Nutrient Gelatin

Cat. 1300

For testing proteolytic microorganisms that liquefy gelatin.

Practical information

Aplications	Categories
Detection	Positive gelatinase

Industry: Water / Food

Principles and uses

Nutrient Gelatin is used to investigate the presence of proteolytic microorganisms, as evidenced by the liquefaction of gelatin, especially in the bacteriological analysis of water. The liquefaction rate is important in the characterization of Enterobacteriaceae family groups and other groups of microorganisms.

For the plate count of organisms in water, this medium is replaced by solid media with agar.

Nutrient Gelatin was one of the first solidifying agents used at the beginning of bacteriology and was originally used in the standard method for water and wastewater as a direct plate count technique, replacing the dilution method. As this method required incubation at approximately 20°C, it was not ideal for most organisms. Gelatin peptone and Beef extract provide nitrogen, vitamins, minerals and amino acids essential for growth.

Formula in g/L

Beef extract	3	Gelatin	120
Gelatin peptone	5		

Preparation

Suspend 128 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121 ºC for 15 minutes.

Instructions for use

- Inoculate the tubes by stabbing with a needle (straight wire) and incubate at 35±2 ºC for 7 days, or up to 15 days if required.
- Refrigerate the test cultures together with an uninoculated Nutrient Gelatin control tube and read the reactions as soon as the control tube has hardened by inverting the tube.
- Detection of proteolysis: strong positive remains liquid.
- If plates of Nutrient Gelatin are utilized, they can be streaked. Check for the hydrolysis of gelatin on the streaked plate by adding a drop of saturated ammonium sulfate or 20% sulfosalicylic acid to an isolated colony. Look for a zone of clearing around the colony (Stone reaction) after10 minutes.
- The Stone reaction is also used on Staphylococcus Medium Nº 110 (Cat. 1032).

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rest	Fine powder	Toasted	Clear amber, slightly opalescent	6,8±0,2

Microbiological test

Incubation conditions: (35± 2 °C / 1-7 days)

Microorganisms	Specification	Characteristic reaction
Escherichia coli ATCC 25922	Good growth	Gelatinase (-)
Staphylococcus aureus ATCC 25923	Good growth	Gelatinase (+)

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

Ewing Enterobacteriaceae USPHS Publication 734 Washington, 1960.
Edwards and Ewing. Identification of Enterobacteriae, Burgess Publ. Co. Minneapolis, Minn., 1962. Standard Methods for the Examination of Water and Sewage, Ninth Edition APHA Inc. New York, 1960