

Skim Milk Agar (i23172)

Skim Milk Agar is used for cultivation and enumeration of microorganisms encountered in dairy industry.

Industry: Dairy Products / Water / Food

Principles & Uses

Skim Milk Agar is utilized to demonstrate coagulation and proteolysis of casein, recommended by APHA for cultivating microorganisms in the dairy industry. These media foster optimal conditions for the growth of organisms found in milk, resulting in higher bacterial isolation compared to regular media. Proteolytic bacteria, identified by their hydrolysis of casein, create clear zones around colonies, intensified if acid is produced from fermentable carbohydrates. Components like casein enzymic hydrolysate and yeast extract provide amino acids, complex nitrogenous substances, and vitamin B complex, promoting microbial growth.

In summary, Skim Milk agar play a crucial role in assessing microbial activities in dairy and water industries, offering a comprehensive means of detecting proteolysis and coagulation reactions.

Composition (gr/L)

Casein Enzymatic Hydrolysate 5 g, Yeast Extract 2.5 g, Glucose 1 g, Skim Milk Powder 28 g, Agar 15 g.

Final pH at 25°C 7.0 ± 0.2

Preparation from dehydrated Powder

Suspend 51.5 grams of in 1 L distilled water. Autoclave at 121°C for 15 minutes. Mix well and pour into sterile Petri plates.

Quality Control

Dehydrated Appearance: Light beige, free-flowing, homogeneous.

Prepared Appearance: Light amber, slightly opalescent.

Reaction of 5.15% Solution at 25°C: pH 7.0 ± 0.2

Cultural Response

Prepare the medium depend on the purpose for which the medium is used and the methods which are utilized.

Inoculate and incubate at 35 ± 2°C for 18-48 hours.

Organism (ATCC*)	Recovery	Proteolytic Activity
<i>Escherichia coli</i> (25922)	Good	Negative reaction No clear zone surrounding colonies
<i>Pseudomonas aeruginosa</i> (27853)	Good	Positive reaction clear zone surrounding colonies
<i>Enterococcus faecalis</i> (29212)	Good	Negative reaction No clear zone surrounding colonies
<i>Bacillus subtilis</i> (6633)	Good	Positive reaction clear zone surrounding colonies

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



Pseudomonas aeruginosa. The background has been darkened for better visibility of colonies and proteolytic activity. Proteolytic activity is indicated by arrow.

Storage

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