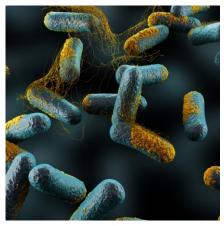
Clostridium perfringens: Vaccines & Antibody ELISA Kits



Clostridium
perfringens (C.
perfringens,
formerly known as
C. welchii, or
Bacillus welchii) is
a rod-shaped
Gram-positive
bacterium that is
found in many
environmental
sources as well as
in the intestines of
humans and

animals. Anaerobic, spore-forming bacterium *C. perfringens* is distributed ubiquitously throughout the environment and is responsible for food poisoning, gastrointestinal disease, gas gangrene and related necrotic conditions (enteritis or enterotoxemia) in humans and other mammals. This bacterium also ranks among the most common and important pathogens of humans and livestock. Most outbreaks are associated with undercooked meats, often in large quantities of food left to sit out for long periods of time. Beef, poultry, gravies, and dried or pre-cooked foods are common sources of *C. perfringens* infections, nearly 1 million cases of food borne illness each year.

C. perfringens has a single circular chromosome made up of approximately 3.6 million base pairs. The virulence of C. perfringens is attributable largely to its ability to produce at least 16 different toxins and extracellular enzymes. However, no single strain produces this entire toxin panoply. A commonly used toxin typing classification system assigns C. perfringens isolates to types A to E based upon their ability to produce four typing toxins (alpha, beta, epsilon and iotatoxins). Type A bacteria produce alpha toxin, type B bacteria produce alpha, beta, and epsilon toxins, type C bacteria produce alpha and beta toxins, type D bacteria produce alpha and epsilon toxins, and type E bacteria proteins produce alpha and iota toxins. C. perfringens enterotoxin (CPE) is the main virulent factor that initiates many critical GI diseases. C. perfringens types A-E variants are differentiated by their serological properties and specific toxins.

Type A (alpha toxin is with diseases in horse, lamb, goat, sheep, pig, dog, and chicken). Type B (alpha, beta, and epsilon) is associated with Necrotizing enteritis and enterotoxemia in sheep, cattle, and horse). Type C (alpha and beta toxin) causes enteritis in sheep, cattle, and horse. Type D (alpha and epsilon toxins) may produce enterotoxemia in sheep, goat, and cattle. Type E (alpha and iota toxins) causes enteritis in rabbit, lamb, and cattle. C. perfringens toxins: Alpha toxin/CPA ~43 kda (370aa); beta toxin/CPB (35 kda, 336-aa), epsilon toxin/ETX (34 kda, 319aa), lota toxin/ITX (binary toxin lb ~100 kda and la ~45 kda).

C.Perfringens vaccines:



Several vaccines are in use in animals. *C.Perfringens* Type A Toxoid (Novartis), *C. Perfringens* Types C & D Antitoxin (Colorado Serum Company), *C. perfringens* vaccine, inactivated (Type D, Enterotoxaemia Vaccine, Bio-med) - for use in healthy cattle, sheep and goat as an aid in the control of disease. It is difficult to assess the efficacy of these vaccines due to unavailability of simple and easy antibody ELISA kits. Therefore, there

is serious need to develop antibody ELISA kits that can be used not only by vaccine manufacturers but also by researchers.

About ADI's *C.perfringens* Antibody ELISA Kits*-ADI has developed antibody ELISA kits to determine the efficacy of various vaccines in various animals. The kit uses highly purified recombinant C. perfringens toxins as antigens to avoid non-specific detection and for safe handling. No bacteria or bacterial-extracted antigens are used in the kit. Moreover, the antibody kits are quantitative to allow determination of antibody titers in vaccinated samples to establish better vaccine formulations.

*All antibody ELISA kits are for research use only (RUO), not for diagnosis, cure or prevention of the disease.

C.Perfringens Vaccine Related ELISA kits

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

Species	Species	Total IgG Cat#	IgM Specific Cat#
C. perfringens toxins (Alpha+beta+Epsilon) Antibody ELISA, 96 tests, Quantitative	Rabbit	RB-500700-1	
	Mouse	RB-500710-1	
	Pig	RB-500720-1	
	Goat/Sheep	RB-500730-1	
	Cow	RB-500740-1	
	Chicken	RB-500750-1	
	Dog	RB-500760-1	

Clostridium-perfringens-vaccine-ELISA-Flr

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