Brucella Broth (i23027)

Used for the cultivation of Brucella species and for the isolation and cultivation of a wide variety of fastidious and non-fastidious microorganisms.

Industry: Clinical / Dairy Products / Food

Principles & Uses

Brucella Broth Base, is used to foster robust growth of *Brucella* species, notorious for causing infections in both animals and humans, demands careful handling due to its highly infective nature. The medium's foundation, enriched with *Campylobacter* Supplements, extends its utility for *Campylobacter* isolation. Peptones play pivotal roles by providing essential nitrogenous and carbonaceous compounds, amino acids, vitamins, and nutrients crucial for microbial growth. Yeast extract contributes nitrogenous nutrients and acts as a source of Vitamin B complex, while glucose serves as an energy source. Sodium chloride ensures osmotic balance, and sodium bisulfite aids growth. For selective *Brucella* isolation, antibiotic mixtures are incorporated, emphasizing the medium's versatility.

Extending beyond *Brucella*, the same medium accommodates *Streptococci*, *Pneumococci*, *Listeria*, *Neisseria meningitidis*, and *Haemophilus influenzae*, reflecting its broad spectrum. This general-purpose Brucella Broth aligns with the APHA formula. Brucella's classification as a level 3 pathogen highlights its infectious nature, transmitted through milk, dairy, meat, and contact with infected animals.

Composition (gr/L)

Pancreatic Digest of Casein 10 g, Peptone from Meat 10 g, Yeast Extract 2 g, Glucose 1 g, Sodium Chloride 5 g, Sodium Bisulfite 0.1 g.

Final pH at 25°C 7.0 ± 0.2

Preparation from dehydrated Powder

Suspend 28.1 g of powder in distilled water. Mix thoroughly. Autoclave at 121°C for 15 minutes.

Quality Control

Dehydrated Appearance: Fine, homogeneous, free of extraneous material.

Prepared Appearance: Pale to medium, tan to yellow, clear to slightly hazy.

Reaction of 2.8% Solution at 25°C: pH 7.0 ± 0.2

Cultural Response

Inoculate and incubate at 35 ± 2°C for 7 days with 3 - 5% CO2 (incubate S. pyogenes for 66 - 72 hours without CO2).

Organism (ATCC*)	Recovery
Brucella abortus (11192**)	Growth
Brucella melitensis (4309**)	Growth
Brucella suis (4314**)	Growth
Streptococcus pyogenes (19615)	Growth

*ATCC is a registered trade mark of the American Type Culture Collection.

**Minimally one strain of Brucella should be used for performance testing. If these strains are not available, verify performance with a known isolate.

Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.