

## TECHNICAL DATA SHEET

### Brucella Agar Base

#### Principle

Brucella agar base is composed of peptone, tryptone, yeast extract, dextrose, sodium chloride, sodium bisulphite and agar. Peptone and tryptone provides nitrogen and amino acids. Yeast extract adds essential vitamins. Dextrose is a carbon source; Sodium Bisulfite is a reducing agent and enhances growth. Sodium Chloride maintains the osmotic balance. Agar is the solidifying agent. The media can be enriched with blood (5-10%), which provides additional growth factors for fastidious microorganisms and is used to determine hemolytic reactions.

**Use:** For selective isolation & cultivation of Brucella or Campylobacter species from clinical as well as nonclinical specimens.

#### Contents\*

Ingredients	Gram/Litre
Tryptone	10.00
Peptone	10.00
Yeast extract	2.00
Dextrose	1.00
Sodium chloride	5.00
Sodium bisulphite	0.10
Agar	15.00
pH at 25°C	7.0 ±0.2

\* Formula adjusted for optimum performance and parameters

**Directions:** Dissolve 43.00 grams in 1000 ml distilled water. Boil to dissolve the medium completely and sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 min, cool it to 42-45 °C and distribute in petri plates and allow to solidify. Ensure complete solidification and inoculate test sample aseptically.

**Elective:** To prepare Brucella Blood Agar, aseptically add 5-10% sterile defibrinated blood at 45-50°C. Mix well.

#### Specimens types analyzed

Pharmaceutical samples, clinical and non-clinical samples etc.

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## Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

## Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

## Quality Control

Appearance	Beige colored free flowing, hygroscopic homogeneous powder
Reaction of 4.3% solution	7.0 ±0.2 at 25 °C
pH	6.80- 7.20
Gelling	Firm comparable with 1.5% agar gel
Color and clarity of ready medium	Light yellow to creamy colored opalescent gel
Growth Promotion properties	Best at ≤ 100 CFU at 32-37 °C for 18-72 h
Indicative properties	Optimum at ≤ 100 CFU at 32-37 °C for 18-48 h
Negative control	Performed using sterile distilled water

## Different Microbial Response

Cultural characteristics observed after an incubation at 35-37°C for 24-72 hours in presence of 10% CO<sub>2</sub> with added sterile 5% v/v inactivated horse serum and Brucella Selective Supplement.

Organism	ATCC	Inoculum (CFU)	Growth	Recovery
<i>Brucella abortus</i>	4315	50-100	Luxurious	≥ 70%
<i>Staphylococcus aureus</i>	25923	50-100	Inhibited	--
<i>Escherichia coli</i>	8739	50-100	Inhibited	--

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**Storage and Shelf Life:** The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

**Disposal:** To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

## Reference

1. Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.
2. *Difco Manual* (1998). 11<sup>th</sup> Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.
3. Rand, M. C., Arnold E. Greenberg, and Michael J. Taras, (1976), *Standard methods for the examination of water and wastewater*. Prepared and published jointly by American Public Health Association, American Water Works Association, and Water Pollution Control Federation.
4. MacFaddin, J. D. (1985). *Media for isolation-cultivation identification-maintenance of medical bacteria*, vol. 1, p.110-114. Williams & Wilkins, Baltimore, MD.

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