



Agar powder, Bacteriological

GRM026P

Principle And Interpretation

Agar powder, Bacteriological is recommended for routine bacteriological work and particularly useful in pharmaceutical preparation where it passes in Microbial limit tests for the presence of bacteria.

Quality Control

Appearance

Cream coloured homogenous free flowing, odourless powder or has slight odour and produce mucilagenous sensation on the tongue.

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 38-39°C.

Dye Diffusion

Agar dye diffusion :- 18-20mm

Reaction

6.50- 7.50

Swelling Index

6.0 ml- 8.0ml

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 : \leq 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 : \leq 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

36-39°C

Melting temperature

\geq 85°C

Water(KF)

\leq 20%

Calcium

\leq 0.1%

Heavy metals (as Pb)

\leq 40 ppm

Heavy metals (as Lead)

<=10 ppm

Arsenic(As)

<=3 ppm

Sulphated ash

<=6.5%

Acid insoluble Matter (on dry basis)

<=0.5%

Foreign organic matter

<=1.0%

Foreign insoluble matter

<=15 mg in 7.5 gm of Agar

Gelling Strength>= 800 g/cm²**Test for Water absorption**

As per method specified in USP 37,NF 32, NMT 75 ml of water is absorbed by 5.0 g of agar

Test for Gelatin

As per method specified in USP 37,NF 32, No formation of yellow precipitate

Test for Starch

As per method specified in USP 37,NF 32 ,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, Bacteriological as an ingredient.

Cultural Response

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

Storage and Shelf Life

Store below 30°C. Use before expiry date on the label.

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