

TECRA[®]

BACILLUS DIARRHOEAL ENTEROTOXIN VISUAL IMMUNOASSAY

A rapid and simple screening test for indicating the presence of Bacillus Diarrhoeal Enterotoxin (BDE) in food and food-related samples, and enrichment cultures.

Why are BDE-Producing *Bacillus spp.* considered a significant problem to the food industry?

- ♦ *Bacillus cereus* and other *Bacillus spp.* are frequently found in a very wide range of foods, including baby foods, cooked and frozen rice products, cereals, meat products, soups, milk and milk powders, and extended shelf-life cooked-chill meals.
- ♦ Food poisoning outbreaks involving *B. cereus* have resulted in major product recalls and substantial economic loss. In the USA published data indicates that *B. cereus* causes up to 84,000 cases of food poisoning each year.
- ♦ The heat resistant nature of Bacillus spores allows them to survive in many foods, which have undergone moderate heat processing and normal cooking processes.



The TECRA Bacillus Diarrhoeal Enterotoxin method can be used in 2 ways:

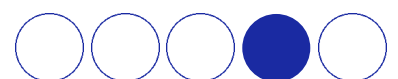
- (1) To detect the presence of pre-formed BDE in food within 4 hours.
- (2) To detect the production of BDE after overnight enrichment of samples containing enterotoxigenic *Bacillus spp.*

Why is there a need to test for pre-formed Bacillus Diarrhoeal Enterotoxin in food?

- ♦ Whilst the pre-formed BDE has been shown, in some cases, to be degraded in the stomach of adults, young children do not possess this ability. Thus outbreaks of Bacillus Diarrhoeal food poisoning due to pre-formed toxin have usually involved children.

Why test for Bacillus Diarrhoeal Enterotoxin after overnight enrichment of samples?

- ♦ Various species of Bacillus occur commonly in food. Thus it is important to have a test that can detect Bacillus isolates that have the ability to cause Bacillus Diarrhoeal food poisoning.
- ♦ BDE-producing *Bacillus spp.* may only produce a detectable level of BDE after a prolonged growth period. The level of pre-formed toxin in a food sample may be below a detectable level. However, the food may contain viable Bacillus, and if ingested, these organisms may produce enterotoxin and cause food poisoning.



The TECRA Advantages

✓ Fast

- ♦ Detect pre-formed BDE in only 4 hours!
- ♦ You can ship product sooner based on a rapid TECRA result.
- ♦ Screen food and environmental samples for the presence of Enterotoxin-producing *Bacillus spp.* in less than 20 hours.

✓ Simple and Convenient

- ♦ You can save time and money. Minimal hands-on time compared with traditional methods (e.g. immunogel diffusion) which are extremely labor-intensive, complex to perform and require extensive reagent preparation.
- ♦ Up to 46 tests can be performed simultaneously.

✓ Economical

- ♦ The simplicity of the TECRA method frees up laboratory time for other tasks and projects. More can be accomplished with the same amount of labor.
- ♦ Rapid results ensure inventory is released earlier, reducing holding costs.

✓ Accurate & Sensitive

- ♦ The TECRA method has shown excellent correlation with biological assays and epidemiological evidence and no non-specific interference from a wide range of food products has been observed.
- ♦ Sensitivity : >1 ng / mL of prepared sample

✓ Proven Performance

- ♦ Verified to accurately identify BDE in food artificially inoculated with Diarrhoeal Enterotoxin and in food and faecal samples from actual food poisoning incidents.

✓ Flexible

- ♦ Recommended for a wide variety of food and food-related samples.
- ♦ Depending on your specific needs, the kit can be used manually, semi-automated, or fully automated for large scale testing.

✓ Customer Training & Support

- ♦ Extensive technical, training and sales support provided by TECRA staff and also through TECRA's global network of distributors.

Other Materials Required for the BDE VIA method:

- ♦ Centrifuge (1000-3000xg)
- ♦ Pipette tips
- ♦ Pipettes: 10µL, 20µL, 50µL, 200µL, 5mL
- ♦ Polypropylene tubes (approx. 10mL)
- ♦ Sodium hydroxide solution (1M, NaOH)
- ♦ Hydrochloric acid (conc. HCl)
- ♦ Sodium hypochlorite (2%)
- ♦ pH paper
- ♦ Incubator: 35-37°C

Additional item required when testing for the presence of Enterotoxin-producing species:

- ♦ Brain Heart Infusion broth supplemented with 0.1% glucose

Additional items required when testing directly for the presence of toxin in food:

- ♦ Homogeniser
- ♦ Disposable plastic syringes (approx. 25mL)
- ♦ Absorbent cotton wool
- ♦ Tris buffer (0.25M, pH 8)

Product Information

TECRA Product Code	No. of Wells	Max. No. of Tests	Min. No. of Tests
BDEVIA48	48	46	1

Your Partner in Rapid Testing



www.tecra.net

TECRA International Pty Ltd

13 Rodborough Road, Frenchs Forest NSW 2086, AUSTRALIA
Telephone: +61 2 8977 3000 Facsimile: +61 2 9453 3422

E-mail: enquiries@tecra.net

Distributed by:

TECRA[®]
Excellence in Rapid Testing

TI7 12/00

PRODUCT INFORMATION