# Peptide Array, Hepatitis C Virus, J4, NS3 Protein

## Catalog No. NR-3742

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## For research use only. Not for human use.

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### Product Description:

The 98-peptide array spans the NS3 protein of hepatitis C virus, J4 (genotype 1b; GenPept: BAA01583).[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, J4, NS3 Protein, NR-3742."

### 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.



Support Provided by NIAID

**Table 1**

| Peptide | Length | Sequence |
|---|---|---|
| 1 of 98 | 18 | 1 APITAYSQQTRGVLGCII 18 |
| 2 of 98 | 18 | 7 SQQTRGVLGCIITSLTGR 24 |
| 3 of 98 | 16 | 14 LGCIITSLTGRDKNQV 29 |
| 4 of 98 | 18 | 19 TSLTGRDKNQVEGEVQVV 36 |
| 5 of 98 | 18 | 26 KNQVEGEVQVVSTATQSF 43 |
| 6 of 98 | 16 | 33 VQVVSTATQSFLATCI 48 |
| 7 of 98 | 18 | 38 TATQSFLATCINGVCWTV 55 |
| 8 of 98 | 18 | 45 ATCINGVCWTVYHGAGSK 62 |
| 9 of 98 | 17 | 52 CWTVYHGAGSKTLAGPK 68 |
| 10 of 98 | 18 | 58 GAGSKTLAGPKGPITQMY 75 |
| 11 of 98 | 18 | 65 AGPKGPITQMYTNVDLDL 82 |
| 12 of 98 | 16 | 72 TQMYTNVDLDLVGWQA 87 |
| 13 of 98 | 18 | 77 NVDLDLVGWQAPPGARSM 94 |
| 14 of 98 | 18 | 84 GWQAPPGARSMTPCSCGS 101 |
| 15 of 98 | 17 | 91 ARSMTPCSCGSSDLYLV 107 |
| 16 of 98 | 18 | 97 CSCGSSDLYLVTRHADVI 114 |
| 17 of 98 | 16 | 104 LYLVTRHADVIPVRRR 119 |
| 18 of 98 | 18 | 109 RHADVIPVRRRGDSRGSL 126 |
| 19 of 98 | 17 | 116 VRRRGDSRGSLLSPRPV 132 |
| 20 of 98 | 15 | 122 SRGSLLSPRPVSYLK 136 |
| 21 of 98 | 18 | 126 LLSPRPVSYLKGSSGGPL 143 |
| 22 of 98 | 18 | 133 SYLKGSSGGPLLCPSGHV 150 |
| 23 of 98 | 18 | 140 GGPLLCPSGHVVGVFRAA 157 |
| 24 of 98 | 18 | 147 SGHVVGVFRAAVCTRGVA 164 |
| 25 of 98 | 17 | 154 FRAAVCTRGVAKAVDFI 170 |

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| Table 1 | | |
|---|---|---|
| **Peptide** | **Length** | **Sequence** |
| 27 of 98 | 16 | 165 KAVDFIPVESMETTMR 180 |
| 28 of 98 | 15 | 170 IPVESMETTMRSPVF 184 |
| 29 of 98 | 19 | 174 SMETTMRSPVFTDNSTPPA 192 |
| 30 of 98 | 18 | 182 PVFTDNSTPPAVPQTFQV 199 |
| 31 of 98 | 16 | 189 TPPAVPQTFQVAHLHA 204 |
| 32 of 98 | 17 | 194 PQTFQVAHLHAPTGSGK 210 |
| 33 of 98 | 18 | 200 AHLHAPTGSGKSTKVPAA 217 |
| 34 of 98 | 18 | 207 GSGKSTKVPAAYAAQGYK 224 |
| 35 of 98 | 15 | 214 VPAAYAAQGYKVLVL 228 |
| 36 of 98 | 17 | 218 YAAQGYKVLVLNPSVAA 234 |
| 37 of 98 | 18 | 224 KVLVLNPSVAATLGFGAY 241 |
| 38 of 98 | 18 | 231 SVAATLGFGAYMSKAHGI 248 |
| 39 of 98 | 16 | 238 FGAYMSKAHGIDPNIR 253 |
| 40 of 98 | 17 | 243 SKAHGIDPNIRTGVRTI 259 |
| 41 of 98 | 17 | 249 DPNIRTGVRTITTGGSI 265 |
| 42 of 98 | 18 | 255 GVRTITTGGSITYSTYGK 272 |
| 43 of 98 | 18 | 262 GGSITYSTYGKFLADGGC 279 |
| 44 of 98 | 18 | 269 TYGKFLADGGCSGGAYDI 286 |
| 45 of 98 | 18 | 276 DGGCSGGAYDIIICDECH 293 |
| 46 of 98 | 18 | 283 AYDIIICDECHSTDSTTI 300 |
| 47 of 98 | 18 | 290 DECHSTDSTTILGIGTVL 307 |
| 48 of 98 | 17 | 297 STTILGIGTVLDQAETA 313 |
| 49 of 98 | 18 | 303 IGTVLDQAETAGARLVVL 320 |
| 50 of 98 | 18 | 310 AETAGARLVVLATATPPG 327 |
| 51 of 98 | 17 | 317 LVVLATATPPGSVTVPH 333 |
| 52 of 98 | 17 | 323 ATPPGSVTVPHPNIEEI 339 |
| 53 of 98 | 19 | 329 VTVPHPNIEEIGLSNNGEI 347 |
| 54 of 98 | 18 | 337 EEIGLSNNGEIPFYGKAI 354 |
| 55 of 98 | 17 | 344 NGEIPFYGKAIPIEAIK 360 |
| 56 of 98 | 18 | 350 YGKAIPIEAIKGGRHLIF 367 |
| 57 of 98 | 17 | 357 EAIKGGRHLIFCHSKKK 373 |
| 58 of 98 | 18 | 363 RHLIFCHSKKKCDELAAK 380 |
| 59 of 98 | 17 | 370 SKKKCDELAAKLTGLGL 386 |
| 60 of 98 | 18 | 376 ELAAKLTGLGLNAVAYYR 393 |
| 61 of 98 | 18 | 383 GLGLNAVAYYRGLDVSVI 400 |
| 62 of 98 | 18 | 390 AYYRGLDVSVIPPIGDVV 407 |
| 63 of 98 | 18 | 397 VSVIPPIGDVVVVATDAL 414 |
| 64 of 98 | 15 | 404 GDVVVVATDALMTGF 418 |
| 65 of 98 | 18 | 408 VVATDALMTGFTGDFDSV 425 |

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| Table 1 | | |
|---|---|---|
| **Peptide** | **Length** | **Sequence** |
| 66 of 98 | 18 | 415 MTGFTGDFDSVIDCNTCV 432 |
| 67 of 98 | 17 | 422 FDSVIDCNTCVTQTVDF 438 |
| 68 of 98 | 17 | 428 CNTCVTQTVDFSLDPTF 444 |
| 69 of 98 | 19 | 433 TQTVDFSLDPTFTIETTTV 451 |
| 70 of 98 | 18 | 441 DPTFTIETTTVPQDAVSR 458 |
| 71 of 98 | 17 | 448 TTTVPQDAVSRSQRRGR 464 |
| 72 of 98 | 16 | 454 DAVSRSQRRGRTGRGR 469 |
| 73 of 98 | 18 | 459 SQRRGRTGRGRSGIYRFV 476 |
| 74 of 98 | 16 | 466 GRGRSGIYRFVTPGER 481 |
| 75 of 98 | 16 | 471 GIYRFVTPGERPSGMF 486 |
| 76 of 98 | 16 | 476 VTPGERPSGMFDSSVL 491 |
| 77 of 98 | 17 | 481 RPSGMFDSSVLCECYDA 497 |
| 78 of 98 | 18 | 487 DSSVLCECYDAGCAWYEL 504 |
| 79 of 98 | 18 | 494 CYDAGCAWYELTPAETSV 511 |
| 80 of 98 | 17 | 501 WYELTPAETSVRLRAYL 517 |
| 81 of 98 | 18 | 507 AETSVRLRAYLNTPGLPV 524 |
| 82 of 98 | 18 | 514 RAYLNTPGLPVCQDHLEF 531 |
| 83 of 98 | 16 | 521 GLPVCQDHLEFWESVF 536 |
| 84 of 98 | 18 | 525 CQDHLEFWESVFTGLTHI 542 |
| 85 of 98 | 16 | 532 WESVFTGLTHIDAHFL 547 |
| 86 of 98 | 17 | 537 TGLTHIDAHFLSQTKQA 553 |
| 87 of 98 | 18 | 543 DAHFLSQTKQAGDNFPYL 560 |
| 88 of 98 | 18 | 550 TKQAGDNFPYLVAYQATV 567 |
| 89 of 98 | 17 | 557 FPYLVAYQATVCARAQA 573 |
| 90 of 98 | 16 | 563 YQATVCARAQAPPPSW 578 |
| 91 of 98 | 18 | 568 CARAQAPPPSWDQMWKCL 585 |
| 92 of 98 | 18 | 575 PPSWDQMWKCLIRLKPTL 592 |
| 93 of 98 | 18 | 582 WKCLIRLKPTLHGPTPLL 599 |
| 94 of 98 | 17 | 589 KPTLHGPTPLLYRLGAV 605 |
| 95 of 98 | 17 | 595 PTPLLYRLGAVQNEVIL 611 |
| 96 of 98 | 18 | 601 RLGAVQNEVILTHPITKY 618 |
| 97 of 98 | 18 | 608 EVILTHPITKYIMACMSA 625 |
| 98 of 98 | 17 | 615 ITKYIMACMSADLEVVT 631 |

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| Table 2 | | |
|---|---|---|
| **Peptide** | **Solubility** | **Solvent** |
| 1 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 2 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 3 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 4 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 5 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 6 of 98 | 1 mg/mL | 100% DMSO |
| 7 of 98 | 1 mg/mL | 50% acetic acid in water |
| 8 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 9 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 10 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 11 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 12 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 13 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 14 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 15 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 16 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 17 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 18 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 19 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 20 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 21 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 22 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 23 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 24 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 25 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 26 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 27 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 28 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 29 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 30 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 31 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 32 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 33 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 34 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 35 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 36 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 37 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 38 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 39 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 40 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 41 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 42 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 43 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 44 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 45 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 46 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 47 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 48 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |

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| Table 2 | | |
|---|---|---|
| **Peptide** | **Solubility** | **Solvent** |
| 49 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 50 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 51 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 52 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 53 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 54 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 55 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 56 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 57 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 58 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 59 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 60 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 61 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 62 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 63 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 64 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 65 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 66 of 98 | 1 mg/mL | 100% DMSO |
| 67 of 98 | 1 mg/mL | 100% DMSO |
| 68 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 69 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 70 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 71 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 72 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 73 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 74 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 75 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 76 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 77 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 78 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 79 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 80 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 81 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 82 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 83 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 84 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 85 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 86 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 87 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 88 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 89 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 90 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |
| 91 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 92 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 93 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 94 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 95 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 96 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 97 of 98 | 1 mg/mL | 70% acetonitrile in water |
| 98 of 98 | 1 mg/mL | 70% acetonitrile and 30% formic acid in water |

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