

TM 645 – CLOSTRIDIUM BROTH BASE

INTENDED USE

For identification of spores of *Clostridium tyrobutyricum*.

PRODUCT SUMMARY AND EXPLANATION

Ripening of cheese under controlled conditions of temperature and humidity determine the final flavour and body characteristics of the product. Microbial spoilage in cheese is generally limited because of the combined effect of acid and salt and is less likely in the lower moisture cheese. Spores of *Clostridium tyrobutyricum* in the milk used for the manufacture of Emmentaler, Edam and Gouda can survive the heat treatment used for cheese milk and cause late gas formation (blowing defect) and related off-flavours during ripening. Even low spore densities of this anaerobe in milk used for cheese production can bring about this phenomenon, if the growth conditions are suitable. Clostridium Broth Base is recommended for the identification of spores of *C. tyrobutyricum*. *C. tyrobutyricum* ferments lactate and acetate to butyrate, CO₂ and H₂. As against *C. butyricum*, *C. tyrobutyricum* grows in media with lower acidic pH. Low pH value of the media helps in inhibiting other microbial flora thereby favoring growth of *C. tyrobutyricum*

COMPOSITION

Ingredients	Gms / Ltr
Casein peptone	15.000
Meat extract	10.000
Yeast extract	5.000
Sodium acetate	5.000
L-cysteine	0.500

PRINCIPLE

Casitose, meat extract and yeast extract provide the essential nutrients mainly the nitrogen compounds whereas L-cysteine promotes the growth of Clostridial species by maintaining a low oxygen tension in the medium.

INSTRUCTION FOR USE

- Dissolve 35.5 grams in 1000 ml purified / distilled water.
- Heat if necessary to dissolve the medium completely.
- Add 10 ml of 50% sodium lactate. Cool at 45-50°C.
- Mix well and dispense into tubes.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Yellowish brown coloured, clear solution without any precipitate.
pH (at 25°C)	: 6.0±0.2

INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Gas	Incubation Temperature	Incubation Period
<i>Clostridium perfringens</i>	10543	50-100	Luxuriant	Positive reaction	35-37°C	Upto 7 Days
<i>Clostridium tyrobutyricum</i>	25755	50-100	Luxuriant	Positive reaction	35-37°C	Upto 7 Days
<i>Escherichia coli</i>	25922	50-100	Good	Variable reaction	35-37°C	Upto 7 Days
<i>Pseudomonas aeruginosa</i>	27853	>=10 ³	Inhibited	-	35-37°C	Upto 7 Days
<i>Staphylococcus aureus subsp. aureus</i>	25923	50-100	Good	Negative reaction	35-37°C	Upto 7 Days

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.













DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Balows A. et al, 1992, The Prokaryotes, A Handbook of the Biology of Bacteria : Ecophysiology, Isolation , Identification Applications, 2nd Ed. Vol. II. p. 1800-1866.
2. Bryant M. P. and Burkey L. A., 1956, J. Bacteriol., 71: 43-46.
3. Goudkov A. V. and Sharp, M. E., 1966, J. Dairy Res., 33: 139-149.
4. Kutzner H. J., 1963, Infektionskr. Hyg. Abt. 1, 191: 441-450.
5. Vanderzant C. and Splittstoesser D. F., (Eds.), 1992, Compendium of Methods of for the Microbiological Examination of Foods, 3rd Ed., APHA, Washington, D.C.



 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 LOT/ B. NO. Lot / Batch Number	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 EC REP MedNet GmbH Birkstrasse 10 48163 Muenster, Germany Authorized Representative	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
Revision: 08 Nov., 2019