

Agar

Agar

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Agar is the solid residue obtained by freezing dehydration of a mucilage derived from *Gelidium amansii* Lamouroux, other species of the same genus (*Gelidiaceae*), or other red algae (*Rhodophyta*).

Description White, translucent rectangular column, string or flakes. Rectangular column about 26 cm in length, 4 cm square in cross section; a string of about 35 cm in length and about 3 mm in width; flakes about 3 mm in length; externally, with wrinkles and somewhat lustrous, light and pliable. Odorless; tasteless and mucilagenous.

It is practically insoluble in organic solvents.

A boiling solution of Agar (1 in 100) is neutral.

Identification (1) To a fragment of Agar add dropwise iodine TS: a dark blue to reddish purple color develops.

(2) Dissolve 1 g of Agar in 65 mL of water by boiling for 10 minutes with constant stirring, and add a sufficient amount of hot water to make up the water lost by evaporation: the solution is clear. Cool the solution between 30°C and 39°C: the solution forms a firm, resilient gel, which does not melt below 85°C.

Purity (1) Sulfuric acid—Dissolve 1.0 g of Agar in 100 mL of water by boiling: the solution is not acid.

(2) Sulfurous acid and starch—To 5 mL of the solution obtained in (1) add 2 drops of iodine TS: the solution does not decolorize at once, and does not show a blue color.

(3) Insoluble matter—To 7.5 g of Agar add 500 mL of water, boil for 15 minutes, and add water to make exactly 500 mL. Measure exactly 100 mL of the solution, add 100 mL of hot water, heat to boiling, filter while hot through a tared glass filter (G3), wash the residue with a small amount of hot water, and dry the residue at 105°C for 3 hours: the mass of the residue is not more than 15.0 mg.

(4) Water absorption—To 5.0 g of Agar add water to make 100 mL, shake well, allow to stand at 25°C for 24 hours, and filter through moistened glass wool in a 100-mL graduated cylinder: the volume of the filtrate is not more than 75 mL.

Loss on drying Not more than 22.0% (6 hours).

Total ash Not more than 4.5%.

Acid-insoluble ash Not more than 0.5%.

Powdered Agar

Agar Pulveratum

カンテン末

Powdered Agar is the powder of Agar.

Description Powdered Agar appears as a white powder, is odorless, and is tasteless and mucilagenous.

Under a microscope, Powdered Agar, immersed in olive oil or liquid paraffin, reveals angular granules with striations or nearly spheroidal granules 5 to 60 μm in diameter.

It becomes transparent in chloral hydrate TS.

It is practically insoluble in organic solvents.

A boiling solution of Powdered Agar (1 in 100) is neutral.

Identification (1) To a part of Powdered Agar add dropwise iodine TS: a dark blue to reddish purple color develops.

(2) Dissolve 1 g of Powdered Agar in 65 mL of water by boiling for 10 minutes with constant stirring, and add a sufficient amount of hot water to maintain the original volume lost by evaporation: the solution is clear. Cool the solution to between 30°C and 39°C: the solution forms a firm, resilient gel, which does not melt below 85°C.

Purity (1) Sulfuric acid—Dissolve 1.0 g of Powdered Agar in 100 mL of water by boiling: the solution is not acid.

(2) Sulfurous acid and starch—To 5 mL of the solution obtained in (1) add 2 drops of iodine TS: the solution is not decolorized at once, and does not show a blue color.

(3) Insoluble matter—To 7.5 g of Powdered Agar add 500 mL of water, boil for 15 minutes, and add water to make exactly 500 mL. Measure exactly 100 mL of the solution, add 100 mL of hot water, heat to boiling, filter while hot through a tared glass filter (G3), wash the residue with a small amount of hot water, and dry the residue at 105°C for 3 hours: the mass of the residue is not more than 15.0 mg.

(4) Water absorption—To 5.0 g of Powdered Agar add water to make 100 mL, shake well, allow to stand at 25°C for 24 hours, and filter through moistened glass wool in a 100-mL graduated cylinder: the volume of the filtrate is not more than 75 mL.

Loss on drying Not more than 22.0% (6 hours).

Total ash Not more than 4.5%.

Acid-insoluble ash Not more than 0.5%.

Containers and storage Containers—Tight containers.

Akebia Stem

Akebiae Caulis

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Akebia Stem is the climbing stem of *Akebia quinata* Decaisne or *Akebia trifoliata* Koidzumi (*Lardizabalaceae*), usually cut transversely.

Description Circular or ellipsoidal sections 0.2–0.3 cm in thickness, and 1–3 cm in diameter; phloem on both fractured surfaces is dark grayish brown; zylem reveals light brown vessel portions and grayish white medullary rays lined alternately and radially; pith light grayish yellow, and distinct; flank grayish brown, and with circular or transversely elongated elliptical lenticels. Almost odorless; slightly acrid taste.

Under a microscope, a transverse section reveals ring layers mainly consisting of fiber bundles with crystal cells and stone cell groups and surrounding the outside of the phloem in arc shape. Medullary rays of the phloem consisting of