

LMG AGAR (6902) (Lactose Monensin Glucuronate Agar)

Intended Use

LMG Agar (Lactose Monensin Glucuronate Agar) is used in the selective and differential isolation of coliform bacteria, using the ISO-GRID[®] and /or NEO-GRID[™] Membrane Filtration System.

Product Summary and Explanation

Lactose Monensin Glucuronate Agar is based on the coliform enumeration medium, m-FC Agar.¹ The original m-FC formula was designed for fecal coliform enumeration from water samples using membrane filtration. This medium was modified for enumeration of total coliforms by eliminating rosolic acid supplement and reducing the incubation temperature. A formula change to modified m-FC Agar included the addition of Monensin to improve recovery of injured coliforms.²

LMG Agar is recommended for the detection and enumeration of total confirmed coliform bacteria from all foods using the ISO-GRID and /or NEO-GRID Membrane Filtration System method.^{2,3}

Principles of the Procedure

Enzymatic Digest of Casein, Enzymatic Digest of Animal Tissue, and Yeast Extract are the nitrogen and vitamin sources in LMG Agar. Lactose is the fermentable carbohydrate. Monensin and Sodium Deoxycholate are selective agents, inhibiting Gram-positive bacteria and allowing Gram-negative organisms to grow. During Lactose fermentation a local pH drop in and around the colony causes a color change in the pH indicator, Aniline Blue. This color change results in the colony developing a blue, blue-green, or blue-white color. Lactose negative colonies metabolize nitrogen in the culture medium, resulting in a local increase in pH and a color change in the pH indicator to produce a pale yellow or beige colony. Glucuronic Acid induces *E. coli* to produce β -glucuronidase, and assists injured coliforms to develop in the presence of the selective agents. Agar is the solidifying agent.

Formula / Liter

Enzymatic Digest of Casein	10 g
Enzymatic Digest of Animal Tissue.....	5 g
Yeast Extract.....	3 g
Lactose	12.5 g
Monensin	0.038 g
Sodium Deoxycholate	0.15 g
Aniline Blue	0.1 g
Glucuronic Acid, Sodium Salt	0.5 g
Agar	15 g

Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precautions

1. For Laboratory Use.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 46.2 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. DO NOT AUTOCLAVE.
4. Cool to 45 - 50°C.
5. Determine pH and adjust if necessary to 7.2 ± 0.2

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and beige with a greenish hint.

Prepared Appearance: Prepared medium is clear to slightly hazy and medium blue to blue gray.

