

Precast Gel, Tris-Gly 4-20%, 10 Wells, 1.0mm

Product Code: BR00021

Size: 10 pcs

◆ Product Introduction

Plastic Gel Precast Gel Tris-Gly is a safe, fast, and high-performance precast polyacrylamide gel, commonly used in PAGE (Polyacrylamide Gel Electrophoresis) and Western blot detection.

◆ Product Features

1. Adopts coated plastic gel plates, which effectively reduce non-specific protein adsorption, resulting in sharper and clearer protein bands.
 2. Short electrophoresis time: When using the ultra-fast electrophoresis buffer (BR00007), electrophoresis can be completed in 25 minutes at 200 V.
 3. Easy-to-open gel clips: The plastic plates can be easily pried open with a gel opener.
 4. No SDS (Sodium Dodecyl Sulfate) in the precast gel, suitable for both denaturing and non-denaturing electrophoresis.
 5. Utilizes automated gel casting production technology to ensure high stability and reproducibility of product quality.
 6. Compatible with mainstream mini electrophoresis tanks such as those from Bio-Rad, Invitrogen, Tanon, Junyi Oriental, and Beijing Liuyi.
- Offers various concentrations of homogeneous gels and gradient gels.

◆ Basic Information

Gel Plate Size	Width × Height × Thickness: 100 × 89 × 4.8 mm
Gel Size	Width × Height × Thickness: 84 × 74 × 1 mm
Acr-Bis	29:1
Stacking Gel	4%, 1.5 cm
Gel Thickness	1.0 mm
Number of Wells	10 Wells
Maximum Sample Loading Volume	50 µL
Packaging	10 pcs/box

◆ Product Composition

Name	Specification	Storage Condition
Precast Gel, Tris-Gly 4-20%, 10 Wells, 1.0mm	10 pcs	2-8°C
Instruction Manual	1 copy	/

◆ Storage Conditions

1. Transport at room temperature. When stored at room temperature, it should be placed in a cool place, avoiding drastic temperature changes and direct sunlight.
2. Store at 2-8°C with a shelf life of 12 months.
3. Do not store below 0°C. The gel will freeze and solidify below 0°C, producing bubbles and cracks, leading to gel scrapping.

◆ Precast Gel Selection Guide

Product Code	Name	Maximum Sample Loading Volume
BR00001	Precast Gel, Tris-Gly 4-20%, 15 Wells, 1.0mm	30 µL
BR00002	Precast Gel, Bis-Tris 4-20%, 15 Wells, 1.0mm	30 µL
BR00021	Precast Gel, Tris-Gly 4-20%, 10 Wells, 1.0mm	50 µL

BR00031	Precast Gel, Bis-Tris 4-20%, 10 Wells, 1.0mm	50 μ L
BR01010B	Precast Gel, Bis-Tris 10%, 10 Wells, 1.0mm	50 μ L
BR01010T	Precast Gel, Tris-Gly 10%, 10 Wells, 1.0mm	50 μ L
BR01210B	Precast Gel, Bis-Tris 12%, 10 Wells, 1.0mm	50 μ L
BR01210T	Precast Gel, Tris-Gly 12%, 10 Wells, 1.0mm	50 μ L

◆ Operating Procedures

Precast gels themselves do not contain SDS and can be used for both denaturing and non-denaturing electrophoresis depending on the type of electrophoresis buffer.

Note: For samples treated with fluorescent loading buffer, protein bands can be directly observed under an ultraviolet lamp or LED lamp without gel peeling, staining, and destaining. When used with ultra-fast electrophoresis buffer (BR00007), the entire process of sample preparation, electrophoresis, and photography can be completed within half an hour, achieving ideal electrophoresis results.

Non-Denaturing Electrophoresis (Native-PAGE)

1. Take the Plastic Gel Precast Gel Tris-Gly out of the packaging bag and tear off the bottom sealing tape.
2. Fix the precast gel in the electrophoresis tank.
3. Add 1 $\times$ Tris-Glycine non-denaturing electrophoresis buffer to the electrophoresis tank. Fill the inner tank with electrophoresis buffer, and the outer tank should be filled with electrophoresis buffer to at least 1/3 of the liquid level (but not exceeding the gel plate). Then slowly pull out the comb.
4. Gently pipette the sample wells to remove residual gel solution.
5. Sample loading: Mix the non-denatured protein sample with 5 $\times$ non-denaturing Loading buffer at a ratio of 4:1. During sample loading, be careful not to let the pipette tip pierce the gel or insert too deeply, as this may deform the gel plate and cause liquid leakage during subsequent electrophoresis. (For acidic proteins with an isoelectric point (pI) < 7, normal sample loading and electrophoresis can be performed. In contrast, basic proteins with an isoelectric point (pI) > 7 carry a positive charge, so the electrodes need to be reversed (connect the red electrode to the black terminal and the black electrode to the red terminal). At this time, the sample wells become the positive electrode, and the sample migrates downward during electrophoresis.)
6. Connect the power supply and run the gel under constant voltage (180 V). Stop the electrophoresis when the bromophenol blue indicator migrates to the bottom of the gel plate or the predetermined position in the

experiment.

7. After electrophoresis, take out the gel. Use a gel opener to slowly pry open the plates along the side edge of the plates, open the gel cassette, and gently take out the gel. (For specific operations, refer to the "Gel Peeling" section.)

Note: The protein migration rate of non-denaturing gels is affected by various factors such as protein molecular weight and protein spatial structure.

Denaturing Electrophoresis (SDS-PAGE)

1. Take the Plastic Gel Precast Gel Tris-Gly out of the packaging bag, tear off the bottom sealing tape, fix it in the electrophoresis tank, and install the electrophoresis device.

2. Add 1 × Tris-Glycine-SDS electrophoresis buffer to the electrophoresis tank. Fill the inner tank with electrophoresis buffer, and the outer tank should be filled with electrophoresis buffer to at least 1/3 of the liquid level (but not exceeding the gel plate). Then slowly pull out the comb.

3. Gently pipette the sample wells to remove residual gel solution.

4. Sample loading: Mix the protein sample with 5 × denaturing Loading buffer at a ratio of 4:1 and heat-treat the mixture. During sample loading, be careful not to let the pipette tip pierce the gel or insert too deeply, as this may deform the gel plate and cause liquid leakage during subsequent electrophoresis.

5. Connect the power supply and run the gel under constant voltage (180 V). Stop the electrophoresis when the bromophenol blue indicator migrates to the bottom of the gel plate or the predetermined position in the experiment.

6. After electrophoresis, take out the gel. Use a screwdriver to slowly pry open the plates along the side edge of the plates, open the gel cassette, and gently take out the gel. (For specific operations, refer to the "Gel Peeling" section.)

Note: Please refer to the separation map below to select the appropriate concentration of precast gel to achieve better separation of protein electrophoresis bands (Tris-Gly) :

8%	10%	12%	15%	4-15%	4-20%	8-16%	8-20%
		245 kD	245 kD		245 kD	245 kD	245 kD
	245 kD	180 kD	180 kD		180 kD	180 kD	180 kD
	180 kD	135 kD	135 kD	245 kD	135 kD	135 kD	135 kD
245 kD	135 kD	100 kD	100 kD	180 kD	100 kD	100 kD	100 kD
180 kD	100 kD	75 kD	75 kD	135 kD	75 kD	75 kD	75 kD
135 kD	75 kD	63 kD	63 kD	100 kD	63 kD	63 kD	63 kD
100 kD	63 kD	48 kD	48 kD	75 kD	48 kD	48 kD	48 kD
75 kD	48 kD	35 kD	35 kD	63 kD	35 kD	35 kD	35 kD
63 kD	35 kD	25 kD	25 kD	48 kD	25 kD	25 kD	25 kD
48 kD	25 kD	20 kD	20 kD	35 kD	20 kD	20 kD	20 kD
35 kD	20 kD	17 kD	17 kD	25 kD	17 kD	17 kD	17 kD
		11 kD	11 kD	20 kD	11 kD	11 kD	11 kD
				17 kD			
				11 kD			

Gel Peeling:



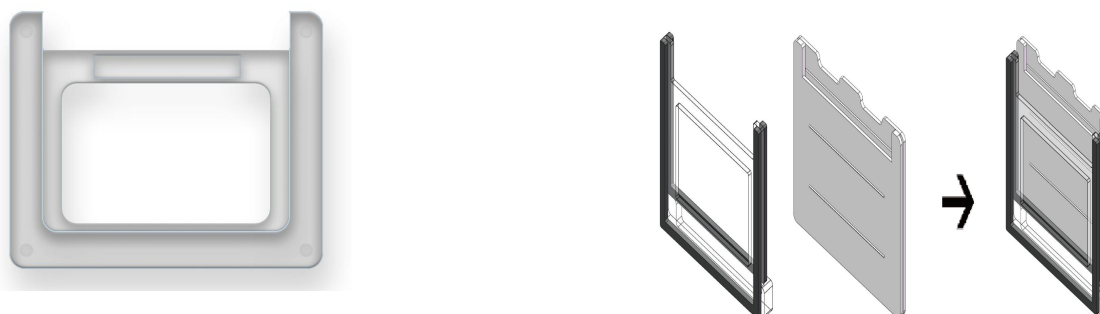
◆ The Selection of Electrophoresis Tanks

Precast gels are compatible with most mini SDS-PAGE electrophoresis tanks, including

- Bio-Rad Mini-PROTEAN (II/3 /Tetra System) (to be used with BR00020 baffle);
- Hoefer Mighty Small (SE 250/ SE 260/ SE 280);
- Life Technology Novex Mini-Cell (to be used with BR00022 baffle);
- Life Mini Gel Tank (to be used with BR00019 baffle);
- Beijing Liuyi DYCZ-25E, DYCZ-24K, DYCZ-24KS, DYCZ-24KF;
- Junyi Dongfang JY-SCZ2+;
- Tianneng VE180;

or other electrophoresis tanks with a gel plate width of 10 cm.

Application in Life electrophoresis tanks: If necessary, please inform us when ordering this product.



Place the BR00022 baffle on the outer side of the gel. Place the BR00019 baffle on the inner side of the gel.

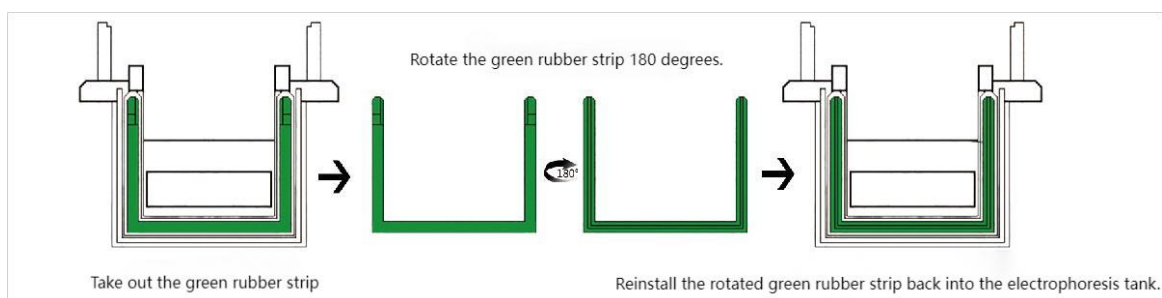
Application in Bio-Rad Electrophoresis Tanks:

The top of the U-shaped sealing strip in the Bio-Rad Mini-PROTEAN series electrophoresis tanks has a raised structure, while the short glass plate of ABclonal precast gels has a concave structure—resulting in a flat surface at this location. Before electrophoresis, the sealing strip with the raised structure must be removed and reinstalled in reverse, with the smooth side facing outward, to prevent liquid leakage (as shown in the figure below). Additionally, there are plastic gaskets with a thickness of approximately 0.5 mm; add them as needed based on the actual width of your electrophoresis tank.

a. Pull out the U-shaped sealing strip (the green part in the figure) from the Bio-Rad electrophoresis tank. Note that the two ends of the sealing strip have protrusions at this point: the side with the protrusions is the front side, and the side without protrusions is the back side.

b. Rotate the sealing strip 180 degrees (with the front side facing inward and the back side facing outward), then reinstall it in the electrophoresis tank. Be sure to press the periphery of the sealing strip firmly to prevent liquid leakage.

c. Place the precast gel and proceed with normal electrophoresis operations.



◆ Precautions

1. The Tris-Gly precast gel uses a Tris-Gly buffer system and should be used with Tris-Gly electrophoresis buffer.
2. If clearer and straighter protein bands are required, the voltage can be reduced to 150 V and the electrophoresis time can be extended appropriately.
3. When electrophoresis is performed at 180 V, the initial current for 1 gel is approximately 75 mA, and the initial current for 2 gels is approximately 150 mA. The current gradually decreases over time.
4. Reuse of electrophoresis buffer is not recommended. After electrophoresis, the ionic strength and buffering capacity of the buffer change, which cannot ensure the electrophoresis effect.
5. For wet transfer, perform constant voltage membrane transfer at 120 V for 60-90 minutes. To achieve a better membrane transfer effect, the membrane transfer efficiency can be determined based on the pre-stained marker remaining on the precast gel and the pre-stained marker on the membrane, and the membrane transfer conditions can be adjusted appropriately. The molecular weight of the target protein, gel concentration, and methanol concentration in the membrane transfer buffer will all affect the membrane transfer efficiency. For large proteins, low-concentration gels should be selected as much as possible.

Protein Molecular Weight	Above 100 kDa	10-100 kDa	Below 10 kDa
Recommended Methanol Concentration	5%	10%	20%-30%

6. This product is only for scientific research use by professional personnel and shall not be used for clinical medical diagnosis or other unreasonable purposes. It shall not be stored in ordinary residences.
7. For your safety and health, please wear personal protective equipment and experimental clothing during operation.
8. Before starting the experiment, please read the instruction manual carefully.