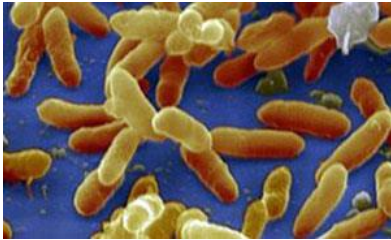
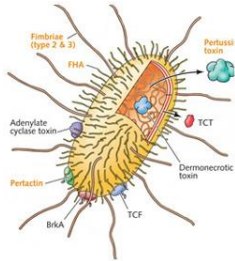


Pertussis Vaccines: Antibody ELISA Kits, Recombinant Proteins, Peptides and Antibodies

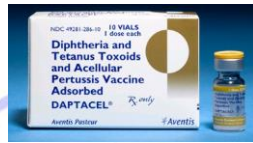


Pertussis, also known as the **whooping cough**, is a highly contagious disease caused by the bacterium **Bordetella pertussis**. It derived its name from the "whoop" sound made from the inspiration of air after a cough. Despite generally

high coverage with the DTP and DTaP vaccines, pertussis is one of the leading causes of vaccine-preventable deaths world-wide.



B. pertussis vaccine was first developed in 1920 using whole bacterium. In 1942, the whole-cell pertussis vaccine was combined with diphtheria and tetanus toxoids to generate the first **DTP combination vaccine**. Whole cell vaccines have some side effects. **Acellular pertussis vaccines contain between one**



and five B. pertussis antigens: pertussis toxin (Ptx), filamentous hemagglutinin (FHA), pertactin (Prn), and fimbriae (Fim2 and Fim3). Many aspects of the pathogenesis of pertussis and vaccine correlates of protection are poorly understood. However, antibodies to all components of pertussis antigens (PTX, Prn, FHA and Fim) appear to have a direct correlation with protection. The vaccines with three or more components consisting of filamentous hemagglutinin (**FHA**), pertussis toxin (**PT**) and pertactin (**PRN**) are considered to be more effective than one/two-component pertussis vaccines that contain only PT or both PT and FHA.

Pertactin (PRN or p69 protein) is a highly immunogenic virulence factor of B. Pertussis. Specifically, it is an outer membrane protein that promotes adhesion to tracheal epithelial cells. **Pertussis toxin (PTX)** has numerous biological activities and probably plays a role in hampering the host immune response. PT is a protein-based **A/B-type exotoxin** because they are formed from two subunits. The "A" subunit possesses enzyme activity, and is transferred to the host cell following a conformational change in the membrane-bound transport "B" subunit.

FHA is one of two hemeagglutinins produced by phase I strains of B. pertussis. On a weight basis, FHA is five to seven times more active in hemeagglutination (HA) assays than is pertussis toxin. FHA is a protein with an approximate molecular weight of 200 Kda. **Fimbriae** have been considered important vaccine components for many years in both whole-cell and acellular vaccines. B. pertussis expresses two serologically distinct fimbriae composed of either **Fim2** (207-aa; 22.5 kda) or **Fim3** (204-aa, 22 kda) major subunits. Antibody responses to Fim1-3 have been observed in human samples.

Pertussis Vaccines: Trihibit (DTAP/Hib), ActHib (Hib-PRP-T), Daptacel (DTAP), Tripedia (DTAP), Adacel (tetanus, Diphtheria, Acellular Pertussis) - Sanofi Pasteur; PedvaxHib (Hib-PRP-OMP) – Merck; Pediarix (DTAP/HepB/IPV), Infanrix (DTAP), Boostrix (Tetanus, Diphtheria, Acellular Pertussis) - GlaxoSmithKline.

ADI has developed antibody ELISA kits to determine the efficacy of various Pertussis vaccines. ADI is further expanding the antibody ELISAs to measure IgG (and IgG1, IgG2a, IgG3, IgG4) and IgM classes. ADI has also introduced industry's first **ELISA for direct testing of Pertussis Toxoid adsorbed on Alum** (for vaccine identification and testing) or in purified/semi purified preparations of toxoid during vaccine manufacturing.

Pertussis Vaccine Related ELISA kits

(See Details at the website) http://4adi.com/commerce/catalog/spcategory.jsp?category_id=2722

| Species | ELISA Kit Type | Species | Total IgG Cat# | IgM Specific Cat# | IgA Specific Cat# |
|--|----------------|---------|----------------|-------------------|-------------------|
| B. pertussis whole vaccine (Pertussis Toxin, FHA and LPS) antibody ELISA | Ab | Human | 960-110-PHG | 960-220-PHM | 960-200-PHA |
| | | Mouse | 960-120-PHG | 960-225-PHM | 960-205-PHA |
| | | Monkey | 960-210-PHG | 960-220-PHM | |
| B. pertussis vaccine (Toxin/toxoid) Antibody ELISAs | Ab | Mouse | 960-130-PMG | 960-140-PMG | 960-140-PMG |
| | | Rabbit | 960-150-PRG | 960-160-PRM | 960-160-PRM |
| | | G. Pig | 960-170-PMG | 960-180-PMM | 960-180-PMM |
| B. pertussis vaccine (Pertactin/PRN) Antibody ELISAs | Ab | Mouse | 960-230-PGG | | |
| | | Rabbit | 960-240-PRG | | |
| | | Human | 960-250-PHG | | |
| | | Monkey | 960-260-PMG | | |
| B. pertussis vaccine Filamentous hemagglutinins (FHA) Antibody ELISAs | Ab | Human | 960-340-FHG | 960-350-FHM | |
| | | Mouse | 960-300-FMG | 960-310-FMM | |
| | | Rabbit | 960-320-FRG | 960-330-FRM | |
| B. pertussis vaccine Fimbriae 2/3 (Fim2/3) Antibody ELISAs | Ab | Human | 960-370-FIG | 960-375-FIM | |
| | | Mouse | 960-360-FIG | 960-365-FIM | |

Pertussis Vaccine Antigen ELISA kits

| Description | ELISA Kit Type | |
|---|--------------------|---|
| B. pertussis Vaccine (Pertussis Toxin, PT/PTOX) Antigen ELISA | PT Antigen | #960-PTX-AG1 ; B. Pertussis Toxoid/Toxin (PTX) vaccine ELISA for the measurement PTX in biological buffer, 96 tests #VAC-PTX-50 ; Vaccigel Direct ELISA for the measurement of Pertussis Toxoid in Vaccines formulated in Alum |
| B. pertussis Vaccine (FHA) Antigen ELISA | FHA Antigen | #960-FHA-AG1 ; FHA ELISA for the measurement PTX in biological buffer |
| B. pertussis Pertactin (PRN) Antigen ELISA | PRN Antigen | #960-PRN-AG1 ; PRN ELISA for the measurement PTX in biological buffer |

Pertussis Vaccine Related Antibodies, Proteins and other Reagents

| Item | Catalog# | Product Description | Product Type |
|----------------------------------|--|---|--------------|
| Filamentous hemeagglutinin (FHA) | FHA11-S | Rabbit Anti-B. pertussis Filamentous hemeagglutinin (FHA) protein antiserum | Antibodies |
| | FHA15-N-10 | Filamentous Hemeagglutinin (FHA) (B. pertussis), purified | Pure protein |
| | FHA21-S | Rabbit Anti-B. pertussis Filamentous hemeagglutinin (FHA) IgM negative control for ELISA, IF, Western | Antibodies |
| | FHA22-S | Rabbit Anti-B. pertussis Filamentous hemeagglutinin (FHA) IgM positive control for ELISA, IF, Western | Antibodies |
| | FHA31-S | Rabbit Anti-B. pertussis Filamentous hemeagglutinin (FHA) IgG negative control for ELISA, IF, Western | Antibodies |
| | FHA32-S | Rabbit Anti-B. pertussis Filamentous hemeagglutinin (FHA) IgG positive control for ELISA, IF, Western | Antibodies |
| FIM | FIM235-N-10 | Recombinant purified FIMBRIAE 2/3 (FHA) (B. pertussis), antigen grade | Pure protein |
| B. pertussis Pertactin | PRN11-C | Recombinant (E. coli) B. pertussis Pertactin (91 kda) protein control for Western | Pure protein |
| | PRN11-S | Rabbit Anti-B. pertussis Pertactin (full length, 91 kda) protein antiserum | Antibodies |
| | PRN15-R-10 | Recombinant (E. coli) B. pertussis Pertactin (full length, 91 kda, his-tag) purified protein | Pure protein |
| B. pertussis Toxin | PTOX15-N-50 | Pertussis Toxin (islet activating protein, B. pertussis), purified | Pure protein |
| | PTOX15-S | Rabbit Anti-B. pertussis Toxin IgM negative control for ELISA, IF, Western | Antibodies |
| | PTOX16-S | Rabbit Anti-B. pertussis Toxin IgM positive control for ELISA, IF, Western | Antibodies |
| | PTOX17-S | Rabbit Anti-B. pertussis Toxin IgG negative control for ELISA, IF, Western | Antibodies |
| | PTOX18-S | Rabbit Anti-B. pertussis Toxin IgG positive control for ELISA, IF, Western | Antibodies |
| | PTOX21-S | G. Pig Anti-B. pertussis Toxin IgG negative control for ELISA, IF, Western | Antibodies |
| | PTOX22-S | G. Pig Anti-B. pertussis Toxin IgG positive control for ELISA, IF, Western | Antibodies |
| | PTOX23-S | G. Pig Anti-B. pertussis Toxin IgM negative control for ELISA, IF, Western | Antibodies |
| | PTOX24-S | G. Pig Anti-B. pertussis Toxin IgM positive control for ELISA, IF, Western | Antibodies |
| | PTOX31-S | Mouse Anti-B. pertussis Toxin IgG positive control for ELISA, IF, Western | Antibodies |
| | PTOX32-S | Mouse Anti-B. pertussis Toxin IgM negative control for ELISA, IF, Western | Antibodies |
| | PTOX33-S | Mouse Anti-B. pertussis Toxin IgG negative control for ELISA, IF, Western | Antibodies |
| | PTOX34-S | Mouse Anti-B. pertussis Toxin IgG positive control for ELISA, IF, Western | Antibodies |
| | PTOX35-N-10 | Pertussis Toxin A promoter (B. pertussis), purified | Pure protein |
| | PTOX36-N-10 | Pertussis Toxin B promoter (B. pertussis), purified | Pure protein |
| | PTOX41-F | Monoclonal Anti-B. pertussis LPS (Los-A) IgG-FITC Conjugate | Antibodies |
| | PTOX41-M | Monoclonal Anti-B. pertussis/B.bronchiseptica LPS (Los-A) IgG unlabeled | Antibodies |
| | PTOX42-M | Monoclonal Anti-B. pertussis Toxin IgG unlabeled | Antibodies |
| | PTOX43-M | Monoclonal Anti-B. pertussis Toxin subunit S1, IgG unlabeled | Antibodies |
| | PTOX44-M | Monoclonal Anti-B. pertussis Toxin subunit S2, IgG unlabeled | Antibodies |
| PTOX45-M | Monoclonal Anti-B. pertussis Toxin subunit S3, IgG unlabeled | Antibodies | |

Pertussis_Vaccine_Flr 160612A

India Contact:

Life Technologies (India) Pvt. Ltd.

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
 Email: customerservice@lifetechnindia.com Website: www.lifetechnindia.com