Agar Bacteriological (i23006)

Agar, Bacteriological is a solidifying agent for use in preparing microbiological culture media.

Industry: Culture media

Principles & Uses

Agar plays a pivotal role in a range of bacteriological and culture applications as a widely utilized gelling agent. Agar bacteriological is renowned for its qualities like transparency, and the absence of substances that impede microbial growth.

Agar bacteriological offers stability over a wide range of growth temperatures for microorganisms and resists enzymatic breakdown.

Agar is typically used in a final concentration of 1 – 2% for solidifying culture media. Smaller quantities (0.05 - 0.5%) are used in media for motility studies (0.5% w/v), growth of anaerobes (0.1%) and microaerophiles.

This powder, manufactured from select red seaweed species, features high mineral content and unique solubility characteristics.

Physical Characteristics

Appearance, color	cream-white powder
Melting point	85-95°C
Gelling point	34-38°C
Precipitation after autoclaving	negative
pH of a 1.5% gel after autoclaving	6.5-7.5
Gel strength of 1.5% agar after autoclaving	500-700 g/cm2

Chemical Characteristics

Foreign substances	less than 1.0%
Starch	absent
Gelatin	absent
Sulfuric ash	less than 6.0%
Heavy metals	less than 0.004%
Lead	less than 0.001%
Arsenic	less than 0.0003%
Loss on drying	less than 10.0%

Quality Control

Dehydrated Appearance: granular, homogeneous, free-flowing and creamy white beige.

Prepared Appearance (1.5% w/v): very light amber to medium amber and slightly opalescent.

pH (2% Solution at 25°C): 6.0 - 7.5

Gel Strength: 760 - 850 g/cm2

Test for pathogens

E. coli	Negative in 10 gr
Salmonella spp.	Negative in 10 gr
Pseudomonas aeruginosa	Negative in 10 gr
Staphylococcus aureus	Negative in 10 gr
C. albicans	Negative in 10 gr
Clostridia	Negative in 10 gr

Cultural Response

The cultural response was assessed by preparing Nutrient Agar with the inclusion of Bacteriological Agar Powder as an ingredient, followed by incubation at 35-37°C for 18-24 hours.

Organism (ATCC*)	Growth
Escherichia coli (25922)	+
Pseudomonas aeruginosa (27853)	+
Staphylococcus aureus (25923)	+
Salmonella Typhi (14028)	+
Streptococcus pyogenes (19615)	+

Storage

The powder is very hygroscopic. Keep container tightly closed at 15-30 °C.