

Streptococcus pneumoniae* Family 1, Clade 2 Pneumococcal Surface Protein A (PspA UAB055) with C-Terminal Histidine Tag, Recombinant from *Escherichia coli

Catalog No. NR-51403

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Contributor:

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Manufacturer:

BEI Resources

Product Description:

NR-51403 is a recombinant form of the pneumococcal surface protein A (PspA UAB055) from *Streptococcus pneumoniae* (*S. pneumoniae*) Family 1, Clade 2 strain Rx1 (GenBank: [M74122](#)).^{1,2,3,4} The recombinant PspA UAB055 containing a C-terminal hexahistidine tag was expressed in *Escherichia coli* BL21(DE3) pLysS and purified by affinity chromatography. NR-51403 contains 311 residues, lacks the signal sequence and has a theoretical molecular of 34.765 kDa. The predicted protein sequence is shown in Figure 1.

Material Provided:

Each vial contains 250 µL of purified recombinant protein in PBS, pH 7.4. The concentration, expressed as micrograms per milliliter, is shown on the Certificate of Analysis.

Packaging/Storage:

Purified recombinant PspA UAB055 protein was packaged aseptically, in screw-capped plastic cryovials. This product is provided frozen on dry ice and should be stored at -80°C or colder immediately upon arrival.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Streptococcus pneumoniae* Family 1, Clade 2 Pneumococcal Surface Protein A (PspA UAB055) with C-Terminal Histidine Tag, Recombinant from *Escherichia coli*, NR-51403."

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](#). 6th ed. Washington, DC: U.S. Government Printing Office, 2020; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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References:

1. Yother, J. and D. E. Briles. "Structural Properties and Evolutionary Relationships of PspA, a Surface Protein of *Streptococcus pneumoniae*, as Revealed by Sequence Analysis." *J. Bacteriol.* 174 (1992): 601-609. PubMed: 1729249.
2. Hollingshead, S. K., R. Becker and D. E. Briles. "Diversity of PspA: Mosaic Genes and Evidence for Past Recombination in *Streptococcus pneumoniae*." *Infect. Immun.* 68 (2000): 5889-5900. PubMed: 10992499.
3. Briles, D. E., et al. "Immunization of Humans with Recombinant Pneumococcal Surface Protein A (rPspA) Elicits Antibodies that Passively Protect Mice from Fatal Infection with *Streptococcus pneumoniae* Bearing Heterologous PspA." *J. Infect. Dis.* 182 (2000): 1694-1701. PubMed: 11069242.
4. Briles, D. E., et al. "The Potential to Use PspA and Other Pneumococcal Proteins to Elicit Protection Against Pneumococcal Infection." *Vaccine* 18 (2000): 1707-1711. PubMed: 10689153.

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Figure 1: Predicted Protein Sequence

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1    MEESPVASQS KAEKDYDAAK KDAKNAKKAV EDAQKALDDA KAAQKKYDED
51   QKKTEEKAAL EKAASEEMDK AVAAVQQAYL AYQQATDKAA KDAADKMIDE
101  AKKREEEAKT KFNTVDRAMVV PEPEQLAETK KKSEEAKQKA PELTKKLEEA
151  KAKLEEAEEK ATEAKQKVDA EEVAPQAKIA ELENQVHRLE QELKEIDESE
201  SEDYAKEGFR APLQSKLDAK KAKLSKLEEL SDKIDELDAE IAKLEDQLKA
251  AEENNNVEDY FKEGLEKTIA AKKAELEKTE ADLKKAVNEP EKPAPAPETP
301  APELEHHHHH H
  
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Plasmid-derived amino acids – Residues 1, 304, 305

PspA Protein – Residues 2 to 303 [represents amino acid residues 2 to 303 of the native PspA protein (GenBank: [M74122](#))]

Hexa-Histidine Tag – Residues 306 to 311