Product Information Sheet for NR-9308

Peptide Arrays, Peptides for MHC Class I Restricted Epitopes of Influenza A Virus, Human Herpesvirus 4 (HHV-4), and Human Herpesvirus 5 (HHV-5) Proteins

Catalog No. NR-9308

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Contributor:
BEI Resources

Manufacturer:
New England Peptide, LLC

Product Description:
NR-9308 contains 23 peptide arrays which consist of major histocompatability complex (MHC) class I restricted epitopes of influenza A virus, HHV-4, and HHV-5 proteins presented by 11 HLA-A and HLA-B alleles: HLA-A1, two peptides (influenza A virus PB1 and NP); HLA-A2, three peptides (HHV-4 BMLF1; influenza A virus Matrix 1; and HHV-5 pp65); HLA-A3, three peptides (influenza A virus NP; HHV-4 BRLF1 and EBNA3A); HLA-A11, two peptides (HHV-4 EBNA3B and BRLF1); HLA-A24, one peptide (HHV-4 BRLF1); HLA-A68, one peptide (influenza A virus NP); HLA-B7, two peptides (HHV-5 pp65 and HHV-4 EBNA3A); HLA-B8, four peptides (HHV-4 EBNA3A in three locations and BZLF1); HLA-B27, two peptides (HHV-4 EBNA3C and influenza A virus NP); HLA-B35, one peptide (HHV-4 EBNA3A); HLA-B44, two peptides (HHV-4 EBNA3C and HHV-5 pp65). Peptides are 8- to 10-mers. Please see Table 1 for 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 -20ºC 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). Peptides can almost always be dissolved in 100% DMSO.

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 or 1 mL of 100% DMSO. The DMSO can be slowly diluted to a lower concentration 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 -20ºC or colder. For long-term storage, peptides should be re-lyophilized and stored at -20ºC or colder. If long-term storage in solution is unavoidable, peptide solutions should be buffered to pH 5–6, aliquoted and stored at -20ºC or colder. Freeze-thaw cycles should be avoided.

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Peptide Arrays, Peptides for MHC Class I Restricted Epitopes of Influenza A Virus, Human Herpesvirus 4 (HHV-4), and Human Herpesvirus 5 (HHV-5) Proteins, NR-9308."

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, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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BEI Resources
www.beiresources.org
E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898

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References:

1. Currier, J. R., et al. "A Panel of MHC Class 1 Restricted Viral Peptides for Use as a Quality Control for Vaccine Trial ELISPOT Assays." J. Immunol. Methods 260 (2002): 157–172. PubMed: 11792386.

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Table 1

NRC- #	Peptide Epitope	Virus	Protein	Length	Sequence
NRC-1292	HLA A1	Influenza A Virus	PB1	9	591-VSDGGPNLY-599
NRC-1293	HLA A1	Influenza A Virus	NP	9	44-CTELKLSDY-52
NRC-1294	HLA A2	HHV-4	BMLF1	9	259-GLCTLVAML-267
NRC-1295	HLA A2	Influenza A Virus	Matrix 1	9	58-GILGFVFTL-66
NRC-1296	HLA A2	HHV-5	pp65	9	495-NLVPMVATV-503
NRC-1297	HLA A3	Influenza A Virus	NP	9	265-ILRGSVAHK-273
NRC-1298	HLA A3	HHV-4	BRLF1	9	148-RVRAYTYSK-156
NRC-1299	HLA A3	HHV-4	EBNA3A	9	603-RLRAEAQVK-611
NRC-1300	HLA A11	HHV-4	EBNA3B	9	416-IVTDFSVIK-424
NRC-1301	HLA A11	HHV-4	BRLF1	9	134-ATIGTAMYK-143
NRC-1302	HLA A24	HHV-4	BRLF1	10	28-DYCNVLNKEF-37
NRC-1303	HLA A68	Influenza A Virus	NP	9	91-KTGGPIYKR-99
NRC-1304	HLA B7	HHV-5	pp65	10	417-TPRVTGGGAM-426
NRC-1305	HLA B7	HHV-4	EBNA3A	9	379-RPPIFIRRL-387
NRC-1306	HLA B8	HHV-4	EBNA3A	9	158-QAKWRLQTL-166
NRC-1307	HLA B8	HHV-4	EBNA3A	9	325-FLRGRAYGL-333
NRC-1308	HLA B8	HHV-4	BZLF1	8	190-RAKFKQLL-197
NRC-1309	HLA B8	Influenza A Virus	NP	9	380-ELRSRYWAI-388
NRC-1310	HLA B27	HHV-4	EBNA3C	9	258-RRIYDLIEL-266
NRC-1311	HLA B27	Influenza A Virus	NP	9	383-SRYWAIRTR-391
NRC-1312	HLA B35	HHV-4	EBNA3A	9	458-YPLHEQHGM-466
NRC-1313	HLA B44	HHV-4	EBNA3C	10	281-EENLLDFVRF-290
NRC-1314	HLA B44	HHV-5	pp65	10	512-EFFWDANDIY-521

BEI Resources
www.beiresources.org
E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898

Table 2		
Protein	**Solubility**	**Solvent**
NRC-1292	1 mg/mL	50% acetonitrile in water
NRC-1293	1 mg/mL	50% acetonitrile in water
NRC-1294	1 mg/mL	50% acetonitrile in water
NRC-1295	1 mg/mL	50% acetonitrile in water
NRC-1296	1 mg/mL	50% acetonitrile in water
NRC-1297	1 mg/mL	50% acetonitrile in water
NRC-1298	1 mg/mL	50% acetonitrile in water
NRC-1299	1 mg/mL	50% acetonitrile in water
NRC-1300	1 mg/mL	50% acetonitrile in water
NRC-1301	1 mg/mL	50% acetonitrile in water
NRC-1302	1 mg/mL	50% acetonitrile in water
NRC-1303	1 mg/mL	50% acetonitrile in water
NRC-1304	1 mg/mL	50% acetonitrile in water
NRC-1305	1 mg/mL	50% acetonitrile in water
NRC-1306	1 mg/mL	50% acetonitrile in water
NRC-1307	1 mg/mL	50% acetonitrile in water
NRC-1308	1 mg/mL	50% acetonitrile in water
NRC-1309	1 mg/mL	50% acetonitrile in water
NRC-1310	1 mg/mL	50% acetonitrile in water
NRC-1311	1 mg/mL	50% acetonitrile in water
NRC-1312	1 mg/mL	50% acetonitrile in water
NRC-1313	1 mg/mL	50% acetonitrile in water
NRC-1314	1 mg/mL	50% acetonitrile in water

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E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898