



## Hofers Alkaline Medium

M717

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	0.200
Sodium chloride	0.100
Yeast extract	1.000
Thymol blue	0.016
Agar	15.000
Final pH ( at 25°C)	11.0±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 26.8 grams in 1000 ml distilled water. Heat to boiling 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.

### Principle And Interpretation

*Agrobacterium* is a genus of bacteria that causes tumours in plants. Most strains of *Agrobacterium* are plant pathogens and 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, and for this reason it has become an important tool for plant improvement by genetic engineering. Hofers Alkaline Medium is formulated as described by Subba Rao (2) and 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 while 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.

### Quality Control

#### Appearance

Light yellow to light green 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

10.80-11.20

#### Cultural Response

M717: Cultural characteristics observed after an incubation at 25-28°C for upto 5 days.

#### Organism

*Agrobacterium luteum*  
ATCC 25657

#### Growth

good-luxuriant

*Agrobacterium tumefaciens* good-luxuriant  
ATCC 15955  
*Rhizobium trifolii* ATCC inhibited  
14480

### Storage and Shelf Life

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

### Reference

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.

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