTVRLRAYL 517
80 of 97	18	507 AETTVRLRAYLSTPGLPV 524
81 of 97	18	514 RAYLSTPGLPVCQDHLDL 531
82 of 97	16	521 GLPVCQDHLDLWESVF 536
83 of 97	18	525 CQDHLDLWESVFTGLTHI 542
84 of 97	16	532 WESVFTGLTHIDAHFL 547
85 of 97	17	537 TGLTHIDAHFLSQTKQA 553
86 of 97	18	543 DAHFLSQTKQAGLNFSYL 560
87 of 97	18	550 TKQAGLNFSYLTAYQATV 567
88 of 97	17	557 FSYLTAYQATVCARAQA 573
89 of 97	16	563 YQATVCARAQAPPPSW 578
90 of 97	18	568 CARAQAPPPSWDETWKCL 585
91 of 97	18	575 PPSWDETWKCLVRLKPTL 592
92 of 97	18	582 WKCLVRLKPTLHGPTPLL 599
93 of 97	17	589 KPTLHGPTPLLYRLGPV 605
94 of 97	17	595 PTPLLYRLGPVQNEICL 611
95 of 97	18	601 RLGPVQNEICLTHPITKY 618
96 of 97	18	608 EICLTHPITKYVMACMSA 625
97 of 97	17	615 ITKYVMACMSADLEVTT 631

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Table 2		
Peptide	**Solubility**	**Solvent**
1 of 97	1 mg/mL	70% acetonitrile in water
2 of 97	1 mg/mL	70% acetonitrile and 30% formic acid in water
3 of 97	1 mg/mL	6 M guanidine-HCl
4 of 97	1 mg/mL	70% acetonitrile in water
5 of 97	1 mg/mL	70% acetonitrile and 30% formic acid in water
6 of 97	1 mg/mL	70% acetonitrile and 30% formic acid in water
7 of 97	1 mg/mL	100% DMSO
8 of 97	1 mg/mL	70% acetonitrile and 30% formic acid in water
9 of 97	1 mg/mL	70% acetonitrile and 30% formic acid in water
10 of 97	1 mg/mL	70% acetonitrile in water
11 of 97	1 mg/mL	70% acetonitrile in water
12 of 97	1 mg/mL	70% acetonitrile and 30% formic acid in water
13 of 97	1 mg/mL	70% acetonitrile in water
14 of 97	1 mg/mL	70% acetonitrile in water
15 of 97	1 mg/mL	70% acetonitrile and 30% formic acid in water
16 of 97	1 mg/mL	70% acetonitrile in water
17 of 97	1 mg/mL	70% acetonitrile in water
18 of 97	1 mg/mL	70% acetonitrile in water
19 of 97	1 mg/mL	70% acetonitrile in water
20 of 97	1 mg/mL	70% acetonitrile in water
21 of 97	1 mg/mL	50% acetic acid in water
22 of 97	1 mg/mL	50% acetic acid in water
23 of 97	1 mg/mL	50% acetic acid in water
24 of 97	1 mg/mL	50% acetic acid in water
25 of 97	1 mg/mL	50% acetic acid in water
26 of 97	1 mg/mL	50% acetic acid in water
27 of 97	1 mg/mL	50% acetic acid in water
28 of 97	1 mg/mL	50% acetic acid in water
29 of 97	1 mg/mL	50% acetic acid in water
30 of 97	1 mg/mL	50% acetic acid in water
31 of 97	1 mg/mL	50% acetic acid in water
32 of 97	1 mg/mL	50% acetic acid in water
33 of 97	1 mg/mL	50% acetic acid in water
34 of 97	1 mg/mL	50% acetic acid in water
35 of 97	1 mg/mL	50% acetic acid in water
36 of 97	1 mg/mL	50% acetic acid in water
37 of 97	1 mg/mL	50% acetic acid in water
38 of 97	1 mg/mL	50% acetic acid in water
39 of 97	1 mg/mL	50% acetic acid in water
40 of 97	1 mg/mL	50% acetic acid in water
41 of 97	1 mg/mL	50% acetic acid in water
42 of 97	1 mg/mL	50% acetic acid in water
43 of 97	1 mg/mL	50% acetic acid in water
44 of 97	1 mg/mL	30% formic acid in water
45 of 97	1 mg/mL	50% acetic acid in water
46 of 97	1 mg/mL	50% acetic acid in water
47 of 97	1 mg/mL	100% DMSO
48 of 97	1 mg/mL	50% acetic acid in water
49 of 97	1 mg/mL	50% acetic acid in water

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Table 2		
Peptide	**Solubility**	**Solvent**
50 of 97	1 mg/mL	Water
51 of 97	1 mg/mL	50% acetic acid in water
52 of 97	1 mg/mL	50% acetic acid in water
53 of 97	1 mg/mL	50% acetic acid in water
54 of 97	1 mg/mL	50% acetic acid in water
55 of 97	1 mg/mL	50% acetic acid in water
56 of 97	1 mg/mL	50% acetic acid in water
57 of 97	1 mg/mL	50% acetic acid in water
58 of 97	1 mg/mL	50% acetic acid in water
59 of 97	1 mg/mL	50% acetic acid in water
60 of 97	1 mg/mL	50% acetic acid in water
61 of 97	1 mg/mL	50% acetic acid in water
62 of 97	1 mg/mL	50% acetic acid in water
63 of 97	1 mg/mL	50% acetic acid in water
64 of 97	1 mg/mL	50% acetic acid in water
65 of 97	1 mg/mL	50% acetic acid in water
66 of 97	1 mg/mL	100% DMSO
67 of 97	1 mg/mL	100% DMSO
68 of 97	1 mg/mL	50% acetic acid in water
69 of 97	1 mg/mL	50% acetic acid in water
70 of 97	1 mg/mL	50% acetic acid in water
71 of 97	1 mg/mL	50% acetic acid in water
72 of 97	1 mg/mL	50% acetic acid in water
73 of 97	1 mg/mL	50% acetic acid in water
74 of 97	1 mg/mL	50% acetic acid in water
75 of 97	1 mg/mL	50% acetic acid in water
76 of 97	1 mg/mL	50% acetic acid in water
77 of 97	1 mg/mL	100% DMSO
78 of 97	1 mg/mL	50% acetic acid in water
79 of 97	1 mg/mL	50% acetic acid in water
80 of 97	1 mg/mL	50% acetic acid in water
81 of 97	1 mg/mL	50% acetic acid in water
82 of 97	1 mg/mL	50% acetic acid in water
83 of 97	1 mg/mL	50% acetic acid in water
84 of 97	1 mg/mL	50% acetic acid in water
85 of 97	1 mg/mL	50% acetic acid in water
86 of 97	1 mg/mL	50% acetic acid in water
87 of 97	1 mg/mL	50% acetic acid in water
88 of 97	1 mg/mL	50% acetic acid in water
89 of 97	1 mg/mL	50% acetic acid in water
90 of 97	1 mg/mL	50% acetic acid in water
91 of 97	1 mg/mL	50% acetic acid in water
92 of 97	1 mg/mL	50% acetic acid in water
93 of 97	1 mg/mL	50% acetic acid in water
94 of 97	1 mg/mL	50% acetic acid in water
95 of 97	1 mg/mL	50% acetic acid in water
96 of 97	1 mg/mL	50% acetic acid in water
97 of 97	1 mg/mL	100% DMSO

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