Streptococcus pneumoniae Family 2, Clade 3 Pneumococcal Surface Protein A (PspA UAB099) with C-Terminal Histidine Tag, Recombinant from *Escherichia coli*

Catalog No. NR-51404

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For research use only. Not for use in humans.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

NR-51404 is a recombinant form of the pneumococcal surface protein A (PspA UAB099; GenPept: WP_054391474) from *Streptococcus pneumoniae (S. pneumoniae)* Family 2, Clade 3.[1,2,3,4] The recombinant PspA UAB099 containing a C-terminal hexa-histidine tag was expressed in *Escherichia coli* BL21(DE3) pLysS and purified by nickel affinity chromatography. NR-51404 contains 419 residues, lacks the signal sequence and has a theoretical molecular weight of approximately 46.71 kDa. The predicted protein sequence is shown in Figure 1.

Material Provided:

Each vial contains 330 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 UAB099 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 2, Clade 3 Pneumococcal Surface Protein A (PspA UAB099) with C-Terminal Histidine Tag, Recombinant from *Escherichia coli*, NR-51404."

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 KAEKDYDAAV KKSEAAKKHY EEAKKKAEDA QKKYDEDQKK
51   TEAKAEKERK ASEKIAEATK EVQQAYLAYL QASNESQRKE ADKKIKEATQ
101  RKDEAEAAFA TIRTTIVVPE PSELAETKKK AEEAKAEEKV AKRKYDYATL
151  KLALAKKEVE AKELEIEKLQ YEISTLEQEV ATAQHQVDNL KKLLAGADPD
201  DGTEVIEAKL KKGEAELNAK QAELAKKQTE LEKLLDSLDP EGKTQDELDK
251  EAEEAELDKK ADELQNKVAD LEKEISNLEI LLGGADPEDD TAALQNKLAA
301  KKAELAKKQT ELEKLLDSLD PEGKTQDELD KEAEEAELDK KADELQNKVA
351  DLEKEISNLE ILLGGADSED DTAALQNKLA TKKAELEKTQ KELDAALNEL
401  GPDGDEEETP RLEHHHHHH
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Plasmid-derived amino acids – Residues 1, 411 to 413
PspA Protein – Residues 2 to 410 [represents amino acid residues 32 to 440 of the native PspA protein (GenPept: WP_054391474)]
Hexa-Histidine Tag – Residues 414 to 419

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