

Peptide Array, Hepatitis C Virus, J4, Core Protein

Catalog No. NR-3737

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Contributor:

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Product Description:

The 28-peptide array spans the core protein of hepatitis C virus, J4 (genotype 1b; GenPept: BAA01583).¹ Peptides are 13- 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 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, Hepatitis C Virus, J4, Core Protein, NR-3737.”

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. Okamoto, H., et al. "Genetic Drift of Hepatitis C Virus During an 8.2-Year Infection in a Chimpanzee: Variability and Stability." *Virology* 190 (1992): 894–899. PubMed: 1325713. GenPept: BAA01583.

2. Okamoto, H., et al. "Nucleotide Sequence of the Genomic RNA of Hepatitis C Virus Isolated from a Human Carrier: Comparison with Reported Isolates for Conserved and Divergent Regions." *J. Gen. Virol.* 72 (1991): 2697–2704. PubMed: 1658196.
3. Hotta, H., et al. "Analysis of the Core and E1 Envelope Region Sequences of a Novel Variant of Hepatitis C Virus Obtained in Indonesia." *Arch. Virol.* 136 (1994): 53–62. PubMed: 7545932.

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Peptide	Length	Sequence
1 of 28	18	1 MSTNPKPQRKTKRNTNRR 18
2 of 28	18	7 PQRKTKRNTNRRPQDVKF 24
3 of 28	18	14 NTNRRPQDVKFPGGGQIV 31
4 of 28	17	21 DVKFPGGGQIVGGVYLL 37
5 of 28	18	27 GGQIVGGVYLLPRRGPR 44
6 of 28	18	34 VYLLPRRGPRLGVRATRK 51
7 of 28	15	41 GPRLGVRATRKASER 55
8 of 28	18	45 GVRATRKASERSQPRGRR 62
9 of 28	18	52 ASERSQPRGRRQPIPKAR 69
10 of 28	18	59 RRRQPIPKARRPEGRAW 76
11 of 28	18	66 PKARRPEGRAWAQPGYPW 83
12 of 28	19	73 GRAWAQPGYPWPLYGNEGL 91
13 of 28	18	81 YPWPLYGNEGLGWAGWLL 98
14 of 28	17	88 NEGLGWAGWLLSPRGSR 104
15 of 28	18	94 AGWLLSPRGSRPSWGPTD 111
16 of 28	17	101 RGSRPSWGPTDPRRRSR 117
17 of 28	17	107 WGPTDPRRRSRNLGKVI 123
18 of 28	18	113 RRRSRNLGKVIDTLTCGF 130
19 of 28	18	120 GKVIDTLTCGFADLMGYI 137
20 of 28	18	127 TCGFADLMGYIPLVGAPL 144
21 of 28	18	134 MGYIPLVGAPLGAARAL 151
22 of 28	18	141 GAPLGAARALAHGVRVL 158
23 of 28	18	148 ARALAHGVRVLEDGVNYA 165
24 of 28	15	155 VRVLEDGVNYATGNL 169
25 of 28	18	159 EDGVNYATGNLPGCSFSI 176
26 of 28	17	166 TGNLPGCSFSIFLLALL 182
27 of 28	18	172 CSFSIFLLALLSCLTIPA 189
28 of 28	13	179 LALLSCLTIPASA 191

Table 2		
Peptide	Solubility	Solvent
1 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
2 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
3 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
4 of 28	1 mg/mL	70% acetonitrile in water
5 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
6 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
7 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
8 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
9 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
10 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
11 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
12 of 28	1 mg/mL	70% acetonitrile in water
13 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
14 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
15 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
16 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
17 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
18 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
19 of 28	1 mg/mL	100% DMSO
20 of 28	1 mg/mL	50% acetic acid in water
21 of 28	1 mg/mL	50% acetic acid in water
22 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
23 of 28	1 mg/mL	0.05% trifluoroacetic acid in water
24 of 28	1 mg/mL	70% acetonitrile in water
25 of 28	1 mg/mL	70% acetonitrile in water
26 of 28	1 mg/mL	100% DMSO
27 of 28	1 mg/mL	100% DMSO
28 of 28	1 mg/mL	100% DMSO