Jensen Seedling Agar

M718

Jensen Seedling Agar is used for germinating seeds of leguminous plants while studying the nodulating ability of *Rhizobium* isolates.

Composition**

Ingredients	Gms / Litre
Calcium phosphate	1.000
Dipotassium phosphate	0.200
Magnesium sulphate	0.200
Sodium chloride	0.200
Ferric chloride	0.100
Agar	15.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 16.7 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 dispense as desired.

Principle And Interpretation

Rhizobium is a soil bacterium that has great environmental and agricultural importance because of their symbiotic association with leguminous plants. They are responsible for most of the atmospheric nitrogen fixed on the earth (1). *Rhizobium* is a free-living bacterium, which grow well on a nitrogen free medium. These bacteria utilize atmospheric nitrogen gas for their cell protein synthesis. This cell protein is then mineralised in soil after the death of the cells thereby contributing towards the nitrogen availability to the crop plants (2). Jensen Seedling Agar, a nitrogen free medium, is used for germinating seeds of leguminous plants while studying the nodulating ability of *Rhizobium* species (3).

Calcium stimulates nodulation when present as chloride or sulphate. Sodium chloride maintains the osmotic balance of the medium. Dipotassium phosphates provide buffering to the medium. Magnesium sulphate and ferric chloride are sources of ions that simulate metabolism.

Quality Control

Appearance
Cream to beige homogeneous free flowing powder

Gelling
Firm,comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Light cream coloured, clear to slightly opalescent gel with a slight precipitate.

Reaction
Reaction of 1.67% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH
6.80-7.20

Cultural Response
M718: Cultural characteristics observed after an incubation at 30°C for 7 days.

Organism	Growth
Rhizobium japonicum ATCC 10324	luxuriant
Rhizobium leguminosarum ATCC 10004	luxuriant

Rhizobium meliloti ATCC 9930	luxuriant

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.Clemence Chaintrevil, Eric Giraud, Yves Prin et al, Appl. Environ. Microbiol., 2000, December; 66 (12): 5437 - 5447.
2.Subba Rao N. S., 1977, In: Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., New Delhi, Pages 254-255.
3.Jensen H. L., Nitrogen fixation in leguminous plants. I., Proc. Int. Soc. NSW, 1942; 66:68 - 108.

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