Skim Milk Agar

Intended Use
Skim Milk Agar is used for cultivation and enumeration of microorganisms in milk and dairy products.

Summary
Skim Milk Agar is used for the demonstration of coagulation and proteolysis of casein. The medium is recommended by APHA for cultivation and enumeration of microorganisms encountered in dairy industry. Addition of Skim Milk powder to any nutrient-rich medium creates favourable conditions for growth of organisms, which are encountered in milk. The number of bacteria isolated thus is more than the number of organisms isolated on a regular medium. Proteolytic bacteria hydrolyze casein to form soluble nitrogenous compounds indicated as clear zone surrounding the colonies. More clear zones are seen on milk agar if, the bacteria produce acid from fermentable carbohydrates in the medium.

Principle
Tryptone provides amino acids and other complex nitrogenous substances. Yeast extract supplies vitamin B complex. Addition of skim milk powder in the medium makes the conditions optimal for microorganisms encountered in milk. Dextrose acts as the carbon source.

Formula*
Ingredients	**g/L**
Skim Milk Powder	28.0
Tryptone	5.0
Yeast Extract	2.5
Dextrose	1.0
Agar	15.0
Final pH (at 25°C)	7.0 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30ºC in tightly closed container and the prepared medium at 2ºC-8ºC. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of Specimen
Dairy samples

Specimen Collection and Handling
Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 51.50 g of the powder in 1000 mL purified / distilled water. Mix thoroughly.
2. Boil with frequent agitation to dissolve the powder completely. DO NOT OVERHEAT.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control
Dehydrated Appearance: Cream to yellow coloured, homogenous, free flowing powder.
Prepared Appearance: Off white coloured, opaque gel forms in petridishes.
Cultural Response: Cultural characteristics observed after an incubation of 18-24 hours at 35°C-37°C.

Organism (ATCC)	Growth	Proteolytic Activity
Bacillus spizizenii (6633)	Good	Positive reaction, clear zone surrounding colonies
Pseudomonas aeruginosa Strain Boston 41501 (27853)	Good	Positive reaction, clear zone surrounding colonies
Proteus mirabilis (25933)	Good	Positive reaction, clear zone surrounding colonies
Serratia marcescens (8100)	Good	Positive reaction, clear zone surrounding colonies
Enterococcus faecalis (29212)	Good	Negative reaction, no clear zone surrounding colonies
Escherichia coli (25922)	Good	Negative reaction, no clear zone surrounding colonies

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Precautions / Limitations

1. Further biochemical identification is required for identification of species.
2. Some strains show less growth due to variable nutritional requirements.

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Frazier W. C. and Ripp P., 1928, J. Bacteriol., 16: 57.
2. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
3. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201190190500	Dehydrated Culture Media	500 g