

Actinomycete Isolation Agar

Catalogue No. AS-1102 | Synonyms: AC Agar; Actinomycete Isolation Medium; Olson's Actinomycete Agar

Overview

Actinomycete Isolation Agar (AC Agar) is a selective dehydrated culture medium formulated for the isolation and cultivation of actinomycetes — including *Streptomyces* and related genera — from soil, water, and other mixed environmental samples. The formulation, based on the original work of Olson (1967), uses sodium propionate as a selective agent that suppresses the growth of many fast-growing bacteria and fungi while permitting recovery of slower-growing filamentous actinomycetes.

Sodium caseinate supplies the primary nitrogen source, with L-asparagine contributing additional nitrogen and amino acid content. Dipotassium phosphate provides pH buffering, magnesium and ferrous sulfates supply trace metallic ions, and glycerol — added separately at preparation — serves as the principal carbon source supporting actinomycete growth.

Composition (per litre, nominal)

Ingredient	Amount
Sodium caseinate	2.0 g
L-Asparagine	0.1 g
Sodium propionate	4.0 g
Dipotassium phosphate (K_2HPO_4)	0.5 g
Magnesium sulfate ($MgSO_4 \cdot 7H_2O$)	0.1 g
Ferrous sulfate ($FeSO_4 \cdot 7H_2O$)	0.001 g
Agar	15.0 g
Glycerol (added separately)	5.0 mL

Formula may be adjusted and standardised to optimise performance. Final pH 8.1 ± 0.2 at 25 °C.

Principle

Selectivity is achieved primarily through sodium propionate, which restricts the growth of many contaminating bacteria and fungi at the concentration used, while actinomycetes remain largely unaffected. The alkaline pH (8.1) further discourages growth of acid-tolerant competitors. Glycerol, added at the time of preparation, is metabolised by actinomycetes as an energy and carbon source, supporting characteristic aerial mycelium development on the medium surface.

Applications

- Isolation and enumeration of actinomycetes (*Streptomyces* spp. and related genera) from soil samples
- Recovery of actinomycetes from water, sediment, and environmental monitoring samples
- Screening programs for antibiotic-producing and bioactive-compound-producing actinomycetes
- Maintenance and sub-culturing of actinomycete stock cultures on agar slants



PRODUCT DESCRIPTION

PD-AS-1102 | Actinomycete Isolation Agar
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- Academic and research microbiology teaching applications in soil and environmental microbiology

Physical Characteristics

Appearance (dehydrated)	Fine, homogeneous, cream to light beige powder
Appearance (prepared)	Light amber, clear to slightly hazy gel
Final pH (25 °C)	8.1 ± 0.2
Gel strength	Firm, suitable for plate pouring and slants

Storage & Shelf Life

Dehydrated powder	Store tightly closed, 15–30 °C, away from direct light and moisture
Prepared medium	Store at 2–8 °C, protected from light; use within 2–3 weeks
Shelf life (unopened)	24 months from date of manufacture

Pack Sizes

Pack Size	Catalogue No.
100 g	AS-1102-100
500 g	AS-1102-500
1 kg	AS-1102-1K
5 kg	AS-1102-5K

Disclaimer

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