

**Pertactin (PRN) from *Bordetella pertussis***

**Catalog No. NR-34571**

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**Contributor:**

BEI Resources

**Manufacturer:**

List Biological Laboratories, Inc.

**Product Description:**

Native pertactin (PRN) was purified from *Bordetella pertussis* (*B. pertussis*) by conventional chromatography.

PRN is one of several virulence factors expressed by *B. pertussis*, a Gram-negative, aerobic coccobacillus that causes whooping cough in young children.<sup>1</sup> It is involved in the binding of *B. pertussis* to ciliated pulmonary epithelial cells. The protein is first produced as a 93 kDa precursor. Upon secretion into the extracellular environment, a 30 kDa domain at the C terminus remains in the outer membrane, while the mature 60.4 kDa pertactin molecule is released.<sup>2</sup> The crystal structure of mature pertactin has been determined by X-ray diffraction to 2.5Å resolution.<sup>2</sup>

PRN is a component of several acellular pertussis vaccines.<sup>3</sup>

**Material Provided:**

Each vial of NR-34571 contains 50 µg of lyophilized PRN sealed under vacuum in glass serum vials with a rubber stopper and aluminum crimp seal. When reconstituted with 0.5 mL of molecular grade water, the concentration of buffer is 5 mM Tris-HCl (pH 7.5), 150 mM NaCl and 1.25% trehalose.

**Storage:**

NR-34571 is shipped at room temperature and should be stored at 2°C to 8°C prior to reconstitution. Handle the product gently. DO NOT VORTEX.

**Citation:**

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: Pertactin (PRN) from *Bordetella pertussis*, NR-34571.”

**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](http://www.cdc.gov/biosafety/publications/bmb15/index.htm).

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**References:**

1. Charles, I. G., et al. “Molecular Cloning and Characterization of Protective Outer Membrane Protein P.69 from *Bordetella pertussis*.” Proc. Natl. Acad. Sci. U. S. A. 86 (1989): 3554-3558. PubMed: 2542937.
2. Emsley, P., et al. “Structure of *Bordetella pertussis* Virulence Factor P.69 Pertactin.” Nature 381(1996): 90-92. PubMed: 8609998.
3. Poolman, J. T. and H. O. Hallander. “Acellular Pertussis Vaccines and the Role of Pertactin and Fimbriae.” Expert. Rev. Vaccines 6 (2007): 47-56. PubMed: 17280478.

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