



Gelling agents in microbiology

AGAR consists of approximately 70 % agarose and approximately 30 % agarpectin. It is extracted from the cell walls of several red algae (*Rhodophyceae*), mainly species of the genera *Gelidium* and *Gracilaria*.

The designation **AGAR KOBE I** derives from the former geographical origin of the agar, which is the Japanese city of Kobe on the main island of Honshu. In former times, when agar was still traded in strips, threads or squares, agar was graded into three main quality groups:

Kobe I - top quality, pure white

Korea I - slightly inferior quality, slightly yellowish to light beige

China - inferior quality, yellow-beige

These terms and the associated differences in quality are now obsolete - for some time now, agar of consistent quality has been available from all parts of Asia. However, for reasons unknown, the designation **Kobe I** is used today to describe ground agar of very high quality which is used as a microbiological standard agar.

In addition, the designation **BACTERIOLOGICAL AGAR** has become an established definition for ultra-pure agar, which represents a preliminary stage of purified agarose and is manufactured for special microbiological applications.

CARRAGEENAN is an agar-related hydrocolloide comprising esters of galactose and anhydrogalactose polysaccharides that are extracted from red algae (*Rhodophyceae*) of the *Gigartinales* order. Unlike agar, which also gels in pure water, carrageenans require cations (preferably bivalent cations) in order to polymerise. Carrageenans virtually always contain KCl due to the salt precipitation which occurs in the final stage of the production process.

DANISH AGAR, also known as Furcelleran, is a saccharide-enriched carrageenan extracted from the red algae *Furcellaria fastigiata*.

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