Agar Agar Type I

GRM666

Principle And Interpretation

Agar Agar Type I is produced for use in bacteriological routine laboratory work, plant tissue culture media, pharmaceutical preparations, where clarity, compatibility are not of prime importance. When suspended in cold water, it swells but does not dissolve. However, it readily dissolves in boiling water and solubility is facilitated by soaking the powder in cold water.

Quality Control

Appearance

Cream coloured, homogenous free flowing powder.

Solubility

Freely soluble in hot water at temperatures above 85°C. Insoluble cold water.

Clarity

A firm solid, clear to slightly opalescent gel is formed at a concentration of 1.5% at 38-41°C.

Dye Diffusion

Agar dye diffusion :- 18-20mm

Reaction

Reaction of 1% w/v aqueous solution at 25ºC.

pH

6.0- 7.0

Identification test

As per method specified in USP 37,NF32;

A: Infrared absorption.

B:With Iodine, some fragments of agar appear bluish black, with some areas reddish to violet.

C: Agar forms a clear liquid, which congeals at 30 to 39°C to form a firm resilient gel, which does not melt below 80°C.

Microbial Load:

Total aerobic microbial count (cfu/gm)

By plate method when incubated at 30-35°C for not less than 3 days.

Bacterial Count : <= 1000 CFU/gram

Total Yeast and mould count (cfu/gm)

By plate method when incubated at 20-25°C for not less than 5 days.

Yeast & mould Count : <= 100 CFU/gram

Test for Pathogens

1. *Escherichia coli*-Negative in 10 gms of sample 2. *Salmonella* species-Negative in 10 gms of sample 3. *Pseudomonas aeruginosa*-Negative in 10 gms of sample 4. *Staphylococcus aureus*- Negative in 10 gms of sample 5. *Candida albicans*- Negative in 10 gms of sample 6. *Clostridia*- Negative in 10 gms of sample

Chemical Analysis

Gelling temperature

38-41°C

Melting range

>=85°C

Total Nitrogen

<= 0.125%

Water(KF)

<=20%

Total ash

<=6.5%

Heavy metals (as Pb)
<= 40 ppm
Lead
<= 10 ppm
Arsenic(As)
<= 3 ppm
Acid insoluble matter (on dry basis)
<=0.5%
Foreign organic matter
<=1.0%
Foreign insoluble matter
<=15 mg in 7.5 gm of Agar
Test for Water absorption
As per method specified in USP 37,NF32 NMT 75 ml of water is absorbed by 5.0 g of agar
Test for Gelatin
As per method specified in USP 37,NF32 No formation of yellow precipitate
Test for Starch
As per method specified in USP 37,NF32 No Formation of blue colour on addition of iodine
Growth Promotion Test
As per method specified in USP 37,NF32

Cultural response
Cultural response observed after an incubation at 35-37°C for 18-24 hours by preparing Nutrient Agar (M001) using Agar Powder, Type I as an ingredient.
Cultural Response

Organism	Growth
Escherichia coli ATCC 25922	Luxuriant
Pseudomonas aeruginosa ATCC 27853	Luxuriant
Staphylococcus aureus ATCC 25923	Luxuriant
Salmonella Typhi ATCC 6539	Luxuriant
Streptococcus pyogenes ATCC 19615	Luxuriant

Storage and Shelf Life
Store below 30°C. Use before expiry date on the label.