

30% Acr-Bis (29:1)

REF: EG23301

Storage Condition

Store at 4°C away from light, valid for 1 year.

Components

Component	Amount
30% Acr-Bis (29:1)	500 ml

Description

The 30% Acrylamide/Bis-Acrylamide (Acr-Bis) solution is a colorless and odorless liquid with a 29:1 ratio of acrylamide to bis-acrylamide. It contains 30% solid components and is commonly used for preparing polyacrylamide gels (PAGE gels), including SDS-PAGE gels. It can be used for the separation and identification of proteins or nucleic acids and is a commonly reserve solution in laboratories. It is suitable for general biological and medical research.

Protocol

Select an appropriate PAGE gel concentration based on the molecular weight of the target protein

1. Protein SDS-PAGE gel

	5% Stacking gel	8% Resolving gel	10% Resolving gel	12% Resolving gel	15% Resolving gel
Total volumn	2 ml	5 ml	5 ml	5 ml	5 ml
H ₂ O	1.4 ml	2.25 ml	1.95 ml	1.65 ml	1.15 ml
30% Acr-Bis (29:1)	0.33 ml	1.4 ml	1.7 ml	2 ml	2.5 ml
1 M Tris pH6.8	0.25 ml	-	-	-	-
1.5 M Tris pH8.8	-	1.25 ml	1.25 ml	1.25 ml	1.25 ml
10% SDS	20 µl	50 µl	50 µl	50 µl	50 µl
TEMED	2 µl	5 µl	5 µl	5 µl	4 µl
10% APS	20 µl	50 µl	50 µl	50 µl	40 µl

The polymerization time of the gel depends on the ambient temperature. Polymerization occurs faster at higher temperatures, while it takes longer at lower temperatures. The amount of APS added can be adjusted according to the conditions.

2. Non-denatured DNA PAGE gel

Optimal DNA separation range	Gel concentration	Volume of each component (ml)					Total volume
		Deionized water	30% Acr-Bis (29:1)	5×TBE	10% APS	TEMED	
80~500 bp	5%	63.3	16.7	20	0.8~1	0.1	100 ml
70~450 bp	6%	60	20	20	0.8~1	0.1	100 ml
60~460 bp	8%	53.3	26.7	20	0.8~1	0.1	100 ml
50~300 bp	10%	46.7	33.3	20	0.5~0.8	0.1	100 ml
40~200 bp	12%	40	40	20	0.5~0.8	0.1	100 ml
25~150 bp	15%	30	50	20	0.5	0.1	100 ml
5~100 bp	20%	13.3	66.7	20	0.5	0.1	100 ml

Note1: It has been reported that adding 5~10% glycerol to PAGE gels can improve the resolution of certain sites. If you choose to add 10% glycerol, reduce the amount of deionized water used by 10 ml and add 10 ml of glycerol.

Note2: The polymerization time of the gel depends on the ambient temperature. Polymerization occurs faster at higher temperatures, while it takes longer at lower temperatures. The amount of APS added can be adjusted according to the conditions.

Operating steps

1. Pour the stacking gel

① Assemble the gel mold according to the gel mold instruction;

*Note:*The addition of the upper sieve helps to maintain uniform contact between the filler and the sample when adding samples. The addition of the upper sieve is optional.

② Mix different volumes of 30% Acr-Bis (29:1), 1 M Tris, 10% SDS and pure water in a small beaker or test tube;

③ Add 10% APS and TEMED, gently stir to mix evenly, and avoid producing bubbles;

④ Pour an appropriate amount of stacking gel solution into the gel mold (for mini-gel, the gel solution should be filled to about 1.5 cm away from the top of the front glass plate or about 0.5 cm away from the comb teeth), and then gently cover the stacking gel solution with a 1 cm layer of water to keep the gel surface flat;

⑤ Stand for 30 to 60 minutes, until a clear interface appears between the stacking gel and the water layer, the surface gel has been polymerized.

2. Pour resolving gel

① Remove the water layer covering the stacking gel;

② Mix 30% Acr-Bis (29:1), concentrated gel buffer and pure water in a small beaker or test tube;

③ Add 10% APS and TEMED, gently stir to mix evenly, and avoid producing bubbles;

④ Add the resolving gel solution to the top of the stacking gel until the gel solution reaches the top of the front glass plate;

⑤ Insert the comb into the gel to avoid bubbles;

⑥ Stand for 10~20 minutes, waiting for the resolving gel polymerization;

⑦ After gel polymerization, remove the comb carefully to avoid damaging the sample hole;

⑧ Perform electrophoresis operation.

Notice

1. 30% Acr-Bis (29:1) has certain toxicity, please pay attention to personal protection;

2. For your safety and health, please wear lab coats and disposable gloves for operation.