

Peptide Array, Hepatitis C Virus, H77, E1 Protein

Catalog No. NR-3748

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Contributor:

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

Manufacturer:

Bio-Synthesis, Inc.

Product Description:

The 29-peptide array spans the E1 protein of hepatitis C virus, H77 (genotype 1a; GenPept: AAB67036).¹ Peptides are 15- 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 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, H77, E1 Protein, NR-3748."

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. Yanagi, M., et al. "Transcripts from a Single Full-length cDNA Clone of Hepatitis C Virus Are Infectious When Directly Transfected into the Liver of a Chimpanzee." *Proc. Natl. Acad. Sci. U. S. A.* 94 (1997): 8738-8743. PubMed: 9238047. GenPept: AAB67036.

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Table 1		
Peptide	Length	Sequence
1 of 29	18	1 YQVRNSSGLYHVTNDCPN 18
2 of 29	18	8 GLYHVTNDCPNSSIVYEA 25
3 of 29	17	15 DCPNSSIVYEAADAILH 31
4 of 29	16	21 IVYEAADAILHTPGCV 36
5 of 29	15	26 ADAILHTPGCVPCVR 40
6 of 29	17	30 LHTPGCVPCVREGNASR 46
7 of 29	16	36 VPCVREGNASRCWVAV 51
8 of 29	18	41 EGNASRCWVAVTPTVATR 58
9 of 29	15	48 WVAVTPTVATRDKGL 62
10 of 29	18	52 TPTVATRDGKLPTTQLRR 69
11 of 29	17	59 DGKLPTTQLRRHIDLLV 75
12 of 29	16	65 TQLRRHIDLLVGSATL 80
13 of 29	17	70 HIDLLVGSATLCSALYV 86
14 of 29	18	76 GSATLCSALYVGDLCGSV 93
15 of 29	18	83 ALYVGDLCGSVFLVGQLF 100
16 of 29	18	90 CGSVFLVGQLFTFSPRRH 107
17 of 29	18	97 GQLFTFSPRRHWTTQDCN 114
18 of 29	18	104 PRRHWTTQDCNCSIYPGH 121
19 of 29	18	110 TQDCNCSIYPGHITGHRM 127
20 of 29	17	117 IYPGHITGHRMAWDMMM 133
21 of 29	18	123 TGHRMAWDMMMNWSPTAA 140
22 of 29	18	130 DMMMNWSPTAALVVAQLL 147
23 of 29	18	137 PTAALVVAQLLRIPQAIM 154
24 of 29	18	144 AQLLRIPQAIMDMIAGAH 161
25 of 29	17	150 PQAIMDMIAGAHWGVLA 166
26 of 29	18	156 MIAGAHWGVLAGIAYFSM 173
27 of 29	18	163 GVLGIAYFSMVGNWAKV 180
28 of 29	18	170 YFSMVGNWAKVLVLLLF 187
29 of 29	16	177 WAKVLVLLLFAGVDA 192

Table 2

Peptide	Solubility	Solvent
1 of 29	1 mg/mL	0.05% trifluoroacetic acid in water
2 of 29	1 mg/mL	100% DMSO
3 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
4 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
5 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
6 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
7 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
8 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
9 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
10 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
11 of 29	1 mg/mL	0.05% trifluoroacetic acid in water
12 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
13 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
14 of 29	1 mg/mL	100% DMSO
15 of 29	1 mg/mL	100% DMSO
16 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
17 of 29	1 mg/mL	0.05% trifluoroacetic acid in water
18 of 29	1 mg/mL	0.05% trifluoroacetic acid in water
19 of 29	1 mg/mL	0.05% trifluoroacetic acid in water
20 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
21 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
22 of 29	1 mg/mL	100% DMSO
23 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
24 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
25 of 29	1 mg/mL	70% acetonitrile and 0.05% trifluoroacetic acid in water
26 of 29	1 mg/mL	100% DMSO
27 of 29	1 mg/mL	100% DMSO
28 of 29	1 mg/mL	100% DMSO
29 of 29	1 mg/mL	100% DMSO