

## Technical Information

### Phyto Starch Peptone Agar Base with CV

#### Product Code: PHM1013

**Application:** Semi Selective medium for the detection of *Xanthomonas axonopodis pv. phaseoli* in seeds of beans on the basis of starch hydrolysis.

#### Composition\*\*

Ingredients	Grams/Litre
Peptone special	10.00
Potassium bromide	10.00
Calcium chloride, anhydrous	0.25
Soluble starch	20.00
Crystal violet	0.0015
Agar	20.00
<b>Total</b>	<b>60.25 gm/liter</b>

\*\*Formula adjusted standard to suit the performance parameter

#### Principle And Interpretation

Numerous plant-pathogenic bacteria multiply or survive on aerial parts of plants without causing any visible symptoms. Among other consequences, this asymptomatic phase allows bacterial populations to attain sizes permitting, in favorable environments, disease development. The genus *Xanthomonas* exhibits a high phytopathogenic diversity in contrast to a phenotypic uniformity, which has hampered the genesis of a stable classification for a long time, which is an important genus of phytopathogens known to cause severe damage on every economically important crop (3). The common bean (*Phaseolus vulgaris L.*) is one of the most important crops worldwide in both economic and nutritional aspects. Common and fuscous blights of bean caused by *Xanthomonas axonopodis pv. phaseoli* and its variant "*Xanthomonas axonopodis pv. phaseoli var. fuscans*" (proposed name) occur frequently in temperate and tropical climates (2). This medium is formulated as per the formulation of mXCP1 Medium (1). This medium is a semi selective medium recommended for the detection of *Xanthomonas axonopodis pv. phaseoli* in seeds of beans on the basis of starch hydrolysis. The media contains peptone special, which is carbon, nitrogen and sulphur source also soluble starch act as a carbon source, which get hydrolyzed and shows clear zone around the colonies by cleavage of starch. Crystal violet is inhibitory to most of the gram-positive organism. Tween 80 acts as a source of fatty acids.

#### Directions

Suspend 60.25 grams in 990 ml distilled water. Add 10 ml of Tween 80. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Aseptically add the contents of one vial of CNFT supplement (PHS1012). 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 CNFT supplement, after an incubation at 25-30°C for 5-6 days.

Organism (ATCC)	Growth	Colony Colour	Starch hydrolysis
<i>Xanthomonas axonopodis</i> pv. <i>phaseoli</i>	luxuriant	yellow, mucoid	+
<i>Staphylococcus aureus</i> (25923)	inhibited	-	
<i>Saccharomyces cerevisiae</i> (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

- McGuire, R.G., Jones, J.B. and Sasser, M. 1986. Tween media for semiselective isolation of *Xanthomonas campestris* pv. *vesicatoria* from soil and plant material. *Plant Dis.* 70:887-891.
- Vauterin, L., Rademaker, J., and Jean Swings. 2000. Synopsis on the Taxonomy of the Genus *Xanthomonas*. *Phytopath.* 90: 677-682.
- Jacques, M.A., Josi, K., Darrasse, A., and Samson, R. 2005. *Xanthomonas axonopodis* pv. *phaseoli* var. *fuscans* is aggregated in stable biofilm population sizes in the phyllosphere of field-grown beans. *Appl Environ Microbiol.* 71: 2008-2015

### Disclaimer :

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