

Agar-Agar, granulated

A granulated high quality solidifying agent that is essentially free of impurities. It is used as gelling medium for culture media, auxotrophic studies bacterial and yeast transformation studies and bacterial genetics applications

Mode of Action

Agar-agar is a water-soluble polygalactoside which is obtained from marine harvested *Gelidium sesquipedale*. Agar-agar remains firm at growth temperatures for many microorganisms and is generally resistant to a breakdown by bacterial enzymes.

Preparation

Agar is a gel at room temperature, remaining firm at temperatures as high as 65°C. Agar melts at approximately 85°C, a different temperature from that at which it solidifies, 32-40°C.

Agar-agar is used in a final concentration of 1-1.5% (1.0-1.5g/100ml) for solidifying culture media. Smaller quantities are used in media for motility studies (0.5% or 0.05g/100ml) and for growth of anaerobes (0.1% or 0.01g/100ml) and micro-aerophiles. If the culture medium has a pH <5.0 the working strength should be 2% (2g /100ml).

Autoclave a completely dissolved medium 121°C for 15 min.

Typical Analysis

Colour granules	brownish-yellow
Appearance	Light Free flowing granules
Colour in solution	Light amber
Appearance in solution	clear
pH (5% in water)	5.0-6.0
Loss on drying (Moisture)	<12%
Ash	12%
Heavy (toxic) metals (as Pb)	0.0005%
Ca	0.5%
Mg	0.1%
Solidification point	32-36°C
Melting point	>85 °C
Working strength	1-1.5%

Literature

United States Pharmacopoeia 26 2003 The National Formulary 20 United States Pharmacopoeia Convention Inc. Rockville Md.

Ordering Information

Product	Merck Cat. No.	Pack size
Agar Agar, granulated	1.01614.1000	1 kg
Agar Agar, granulated	1.01614.5000	5 kg

Quality control

Test strains	Growth ¹ after 24 hours
<i>Escherichia coli</i> ATCC 25922	+
<i>Strept. pyogenes</i> ATCC 21059	+
<i>Staphylococcus aureus</i> ATCC 25923	+
<i>Shigella sonnei</i> ATCC 29930	+
<i>Erysipelothrix rhusiopathiae</i> ATCC 19414	+
<i>Streptococcus agalactiae</i> ATCC 13813	+
<i>Streptococcus equinus</i> DSM 20062	+
<i>Streptococcus pneumoniae</i> ATCC 6301	+

¹ in Standard I Nutrient broth