

# Genaxxon BioScience

## Agar Data sheet:

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Cat #	Product
M6001	LB-Agar for Bacteriology
M6002	LB-Agar for Bacteriology (highly purified)
M6003	Agar molecular biology grade
M6004	Agar for plant tissue applications (tissue culture grade)
M6005	Agar-Agar (Food grade)
M6008	LB-Agar (powder)

### Product Description

Agar is a polysaccharide complex obtained through hot water extraction of agarocytes from the red alga *Rhodophyceae* found in the Pacific and Indian Oceans and in the Sea of Japan. With the Rhodophyceae group the genera *Gelidium*, *Acanthopeltis*, *Ceramium*, *Pterocladia* and *Gracilaria* predominate in agar production.

Agar is composed of about 70% agarose and 30% agaropectin, where agarose is a neutral gelling fraction which consists of a linear polymer of alternating D-galactose and 3,6-anhydrogalactose units and agaropectin is a non-gelling fraction which consists of  $\beta$ -1,3-glycosidically linked D-galactose units, some of which are sulphated at position 6.

### Synonyms

Agar-agar, Gum agar, Bacto-agar, Bengal gelatine, Bengal ising glass, Ceylon ising glass, Chinese ising glass, GAM medium, Gelose, Japan agar, Japan ising glass, Layor caran, NCI-C50475, Oxoid III, Oxoid L 11, S 100.

### Solubility / solution stability

Agar is strongly hydrophilic and can slowly absorb about 20 times its weight of cold water, swelling in the process. Agar is soluble (1 mg/mL) in hot water, obtaining a clear, slightly yellow-brownish solution. Agar is not soluble in alcohol.

### Application

Agar is used in microbiology and bacteriology to make solid culture media for microorganisms, as an antistaling agent in bakery products, confectionery, meats and poultry. It is also used as a gelling agent in cosmetics, desserts and beverages, as a corrosion inhibitor, in sizing for paper and silks, in adhesives, etc..

### Usage parameters

Agar is normally used at a typical working concentration of 6 - 12 g/L. The value varies with the customer need.

### Other gelling agents

1. Agarose
2. Gelatin
3. Carrageenane

### References

1. R.J. Lewis, Sr., *Hawley's Condensed Chemical Dictionary*, 12th Ed., p.27, Van Nostrand Reinhold Co., New York (1993).
2. T.Scott and M. Eagleson, *Concise Encyclopedia: Biochemistry*, 2<sup>nd</sup> Ed., p. 18, Walter de Gruyter, New York (1988).
3. *Merck Index*, 12<sup>th</sup> Ed., S. Budavari, Ed., p. 34 / 182 (1996).

Comprehensive data sheet of the Genaxxon agar product range

Cat #	Product	Gelling Temp.	Gelling strenght	pH	DNAse - RNAse activities	Contamination with spores	Ash content	Loss on drying
			1.5%					
M6001	LB-Agar for Bacteriology	30 - 36°C	750 - 900 g/cm <sup>3</sup>	6.0 - 8.0			max. 4.0%	max. 7.0%
M6002	LB-Agar for Bacteriology (highly purified)	32 - 37.5°C	700 - 1200 g/cm <sup>3</sup>	5.8 - 7.0				
M6003	Agar for molecular biology use	30 - 36°C	750-900 g/cm <sup>3</sup>	6.0 - 8.0	not detectable		max. 4.0%	max. 7.0%
M6004	Agar for plant tissue applications	35 +/- 5°C	> 1000 g/cm <sup>3</sup>	7.0 +/- 0.5		negative		
M6005	Agar-Agar (food grade)		> 750 g/cm <sup>3</sup>	ca. 8.0		negative	max. 1.5%	max. 15%
M6006	Agar-Agar for Molecular Biology		> 750 g/cm <sup>3</sup>	7.5 - 8.5	not detectable	negative	max. 3.0%	max. 15%
M6008	LB-Agar Powder	Consists of 5 g/L (M3304); 10 g/L (M3298); 10 g/L sodium chloride (M6073); 15 g/L Agar (6001)						

More detailed information can be found on the Genaxxon webpage: [www.genaxxon.com](http://www.genaxxon.com)