

Technical Information

Hofers Alkaline Medium

Product Code: DM 1717

Application: Hofers Alkaline Medium is recommended for selective isolation of *Agrobacterium* species while inhibiting *Rhizobium* species from soil samples.

Composition**

Ingredients	Gms / Litre
Mannitol	10.000
Dipotassium phosphate	0.500
Magnesium sulphate	0.20
Sodium chloride	0.100
Yeast extract	1 .00
Thymol blue	0.0 16
Agar	15.000
Final pH (at 25°C)	11 .0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Agrobacterium is a bacteria that causes tumours in plants. Most strains of *Agrobacterium* are plant pathogens. Their natural habitat is on and around the roots and underground stems of susceptible plants ⁽¹⁾. *Agrobacterium tumefaciens* is the most commonly studied species in this genus. *Agrobacterium* is well known for its ability to transfer DNA between itself and plants, For this reason it has become an important tool for plant improvement by genetic engineering. Hofers Alkaline Medium described by Subba Rao ⁽²⁾ is used for growing *Agrobacterium* species while inhibiting *Rhizobium* species from soil. It is a selective medium with high alkaline pH. Agrobacteria grow at higher pH where as Rhizobia fail to grow at alkaline pH. The medium is supplemented with mannitol as the carbohydrate or carbon source. Yeast extract provides nitrogenous nutrients. Sodium chloride maintains osmotic balance of the medium. Dipotassium phosphate buffers the medium. Thymol blue is the pH indicator, which remains blue at high alkaline pH.

Methodology

Suspend 26.82 grams of powder media in 1000 ml distilled water. Shake well & heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Blue coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 2.68% w/v aqueous solution at 25°C. pH : 11.0±0.2

pH Range: 10.8-11.2

Cultural Response/Characteristics

DM1717: Cultural characteristics observed after an incubation at 25-28°C for upto 5 days.



Dehydrated Culture Media
Bases / Media Supplements

Organism	Growth
<i>Agrobacterium luteum</i> ATCC 25657	Good-luxuriant
<i>Agrobacterium tumefaciens</i> ATCC 15955	Good-luxuriant
<i>Rhizobium trifolii</i> ATCC 14480	inhibited

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Balows A., Truper H. G., Dworkin M., Harder W., Scheifer K. H., (Eds.), The Prokaryotes, 2nd Edition, Springer-Verlag, New York Inc.
2. Subba Rao N. S., 1977, Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., New Delhi. **Storage and Shelf Life**

Store below 30°C and prepared medium at 2-8°C. Use before expiry period on the label.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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