Pikovskaya's Agar

Intended Use
Pikovskaya's Agar is used for detection of phosphate solubilizing soil microorganisms.

Summary
Phosphate exists in both organic as well as inorganic forms in soil. Organic matter derived from dead and decaying plant debris is rich in organic sources of phosphorus. However, plants are able to utilize phosphorus from soil only in the free available form. Soil phosphates are rendered available either by plant roots or by soil microorganisms. Therefore, phosphate-dissolving soil organisms play a part in correcting phosphorus deficiency of crop plants. Pikovskaya's Agar was modified by Sundara Rao and Sinha for detection of phosphate solubilizing bacteria from soil.

Principle
Yeast extract in the medium provides nitrogen and other nutrients necessary to support bacterial growth. Dextrose acts as an energy source. Different salts and yeast extract support the growth of organisms. Phosphate-solubilizing bacteria will grow on this medium and form a clear zone around the colony, formed due to phosphate solubilisation in the vicinity of the colony.

Formula*

Ingredients	g/L
Yeast Extract	0.5
Dextrose	10.0
Calcium Phosphate	5.0
Ammonium Sulphate	0.5
Potassium Chloride	0.2
Magnesium Sulphate	0.1
Manganese Sulphate	0.0001
Ferrous Sulphate	0.0001
Agar	15.0
Final pH (at 25°C)	7.0 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Specimen Collection and Handling
For clinical samples follow appropriate techniques for handling specimens as per established guidelines.
For food and dairy samples, follow appropriate techniques for handling specimens as per established guidelines.
For water samples, follow appropriate techniques for handling specimens as per established guidelines and local standards.
Specimens should be obtained before antimicrobial agents have been administered.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 31.30 g of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Boil with frequent agitation to dissolve the powder completely. Do not overheat.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control
Dehydrated Appearance: Off white coloured homogeneous, free flowing powder.
Prepared Appearance: White with flocculant precipitate, opaque gel forms in petridishes.
Cultural Response: Cultural characteristics observed after an incubation at 30-35°C for 48 hours.

Organism (ATCC)	Growth	Phosphate Solubilization
Aspergillus brasiliensis WLRI 034(120) (16404)	Good	+
Bacillus spizizenii (6633)	Good	(+)
Pseudomonas aeruginosa (9027)	Good	+
Pseudomonas aeruginosa Strain Boston 41501 (27853)	Good	+

Key: + = Clear zone surrounding the colony
(+) = moderate clear zone surrounding the colony

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Subba Rao N. S., 1977, Soil Microorganisms and Plant Growth, Oxford and IBH Publishing Co., New Delhi.
2. Sundara Rao W. V. B. and Sinha M. K., 1963, Ind. J., Agric. Sci., 33:272.
3. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201160190100	Dehydrated Culture Media	100 g
201160190500	Dehydrated Culture Media	500 g