Product Information Sheet for NR-4061

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

Catalog No. NR-4061

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Contributor:

NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH

Product Description:

The 29-peptide array spans the core protein of hepatitis C virus, K3a/650 (genotype 3a; GenPept: BAA06044).[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 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, Core Protein, NR-4061."

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 29	18	1 MSTLPKPQRKTKRNTIRR 18
2 of 29	18	7 PQRKTKRNTIRRPQDVKF 24
3 of 29	18	14 NTIRRPQDVKFPGGGVIY 31
4 of 29	17	21 DVKFPGGGVIYVGVYVL 37
5 of 29	18	27 GGVIYVGVYVLPRRGPRL 44
6 of 29	18	34 VYVLPRRGPRLGVRATRK 51
7 of 29	15	41 GPRLGVRATRKTSER 55
8 of 29	18	45 GVRATRKTSERSQPRGRR 62
9 of 29	18	52 TSERSQPRGRRKPIPKAR 69
10 of 29	18	59 RGRRKPIPKARRSEGRSW 76
11 of 29	18	66 PKARRSEGRSWAQPGYPW 83
12 of 29	18	73 GRSWAQPGYPWPLYGNEG 90
13 of 29	18	80 GYPWPLYGNEGCGWAGWL 97
14 of 29	18	87 GNEGCGWAGWLLSPRGSR 104
15 of 29	15	94 AGWLLSPRGSRPNWA 108
16 of 29	18	98 LSPRGSRPNWAPNDPRRR 115
17 of 29	18	105 PNWAPNDPRRRSRNLGKV 122
18 of 29	15	112 PRRRSRNLGKVIDTL 126
19 of 29	18	116 SRNLGKVIDTLTCGFADL 133
20 of 29	18	123 IDTLTCGFADLMGYIPLV 140
21 of 29	18	130 FADLMGYIPLVGAPLGGA 147
22 of 29	17	137 IPLVGAPLGGAARALAH 153
23 of 29	16	143 PLGGAARALAHGVRAL 158
24 of 29	18	148 ARALAHGVRALEDGINFA 165
25 of 29	15	155 VRALEDGINFATGNL 169
26 of 29	18	159 EDGINFATGNLPGCSFSI 176
27 of 29	17	166 TGNLPGCSFSIFLLALF 182
28 of 29	18	172 CSFSIFLLALFSCLIHPA 189
29 of 29	13	179 LALFSCLIHPAAS 191

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Table 2		
Peptide	**Solubility**	**Solvent**
1 of 29	1 mg/mL	Water
2 of 29	1 mg/mL	Water
3 of 29	1 mg/mL	6 M guanidine-HCl
4 of 29	1 mg/mL	100% DMSO
5 of 29	1 mg/mL	100% DMSO
6 of 29	1 mg/mL	6 M guanidine-HCl
7 of 29	1 mg/mL	Water
8 of 29	1 mg/mL	6 M guanidine-HCl
9 of 29	1 mg/mL	Water
10 of 29	1 mg/mL	6 M guanidine-HCl
11 of 29	1 mg/mL	Water
12 of 29	1 mg/mL	6 M guanidine-HCl
13 of 29	1 mg/mL	100% DMSO
14 of 29	1 mg/mL	100% DMSO
15 of 29	1 mg/mL	6 M guanidine-HCl
16 of 29	1 mg/mL	Water
17 of 29	1 mg/mL	Water
18 of 29	1 mg/mL	Water
19 of 29	1 mg/mL	100% DMSO
20 of 29	1 mg/mL	100% DMSO
21 of 29	1 mg/mL	100% DMSO
22 of 29	1 mg/mL	6 M guanidine-HCl
23 of 29	1 mg/mL	6 M guanidine-HCl
24 of 29	1 mg/mL	6 M guanidine-HCl
25 of 29	1 mg/mL	6 M guanidine-HCl
26 of 29	1 mg/mL	70% acetonitrile in water
27 of 29	1 mg/mL	100% DMSO
28 of 29	1 mg/mL	100% DMSO
29 of 29	1 mg/mL	100% DMSO

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