

# PRODUCT INFORMATION



## Pertactin from *Bordetella pertussis* (69 kDa protein)

Item No. 28208

### Overview and Properties

<b>Contents:</b>	Each vial, when reconstituted to 500 µl with sterile purified water, contains 50 µg of pertactin in 5 mM HEPES, 150 mM sodium chloride pH 7.5, and 1.25% trehalose
<b>Storage:</b>	4°C (as supplied)
<b>Stability:</b>	≥2 years
<b>Purity:</b>	≥95% (estimated by SDS-PAGE)
<b>Special Conditions:</b>	Handle gently; do not vortex

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Description

Pertactin from *Bordetella pertussis* (69 kDa protein) is the passenger domain of the virulence factor and autotransporter protein pertactin (Prn) located on the surface of *B. pertussis*, as well as *B. paraptussis* and *B. bronchiseptica*.<sup>1</sup> *Bordetella* strains deficient in Prn have been used to identify its role in infection.<sup>2</sup> Prn-deficient strains of *B. bronchiseptica* induce lethal infection in neutropenic mice but not SCID-Bg mice, indicating a role for Prn in *Bordetella* resistance to neutrophil-mediated clearance. *B. pertussis* clinical isolates lacking Prn have been observed in several countries.<sup>3-5</sup> Formulations containing Prn, in combination with two to three additional antigenic components, have been used as acellular pertussis vaccines.

### References

1. Hovingh, E.S., Mariman, R., Solans, L., *et al.* *Bordetella pertussis* pertactin knock-out strains reveal immunomodulatory properties of this virulence factor. *Emerg. Microbes Infect.* **7(1)**, 39 (2018).
2. Inatsuka, C.S., Xu, Q., Vujkovic-Cvijin, I., *et al.* Pertactin is required for *Bordetella* species to resist neutrophil-mediated clearance. *Infect. Immun.* **78(7)**, 2901-2909 (2010).
3. Weigand, M.R., Williams, M.M., Peng, Y., *et al.* Genomic survey of *Bordetella pertussis* diversity, United States, 2000-2013. *Emerg. Infect. Dis.* **25(4)**, 780-783 (2019).
4. Polak, M., Zasada, A.A., Mosiej, E., *et al.* Pertactin-deficient *Bordetella pertussis* isolates in Poland - a country with whole-cell pertussis primary vaccination. **21(3-4)**, 170-175 *Microbes Infect.* (2018).
5. Bamberger, E., Abu Raya, B., Cohen, L., *et al.* Pertussis resurgence associated with pertactin-deficient and genetically divergent *Bordetella pertussis* isolates in Israel. *Pediatr. Infect. Dis. J.* **34(8)**, 898-900 (2015).

WARNING  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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