

Reagents for Pertussis Vaccine Development

Pertussis, also known as whooping cough or the 100-day cough, is a highly contagious bacterial disease. Most human diseases are caused by *Bordetella pertussis* and some are by *Bordetella parapertussis*. *B. pertussis* contains 3,121 proteins, many of which are antigenic or biologically active. Fimbriae (FIM) are protein projections on the surface of *B. pertussis* which appear to function as adhesins. Filamentous hemagglutinin (FHA) is a component of the cell wall of all *Bordetella spp.* It is highly immunogenic and is the dominant attachment factor for *Bordetella* in animal model systems. Pertactin (PRN) is an outer membrane protein of *B. pertussis* that allows it to resist neutrophil-mediated clearance. PT is a critical factor related to mortality in young infants and is unique to *B. pertussis*. PT is responsible for leukocytosis with lymphocytosis seen in *B. pertussis* infections in unimmunized individuals, which is a major risk factor for severe disease in unprotected infants.

Creative Diagnostics develops and provides antibodies and antigens covering targets such as FHA, PT, ACT and LPS, to assist in the development of related vaccine products. In addition, we have ELISA kits that allow high sensitivity detection and quantification of Pertussis specific antibodies in human or other species in vaccinated or immunized animals.

Performance

Pertussis Antibodies

- PT and FHA specific antibody pairs are used for the development of immunoassays such as sandwich ELISA.
- *B. pertussis* related antibodies against FHA, PT, ACT and LPS are validated for ELISA and WB.
- Some anti-*B. pertussis* Toxin antibodies can effectively neutralize *B. pertussis*.

Cat. No.	Product Name	Host	Application
DMAB5757	Anti- <i>B. pertussis</i> Toxin Monoclonal antibody, clone IZC 334-02	Mouse	ELISA (Cap), WB
DMAB5758	Anti- <i>B. pertussis</i> Toxin Monoclonal antibody, clone IZC 334-03	Mouse	ELISA (Det), WB
CABT-NS1648	Anti- <i>B. pertussis</i> FHA Monoclonal Antibody, clone 2H21	Mouse	ELISA (Cap)
CABT-NS1649	Anti- <i>B. pertussis</i> FHA Monoclonal Antibody, clone 2B7	Mouse	ELISA (Det)
CABT-NS1650	Anti- <i>B. pertussis</i> Toxin Polyclonal Antibody	Rabbit	ELISA (Cap)
CABT-NS1651	Anti- <i>B. pertussis</i> Toxin Monoclonal Antibody, clone 7B4	Mouse	ELISA (Det)
DMAB3055	Anti- <i>B. pertussis</i> Monoclonal Antibody, clone CDI501	Mouse	ELISA, IF, WB
DCABH-8780	Anti- <i>B. pertussis</i> Toxin Monoclonal Antibody, clone 58.2	Mouse	ELISA, WB, Neut
DCABY-805	Anti- <i>B. pertussis</i> LPS Monoclonal Antibody, clone 6222	Mouse	ELISA, IF, WB
CABT-NS1541	Anti- <i>B. pertussis</i> Adenylate Cyclase Toxin (aa 1156-1489) Monoclonal Antibody, clone 3G6	Mouse	WB
CABT-NS1542	Anti- <i>B. pertussis</i> Adenylate Cyclase Toxin (aa 373-399) Monoclonal Antibody, clone 4E2	Mouse	WB, IP
CABT-CS106	Anti- <i>B. pertussis</i> Toxin Polyclonal antibody	Rabbit	WB, IP, Dot, Neut, ELISA

Pertussis Antigens

- >90% purity (SDS-PAGE), manufactured on large scales.
- The B. pertussis related recombinant and native antigens are suitable for ELISA and WB.

Cat. No.	Product Name	Source	Application
DAG2687	B. Pertussis Toxin	Native	ELISA
DAGB122	B. pertussis Toxin (Mutant)	Native	ELISA
DAGB123	B. pertussis Toxin (Salt-free)	Native	ELISA
DAGH046	B. pertussis Toxin (Glycerol)	Native	N/A
DAGH045	B. pertussis Toxin (Frozen)	Native	N/A
DAGA-557	B. pertussis Toxin PT (strain Tohama I)	Native	N/A
DAGB124	B. pertussis Pertactin	Native	WB
DAGB125	B. pertussis 165 LPS	Native	ELISA
DAGB126	B. pertussis Fimbriae 2/3	Native	ELISA, WB
DAGC484	B. pertussis (A639) Antigen	Native	ELISA
DAG-P2721	B. pertussis (full length)	Native	SDS-PAGE
DAGB119	B. pertussis Adenylate Cyclase Antigen	Native	WB
DAGB121	B. pertussis Pertussis Toxin Subunit, A Protomer	Native	ELISA
DAGA-558	B. pertussis Whole-cell (strain Tohama I)	Native	N/A
DAGC099	B. pertussis Lipopolysaccharide	Native	N/A
DAGA-3037	Recombinant B. pertussis Pertactin Autotransporter Protein (aa 632-910) [His]	<i>E. coli</i>	SDS-PAGE
DAGB127	Recombinant B. pertussis Adenylate Cyclase (Reduced Endotoxin)	<i>E. coli</i>	ELISA
DAGB128	Recombinant B. pertussis Adenylate Cyclase Toxoid	<i>E. coli</i>	ELISA
DAGF-019	Recombinant B. pertussis Pertactin Protein [His]	<i>E. coli</i>	N/A
DAGB120	Recombinant B. pertussis Adenylate Cyclase Toxin	<i>E. coli</i>	WB

Pertussis ELISA Kits

- The ELISA Kits detect and quantify B. pertussis FHA, PT and ACT-specific antibodies in mouse, human and rabbit of vaccinated or immunized animals with high sensitivity.
- These kits contain no active toxin or inactivated bacteria. The antigens used are highly purified pertussis toxoid (non-toxic).

Cat. No.	Product Name	Species Reactivity	Detection Sample
DEIASL556	B. pertussis IgG ELISA Kit (Quantitative, semiquantitative)	Human	Serum, plasma
DEIA317	B. pertussis IgM ELISA Kit (Quantitative)	Human	Serum, plasma
DEIA315	B. pertussis IgG ELISA Kit (Quantitative)	Human	Serum, plasma
DEIA316	B. pertussis IgA ELISA Kit (Quantitative)	Human	Serum, plasma
DEIASL122	B. pertussis (PT) Quantitation Kit (Quantitative)	N/A	Blood samples
DEIASL123	B. pertussis (FHA) Quantitation Kit (Quantitative)	N/A	Blood samples
DEIASL125	B. pertussis (ACT) Quantitation Kit (Quantitative)	N/A	Blood samples
DEIASL272	Anti-B. Pertussis IgG ELISA Kit (Quantitative)	Rabbit	Serum
DEIASL129	B. pertussis (FHA) IgG ELISA kit (Quantitative)	Mouse	Serum, plasma