

Bacillus anthracis* Exosporium Basal Layer Protein BxpB (Locus_Tag: BA_1237) with N-terminal Histidine Tag, Recombinant from *Escherichia coli

Catalog No. NR-12132

This reagent is the tangible property of the U.S. Government.

For research use only. Not for human use.

Contributor and Manufacturer:

Alison D. O'Brien, Ph.D., Chairperson, and James F. Sinclair, Ph.D., Laboratory Supervisor, Department of Microbiology and Immunology, Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA

Product Description:

NR-12132 is a recombinant form of the *Bacillus anthracis* (*B. anthracis*) protein BxpB (locus_tag: [BA_1237](#)) which is known to be expressed in the exosporium and localized to the exosporium basal surface.¹⁻³ The amino acid sequence includes 1) an N-terminal hexa-histidine tag 2) a thrombin cleavage site and 3) amino acid residues 1 to 167 of hypothetical protein BxpB from the Ames strain of *B. anthracis* (GenPept: AAP25195).⁴ The recombinant protein was expressed in *Escherichia coli* and purified by nickel affinity chromatography. NR-12132 has a theoretical molecular weight of approximately 19 kilodaltons. The predicted amino acid sequence of NR-12132 is shown below in Table 1.

Material Provided:

Each vial contains approximately 10 µg of NR-12132 in PBS. The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

Packaging/Storage:

NR-12132 was packaged aseptically in cryovials. The product is provided frozen on dry ice and should be stored at -60°C or colder immediately upon arrival. Freeze-thaw cycles should be avoided.

Functional Activity:

NR-12132 reacts with rabbit polyclonal antibody to *B. anthracis* exosporium basal layer protein BxpB (BEI Resources NR-12133) as shown by Western blot analysis.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: *Bacillus anthracis* Exosporium Basal Layer Protein BxpB (Locus_Tag: BA_1237) with N-terminal Histidine Tag, Recombinant from *Escherichia coli*, NR-12132."

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/bmb15/index.htm.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government makes any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Use Restrictions:

This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

References:

1. Cybulski, R. J., et al. "Recombinant *Bacillus anthracis* Spore Proteins Enhance Protection of Mice Primed with Suboptimal Amounts of Protective Antigen." *Vaccine* 26 (2008): 4927-4939. PubMed: 18657585.
2. Steichen, C., et al. "Identification of the Immunodominant Protein and Other Proteins of the *Bacillus anthracis* Exosporium." *J. Bacteriol.* 185 (2003): 1903-1910. PubMed: 12618454.

3. Steichen, C. T., J. F. Kearny and C. L. Turnbough Jr. "Characterization of the Exosporium Basal Layer Protein BxpB of *Bacillus anthracis*." *J. Bacteriol.* 187 (2005): 5868-5876. PubMed: 16109927.
4. Read, T. D., et al. "The Genome Sequence of *Bacillus anthracis* Ames and Comparison to Closely Related Bacteria." *Nature* 423 (2003): 81-86. PubMed: 12721629. GenPept: [AAP25195](#).

ATCC® is a trademark of the American Type Culture Collection.



Table 1 - Predicted Protein Sequence					
1	<u>MGSSHHHHH</u>	<u>SSGLVPRGSH</u>	MFSSDCEFTK	IDCEAKPAST	LPAFGFAFNA
51	SAPQFASLFT	PLLLPSVSPN	PNITVPVIND	TVSVGDGIRI	LRAGIYQISY
101	TLTISLDNSP	VAPEAGRFFL	SLGTPANIIP	GSGTAVRSNV	IGTGEVDVSS
151	GVILINLNP	DLIRIVPVEL	IGTVDIRAAA	LTVAQIS	

Non-hypothetical protein BxpB residues are underlined.