



# *Clostridium perfringens* Beta Toxin ELISA KIT

## BIO K 267/1 - BIO K 267/2

Enterotoxaemia is a fatal enteric disease that affects all species of domestic animals and is attributable to a toxigenic type of *Clostridium perfringens*. The latter is an anaerobic, strongly gram-positive bacterium that has the ability to form heat-resistant endospores. This bacterium is grouped into five types (types A, B, C, D and E) according to the four major lethal toxins, alpha, beta, epsilon, and iota (a, b, e, i) produced. *C.perfringens* has been shown to be a cause of human diseases such as gas gangrene (clostridial myonecrosis), food poisoning, necrotising enterocolitis of infants, and enteritis necroticans (pigbel). It is also the causative agent of lamb dysentery, ovine enterotoxaemia (struck) and pulpy kidney disease of sheep, and other enterotoxaemic diseases of lambs and calves. Large amounts of toxin in addition to large numbers of *C.perfringens* cells can usually be detected in the intestinal fluid of the diseased or dead animals. As *C.perfringens* is a natural commensal of human and animal intestines, identifying of the bacterium is not enough. Toxinotyping and quantifying of the isolated strains are essential. The kit works with culture supernatants as well as biological probes such as liquid intestinal contents and pericardial- or peritoneal fluid.

### Reliable Results

The use of monoclonal antibodies as capture and conjugate ensure excellent specificity and very reliable results.

### Ease-of-Use

Minimal hands-on-time  
Room temperature incubation  
Results available in 140 minutes.  
All reagents are ready to use.

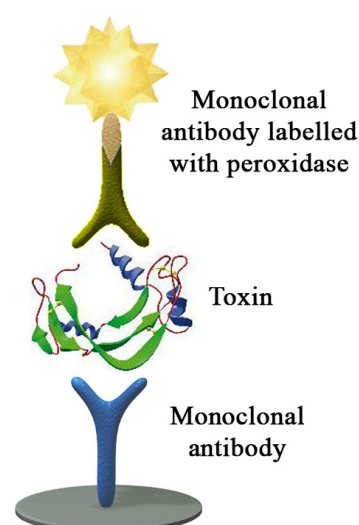
### Flexibility

Results can be read visually or spectrophotometrically.

| Toxino-types | Alpha | Beta | Epsilon | Iota |
|--------------|-------|------|---------|------|
| A            | ++    | -    | -       | -    |
| B            | +     | ++   | +       | -    |
| C            | +     | ++   | -       | -    |
| D            | +     | -    | ++      | -    |
| E            | +     | -    | -       | ++   |

### EIA Procedure

- 1- Microplate coated with monoclonal antibody
- 2- Add samples and positive control.  
Incubate 1 hour at 21°C +/- 3°C  
Wash
- 3- Add conjugate.  
Incubate 1 hour at 21°C +/- 3°C .  
Wash
- 4- Add TMB  
Waiting 10 min.  
Add stop solution.  
Read at 450 nm





## Example of results

### Direct colony hybridization (DCH)

ELISA BIO K 267

|   | + | -   |     |
|---|---|-----|-----|
| + | 5 | 0   | 5   |
| - | 0 | 233 | 233 |
|   | 5 | 233 | 238 |

Specificity: 100 %

Sensitivity: 100 %

### Typing of strains from various animal using Bio-X Kits

|         | Bovine Strains | Ovine & Caprine Strains | Ovine & Caprine Strains* | Porcine Strains |
|---------|----------------|-------------------------|--------------------------|-----------------|
|         | n=69           | n=35                    | n=22                     | n=45            |
| Alpha   | 98.55 %        | 100 %                   | 100 %                    | 100 %           |
| Beta    | 0 %            | 0 %                     | 18.18 %                  | 11.11 %         |
| Epsilon | 0 %            | 68.57 %                 | 63.64 %                  | 2.22 %          |

\* from North Africa





## Composition of the kit

### *CLOSTRIDIUM PERFRINGENS* BETA TOXIN ELISA KIT : BIO K 267

|                      | BIO K 267/1       | BIO K 267/2       |
|----------------------|-------------------|-------------------|
| Microplates          | 1 (48 tests)      | 2 (96 tests)      |
| Washing solution     | 1 X 100 ml (20 X) | 1 X 100 ml (20 X) |
| Dilution buffer      | 1 x 50 ml (5 X)   | 1 x 50 ml (5 X)   |
| Conjugate            | 1 X 12 ml (1 X)   | 1 X 25 ml (1 X)   |
| Positive control     | 1 X 2 ml (1 X)    | 1 X 4 ml (1 X)    |
| Single component TMB | 1 X 12 ml (1 X)   | 1 X 25 ml (1 X)   |
| Stopping solution    | 1 X 6 ml (1 X)    | 1 X 12 ml (1 X)   |

Stability : One year between +2°C and +8°C

