

TM 996 - HOFER'S ALKALINE MEDIUM

INTENDED USE

For selective isolation of *Agrobacteria* while inhibiting *Rhizobium* species from soil.

PRODUCT SUMMARY AND EXPLANATION

Agrobacterium is a genus of bacteria that causes tumors 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. *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 is for growing *Agrobacterium* species while inhibiting *Rhizobium* species from soil.

COMPOSITION

Ingredients	Gms / Ltr
Mannitol	10.000
Dipotassium hydrogen phosphate	0.500
Magnesium sulphate	0.200
Sodium chloride	0.100
Yeast extract	1.000
Thymol blue	0.016
Agar	15.000

PRINCIPLE

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.

INSTRUCTION FOR USE

- Dissolve 26.8 grams in 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Light yellow to light green homogeneous free flowing powder.
Appearance of prepared medium pH (at 25°C)	: Blue coloured, clear to slightly opalescent gel forms in Petri plates. : 11.0±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
<i>Agrobacterium luteum</i>	25657	50-100	Good-luxuriant	>=50 %	25-28°C	Upto 5 days
<i>Agrobacterium tumefaciens</i>	15955	50-100	Good-luxuriant	>=50 %	25-28°C	Upto 5 days
<i>Rhizobium trifolii</i>	14480	50-100	Inhibited	0%	25-28°C	Upto 5 days

PACKAGING:

In pack size of 100 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.










Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

- Balows A., Truper H. G., Dworkin M., Harder W., Scheifer K. H., (Eds.), The Prokaryotes, 2nd Edition, Springer- Verlag, New York Inc.
- Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
- Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
- Subba Rao N. S., 1977, Soil Microorganisms and Plant Growth, Oxfordand IBH Publishing Co., New Delhi.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
Revision: 08 Nov., 2019

