

**Product :  
TRYPTONE GLUCOSE EXTRACT AGAR  
(TGE AGAR)**
**Also known as**

Colony Count Agar; Trypticase Glucose Extract Agar

**Specification**

Plate count medium for milk and dairy products, according to standard Methods for the Examination of Dairy Products.

**Formula \* in g/L**

Meat extract.....	3,0
Casein peptone.....	5,0
D(+) Glucose.....	1,0
Agar.....	15,0

Final pH 7,0 ±0,2 at 25 °C

\* Adjusted and /or supplemented as required to meet performance criteria

**Directions**

Add 24 g of powder in 1 L of distilled water. Heat to the boil with constant stirring. Dispense in suitable containers and sterilize in the autoclave at 121°C for 15 minutes.

**Description**

Tryptone Glucose Extract Agar was adopted as an alternative to Nutrient Agar according to APHA (Art. No. 01-144) and Nutrient Agar according to British Pharmacopoeia (Art. No. 01-140) for bacteria enumeration in milk, being a complement to Plate Count Agar (Art. No. 01-161).

**Technique**

For enumeration purposes the poured plate Method is preferred, with incubation à 30-32°C for 48 hours. If the dilution is more than 10% it is advisable to add milk to the medium. To do this, prepare a suspension of Lait écrémé separately, and sterilize it for 10 minutes à 118°C.

Autoclaving must be as short as possible. Homogenize with the culture medium which has been sterilized and cooled to 50°C. The use of natural milk is not recommended due its high variability.

The medium must be quickly poured into Petri dishes because if it remains hot for too long flocculation and abnormal precipitates may appear. If the sample is not diluted or the volume in the plate is more than 2 mL, it is not necessary to add the Lait écrémé because it is assumed that the sample provides the required growth factors.

**Quality control**

**Incubation temperature:** 36°C ±2,0

**Incubation time:** 44 ± 2h

**Inoculum:** Practical range 100 ± 20 CFU. Min. 50 CFU (Productivity) according to ISO 11133:2014/Amd 1:2018 . Spiral Plate Method.

Microorganism	Growth	Remarks
<i>Staphylococcus aureus</i> ATCC® 25923	Productivity > 0.70	-
<i>Bacillus subtilis</i> ATCC® 6633	Productivity > 0.70	-
<i>Escherichia coli</i> ATCC® 25922	Productivity > 0.70	-
<i>Salmonella typhimurium</i> ATCC® 14028	Productivity > 0.70	-
<i>Yersinia enterocolitica</i> ATCC® 9610	Productivity > 0.70	-
<i>Escherichia coli</i> ATCC® 8739	Productivity > 0.70	-

**References**

- APHA-AWWA-WEF (1998) Standard Methods for the Examination of Water and Wastewater. 20th ed. APHA. Washington.
- DOWNES, F.P. & K. ITO (2001) Compendium of methods for the Microbiological Examination of Foods. 4th ed. APHA. Washington.
- FDA (Food and Drug Administrations). (1998) Bacteriological Analytical Manual 8th ed. Revision A. AOAC International, Gaithersburg. MD.
- HORWITZ, W. (2000) Official Methods of Analysis. AOAC International. Gaithersburg. MD.
- ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
- MARSHALL, R.T. (Ed.) (1992) Standard Methods for the Examination of Dairy Products. 16th ed. APHA. Washington.

**Storage**

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 °C to 30 °C).