

Modified Melin-Norkrans (MMN) Medium

Catalog No: AS-1396 | Dehydrated Culture Medium | Research Grade

Specialized medium for ectomycorrhizal fungi isolation, cultivation, and maintenance

1. Product Overview

Modified Melin-Norkrans (MMN) Medium is a nutritionally balanced dehydrated culture medium for the cultivation, isolation, and maintenance of ectomycorrhizal fungi. The formulation provides carbon sources (glucose and malt extract), nitrogen, macro- and micromineral salts, and thiamine (Vitamin B₁) for robust mycelial development. MMN Medium is the standard reference medium in forestry mycology, symbiosis research, and inoculum production.

2. Product Specifications

Catalog Number	AS-1396
Format	Dehydrated powder
Preparation	Suspend 28–30 g in 1 L purified water
Final pH (25°C)	5.6 ± 0.2
Sterilization	Autoclave 121°C / 15 min
Grade	Laboratory / Research Grade
HS Code	3821.00.00 (AHECC)

3. Composition (per litre)

Component	g / L	Function
Glucose	10.000	Primary carbon & energy source
Malt extract	3.000	Carbon source & growth stimulant
Ammonium nitrate (NH ₄ NO ₃)	0.250	Nitrogen source
KH ₂ PO ₄	0.500	Phosphate buffer & mineral
MgSO ₄ ·7H ₂ O	0.150	Magnesium & sulfate source
CaCl ₂ ·2H ₂ O	0.050	Calcium source
FeCl ₃ ·6H ₂ O	0.010	Iron micronutrient
Thiamine HCl (Vitamin B ₁)	0.005	Essential growth vitamin
Agar (solid medium)	15.000	Solidifying agent

4. Key Features

- Optimized nutrient balance specifically for ectomycorrhizal and mycorrhizal fungi
- Supports slow-growing and fastidious fungal species

- Thiamine (Vitamin B₁) supplementation for vitamin-dependent species
- Reproducible standardized formulation for consistent experimental outcomes
- Suitable for agar plates, slants, and liquid broth
- Acidic pH (5.6) optimized for mycorrhizal fungal physiology

5. Applications

- Cultivation of ectomycorrhizal fungi (Suillus, Pisolithus, Laccaria, Hebeloma spp.)
- Isolation of slow-growing or fastidious mycorrhizal species
- Forestry and ecological mycology research
- Plant-fungal interaction and symbiosis studies
- Inoculum production for controlled symbiosis experiments

6. Preparation Protocol

1	Suspend 28–30 g of dehydrated medium in 1 litre of purified water.
2	Heat with gentle agitation until fully dissolved.
3	Sterilize by autoclaving at 121°C for 15 minutes.
4	Cool to 45–50°C before pouring plates or dispensing into slants.

7. Incubation & Storage

Parameter	Recommendation
Incubation Temperature	20–25°C
Incubation Period	2–8 weeks (species dependent)
Dehydrated medium storage	15–30°C, dry, tightly sealed
Prepared medium storage	2–8°C, protected from light

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