Agarose

REF: EG20910-S/M

Storage Condition

Store at room temperature.

Components

Component	EG20910S	EG20910M
Agarose	100 g	500 g

Description

Agarose is a polysaccharide that is isolated and purified from agar or agar-bearing marine algae. It is a natural polymer, made up of alternating β-D-galactose and 3,6-anhydro-L-galactose units of agarobiose in its chemical structure. Agarose is non-toxic and has several properties and specifications that make it useful as a gelling agent in many applications, such as nucleic acid electrophoresis. Gel electrophoresis is a common life science laboratory technique used to extract biological molecules based on their size, such as in DNA separation and DNA detection.

Quality Control Assays

Gel strength (1% gel): > 1200 g/cm^2;
Electroendosmosis (EEO): < 0.15;
Sulfate content: ≤ 0.15%;
Gel Temperature (1.5% gel): 35~37℃ ;
Melting Temperature (1.5% gel): 87~89℃ ;
Moisture: ≤ 10%;
No detectable nucleases.

Protocol

1. Choosing the agarose gel concentration based on the size of the target nucleic acid fragment and the type of electrophoresis buffer:

Agarose concentration	The ideal linear DNA resolution range (bp)	
	1× TAE	1× TBE
0.6%	1200~15000	1200~12000
0.8%	1000~10000	1000~12000
1.0%	200~10000	100~10000
1.2%	100~8000	100~5000
1.5%	100~5000	50~3000
2.0%	50~3000	50~3000
2.5%	50~3000	50~2000

2. Method of preparing agarose gel:

① According to the amount of gel preparation and gel concentration, measure a certain amount of electrophoresis buffer (TAE or TBE), pour it into a triangular conical flask.

Note: Gel preparation buffer and electrophoresis buffer should be the same.

② Accurately weigh the agarose and carefully add it to the above triangular conical flask. Cover the mouth of the conical flask with kraft paper and place in a microwave oven to heat and melt. After the solution has boiled, wear heatproof gloves and carefully shake the conical flask several times until the agarose is completely dissolved.

Note: The agarose melting process should be carried out by several short boils to avoid overheating and boiling. At the same time, it should be ensured that the agarose is fully and completely melted.

③ (Optional) Add nucleic acid dye to the fully melted agarose.

④ Pour the agarose solution into the gel-making mould and insert the comb at the appropriate place. The thickness of the gel is usually between 3 and 5 mm.

⑤ Gel at room temperature (about 30 min~1 h) and place in an electrophoresis bath for electrophoresis.

Notice

1. Melting agarose may cause boiling, be careful not to burn yourself.
2. Wear gloves if using carcinogenic fluorescent dyes for gel nucleic acid staining (e.g. ethidium bromide).
3. If the prepared gel is not used immediately, please soak the gel in electrophoresis buffer (TAE or TBE) to avoid the gel drying out.

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