

# Caseinhydrolysate Glucose Yeast Extract Broth (Base)

Medium for cultivation of *Bacillus cereus* to enhance toxin production during growth and for use in the Duopath® Cereus Enterotoxins Test

## Principle

Microbiological method.

## Mode of Action

A high phosphate concentration together with glucose promotes the toxin production of *Bacillus cereus*.

## Typical Composition (g/Litre)

Casein hydrolysate 20.0; yeast extract 6.0; ammonium sulphate 2.0; tri-sodium citrate 1.0; di-potassium hydrogen phosphate 14.0; potassium dihydrogen phosphate 6.0; magnesium sulphate 2.0.

## Preparation

### a. Primary enrichment for food:

Dissolve 51 g in 800 ml demin. Water.

Autoclave (15 min at 121°C). Cool the medium to room temperature. Add 100 ml of sterile 10% glucose solution.

### b. Enrichment for Lateral Flow Test:

Dissolve 1.02 g in 18 ml demin. Water in 200 ml flask.

Autoclave (15 min at 121°C). Cool the medium to room temperature. Add 2 ml of sterile 10% glucose solution.

pH 6.8 ± 0.2 at 25°C.

The broth is yellow-brown and has precipitation after autoclaving. (The precipitation has no adverse effect on the microbiological performance). After a few days at room temperature, the precipitate may disappear.

## Additives

Sterile 10% glucose solution: dissolve 10 g glucose in 100 ml demin. water and autoclave (15 min at 121°C) or sterile filter (0.45 µm filter).

## Literature

Beecher, D. J., and A. C. Lee Wong. 1994. Improved purification and characterization of hemolysin BL, a hemolytic dermonecrotic vascular permeability factor from *Bacillus cereus*. *Infect. Immun.* 62:980-986.

Dietrich R, Fella C, Strich S & Märtlbauer E (1999) Production and characterization of monoclonal antibodies against the hemolysin BL enterotoxin complex produced by *Bacillus cereus*. *Appl Environ Microbiol* 65: 4470-4474.

Dietrich R, Moravek M, Bürk C, Granum PE & Märtlbauer E (2005) Production and characterization of antibodies against the non-hemolytic enterotoxin complex produced by *Bacillus cereus*. *Appl Environ Microbiol* 71: 8214-8220.

Moravek M., R. Dietrich, C. Bürk, V. Broussolle, M.-H. Guinebretiere, P. E. Granum, C. Nguyen-The und E. Märtlbauer (2006): Determination of the toxic potential of *Bacillus cereus* isolates by quantitative enterotoxin analyses. *FEMS Microbiol. Lett.* 257, 293-298.

## Ordering Information

| Product  | Ordering No. | Pack size |
|--|--------------|-----------|
| Caseinhydrolysate<br>Glucose Yeast Extract<br>Broth (Base) | 1.01868.0100 | 100 g     |
| Duopath Cereus<br>Enterotoxins                             | 1.04146.0001 | 25 Tests  |

## Quality control

| Test strains                                 |              |              |
|--|--------------|--------------|
| <i>Bacillus cereus</i> MHI 26 <sup>1)</sup>  | HBL positive | NHE positive |
| <i>Bacillus cereus</i> MHI 241 <sup>1)</sup> | HBL negative | NHE positive |
| <i>Bacillus subtilis</i> ATCC 6633           | HBL negative | NHE negative |

<sup>1)</sup> Reference see literature 4.