

TM 1873 – TRICHODERMA HARZIANUM SELECTIVE AGAR BASE

INTENDED USE

For selective isolation of *Trichoderma harzianum*.

PRODUCT SUMMARY AND EXPLANATION

Trichoderma harzianum is an efficient biocontrol agent that is commercially produced to prevent development of several soil pathogenic fungi. Different mechanisms have been suggested as being responsible for their biocontrol activity, which include competition for space and nutrients, secretion of chitinolytic enzymes, mycoparasitism and production of inhibitory compounds. Nevertheless, the biocontrol activity of *T. harzianum* could be affected by environmental, that include among others, the presence of plant nutrients at the field level. Also, the isolates of *Trichoderma harzianum* attack the commercial mushroom *Agaricus bisporus* colonize spawned compost and result in substantial yield reduction. This medium was based on the formulation of *T.harzianum* selective medium. Care should be taken not to expose this medium to light, since photodegradation of Rose Bengal yields compound that are toxic to fungi.

COMPOSITION

Ingredients	Gms / Ltr
Magnesium sulphate heptahydrate	0.200
Dipotassium hydrogen phosphate	0.900
Ammonium nitrate	1.000
Potassium chloride	0.150
Glucose(Dextrose)	3.000
Rose Bengal	0.150
Agar	20.000

PRINCIPLE

Glucose (Dextrose) in the medium serve as a source of energy as well as carbohydrate source and Dipotassium hydrogen phosphate buffers the medium. Magnesium Sulphate act as a source of ions and sulphates. Ammonium nitrate provides source of nitrogen. Rose Bengal is a selective agent that inhibits bacterial growth and restricts the size and height of colonies of more rapidly growing moulds.

INSTRUCTION FOR USE

- Dissolve 25.30 grams (the equivalent weight of dehydrated medium per litre) in 960 ml purified / distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C and aseptically add the rehydrated contents of one vial of *Trichoderma harzianum* Selective Supplement. Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Light yellow to pink homogeneous free flowing powder.
Appearance of prepared medium	: Light pink coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C)	: 5.7±0.2

INTERPRETATION



Cultural characteristics observed after incubation with added *Trichoderma harzianum* selective supplement.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
<i>Trichoderma harzianum</i>	-	-	Luxuriant	$\geq 70\%$	25-30°C	5-6 Days
<i>Escherichia coli</i>	25922	$>10^3$	Inhibited	0%	25-30°C	5-6 Days
<i>Staphylococcus aureus</i> Subsp. <i>aureus</i>	25923	$>10^3$	Inhibited	0%	25-30°C	5-6 Days

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 10-25°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

- Angela Roco., (2001), In vitro biocontrol activity of *Trichoderma harzianum* on *Alternaria alternata* in the presence of growth regulators. Plant Pathology. 4 :2
- Haram, S.; Schickler, H.; Oppenheim, A. and Chet, I. (1996). Differential expression of *Trichoderma harzianum* chitinases during mycoparasitism. Phytopathology 86:980-985.
- 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, Oxford and IBH Publishing Co., New Delhi.
- Williams, J., Clarkson, J.M., Mills, P.R., and Cooper, R.M. (2003) A Selective Medium for Quantitative Reisolation of *Trichoderma harzianum* from *Agaricus bisporus* Compost

 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**
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