Product Specification

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Technical Information

Phyto Tyrosine Peptone Agar Base (MT Medium)

Product Code: PHM1018

Application: Semi selective medium for the detection of *Pseudomonas savastanoi pv. phaseolicola*, *Pseudomonas syringae* and *Xanthomonas axonopodis* in seeds of beans.

Composition**

Ingredients	Grams/Litre
Proteose peptone	10.00
Calcium Chloride, anhydrous	0.25
Tyrosine	0.50
Agar	15.00
Total	**25.75 gm/liter**

**Formula adjusted standard to suit the performance parameter

Principle And Interpretation

The common bean *(Phaseolus vulgaris L.)* is one of the most important crops worldwide in both economic and nutritional aspects. *Pseudomonas savastanoi pv.phaseolicola, Pseudomonas syringae* and *Xanthomonas axonopodis* are a seed-borne pathogen of bean (Phaseolus vulgaris) that causes the halo blight disease.(1, 2). *P.syringae pv. phaseolicola* can readily be distinguished from other pathovars of *P.syringae pathogenic* to beans, such as pathovars syringae and glycinea, by nutritional characteristics and because only *P.syringae pv. phaseolicola* isolates produce water-soaked lesions on bean pods (2).

The medium is semi selective for the detection of *Pseudomonas savastanoi pv. phaseolicola, Pseudomonas syringae* and *Xanthomonas axonopodis* in seeds of beans. Proteose peptone in the medium supplies nitrogenous compounds. Organic salt such as calcium chloride provide nutritional requirement also tyrosine supports growth of the organism. Tyrosine in the medium as a amino acid source.Tween 80 a mixture of oleic esters, supplies fatty acids required for metabolism of organism. The addition of supplement renders selectivity to the medium.

Directions

Suspend 25.75 grams in 890 ml distilled water containing 10 ml of Tween 80. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Dissolve 10 grams of skim milk powder in 100 ml distilled water. Sterilize by autoclaving at 15 lbs pressure (121C) for 5 minutes. Cool to 45 - 50^{0}C. Aseptically mix both the solution and add the rehydrated contents of one vial of CNV supplement (PHS1014). Mix well and pour into sterile Petri plates.

Quality Control

Appearance:
Cream to yellow coloured, homogeneous, free flowing powder.
Gelling:
Firm, comparable with 1.5% Agar gel.
Colour and Clarity of prepared medium:
Yellow coloured, opalescent gel with white precipitate forms in Petri plates
Cultural Response:
Cultural characteristics observed with added CNVV Supplement, after an incubation at 25-30°C for 56 days.

Organism (ATCC)	Growth	Colour Characterstics	Fluresence under UV
Pseudomonas savastanoi pv. phaseolicola,	Luxuriant	Cream white, flat circular 4-5mm diameter	Positive
Pseudomonas syringae	Luxuriant	Cream white, flat circular 4-5 mm diameter	Positive
Xanthomonas axonopodis	Luxuriant	Yellow, 3-3.5 mm diameter	Negative
Xanthomonas axonopodis var. fuscans	Luxuriant	Brown pigment with 1-2 diameter	-
Staphylococcus aureus (25923)	Inhibited	-	-
Saccharomyces cerevisiae (9763)	Inhibited	-	-

Storage and Shelf Life

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

Further Reading

- Goszczynska and Serfontein, 1998 " Milk-Tween agar, a semi selective medium for isolation and differentiation of *Pseudomonas syringae pv. syringae*, *Pseudomonas syringae pv phaseolicola* and *Xanthomonas axonopodis pv phaseoli." Journal of Microbiological Methods* 32 : 65-72.

- Oguiza, J,A., Rico, A., Rivas, L.A., Vivian, L.S., A., and Murillo, J. 2004. *Pseudomonas syringae pv. phaseolicola* can be separated into two genetic lineages distinguished by the possession of the phaseolotoxin biosynthetic cluster. Microbiology. 150, 473–482

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