Precast Gel, Bis-Tris 12%, 10 Wells, 1.0mm

Product Code:BR01210B

Size：10 pcs

◆ Product Introduction

Precast Gel is a safe, fast, and high-performance precast polyacrylamide gel. When used in combination with MOPS buffer and MES buffer, it achieves better separation of proteins with large-to-medium molecular weights and small molecular weights.

◆ Product Features

1.Coated plastic gel plates are used to effectively reduce non-specific protein adsorption, resulting in sharper and clearer protein bands.

2.The electrophoresis time is short; it can be completed in 40-50 minutes under a voltage of 150 V. Automated gel pouring technology is adopted to ensure high stability and repeatability of product quality.

3.The gel clamp can be opened extremely easily, and the plastic plate can be pried open effortlessly with a gel opener.

5.The precast gel contains no SDS and can be used for both denaturing and non-denaturing electrophoresis.

6.It is compatible with mainstream mini electrophoresis tanks such as those from Bio-Rad, Invitrogen, Tianneng, Junyi Dongfang, and Beijing Liuyi.

7.A variety of concentrations of homogeneous gels and gradient gels are available.

◆ 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

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Maximum Sample Loading Volume	50 μL
Packaging	10 pieces/box

◆ Product Composition

Name	Specification	Storage Condition
Precast Gel, Bis-Tris 12%, 10 Wells, 1.0mm	10 pcs	2-8℃
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℃ with a shelf life of 12 months.

3.Do not store below 0℃. The gel will freeze and solidify below 0℃, 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 μL
BR01010B	Precast Gel, Bis-Tris 10%, 10 Wells, 1.0mm	50 μL
BR01010T	Precast Gel, Tris-Gly 10%, 10 Wells, 1.0mm	50 μL
BR01210B	Precast Gel, Bis-Tris 12%, 10 Wells, 1.0mm	50 μL
BR01210T	Precast Gel, Tris-Gly 12%, 10 Wells, 1.0mm	50 μL

◆ Operating Procedures

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

Non-denaturing electrophoresis (Native-PAGE)

1. Take the precast gel out of the packaging bag, **peel off the sealing tape at the bottom**, fix it in the

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electrophoresis tank, and install the electrophoresis device properly.

2.Add 1× MOPS/MES non-denaturing electrophoresis buffer to the electrophoresis tank: fill the inner tank with the electrophoresis buffer completely, and add the buffer to the outer tank to a liquid level of at least 1/3 (but not exceeding the gel plate at maximum). Then pull out the comb slowly.

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

4.Sample loading: Mix the native protein sample with 5× Native Loading Buffer at a ratio of 4:1 until homogeneous. When loading the sample, be careful not to pierce the gel with the pipette tip or insert it too deeply, as this may deform the gel plate and cause liquid leakage during subsequent electrophoresis.

(For acidic proteins (isoelectric point pI < 7), normal sample loading and electrophoresis can be performed. In contrast, basic proteins (isoelectric point pI > 7) carry a positive charge, so the electrodes need to be connected in reverse (red lead to the black terminal, black lead to the red terminal). In this case, the sample wells will serve as the positive electrode, and the sample will migrate downward during electrophoresis.)

5.Connect the power supply and run the gel under constant voltage (150 V). Stop the electrophoresis when the bromophenol blue indicator dye migrates to the bottom of the gel plate or the pre-determined position for the experiment.

6.After electrophoresis, remove the gel. Use a gel opener to slowly pry open the plates from the side edges, open the gel cassette, and gently take out the gel. (For specific operations, refer to the "**Gel Peeling**" section.)

Note: The protein migration rate in native gels is affected by multiple factors such as protein molecular weight and protein spatial structure. It is recommended to conduct a preliminary experiment before the formal experiment.

Denaturing Electrophoresis (SDS-PAGE)

1.Take the precast gel out of the packaging bag, peel off the sealing tape at the bottom, fix it in the electrophoresis tank, and properly assemble the electrophoresis device.

2.Add 1× MOPS/MES denaturing electrophoresis buffer to the electrophoresis tank: fill the inner tank completely with the electrophoresis buffer, and add the buffer to the outer tank to a liquid level of at least 1/3 (but do not let it overflow the gel plate at maximum). Then pull out the comb slowly.

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

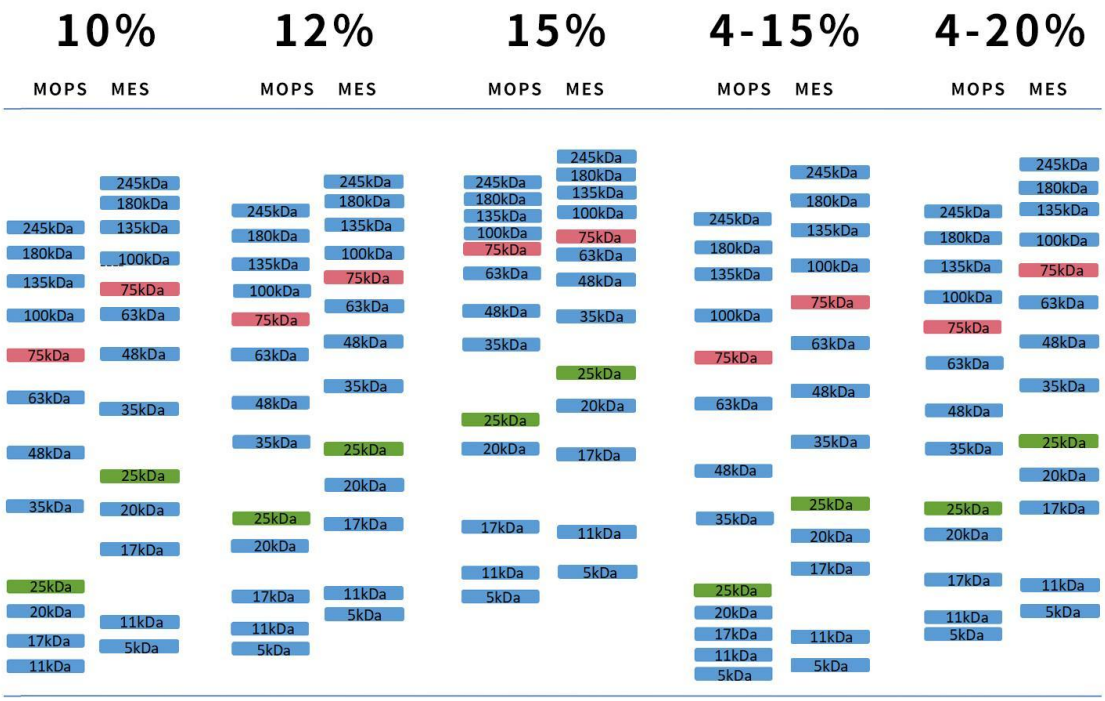
4.Sample loading: Mix the protein sample with 5× Denaturing Loading Buffer at a ratio of 4:1 until homogeneous, then subject the mixture to heat treatment. When loading the sample, be careful not to pierce the gel with the pipette tip or insert the tip too deeply—this could deform the gel plate and cause liquid leakage during subsequent electrophoresis.

5.Connect the power supply and run the gel under constant voltage (150 V). Stop the electrophoresis when the bromophenol blue indicator dye migrates to the bottom of the gel plate or the pre-determined position for the experiment.

6.After electrophoresis, remove the gel. Use a gel opener to slowly pry open the plates from their side edges, 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 profile below to select a precast gel with an appropriate concentration, which will help you achieve better separation of protein electrophoresis bands.

Precast Gel Separation Profile (Denaturing):



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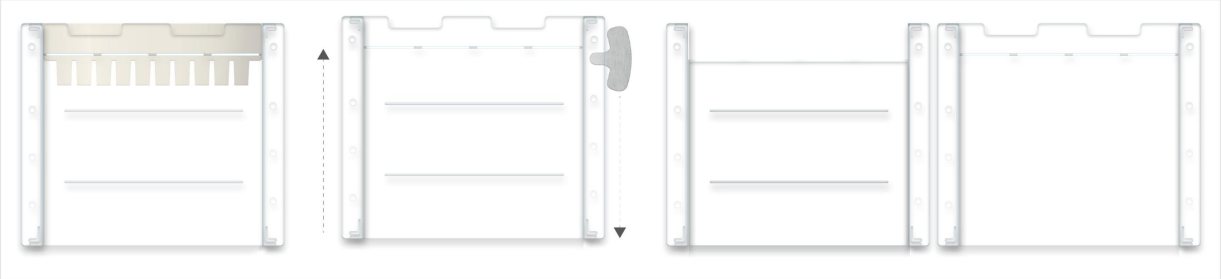
Gel Peeling：



◆ The Selection of Electrophoresis Tanks

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

a. Bio-Rad Mini-PROTEAN (II/3 /Tetra System) (to be used with BR00020 baffle);

b. Hoefer Mighty Small (SE 250/ SE 260/ SE 280);

c. Life Technology Novex Mini-Cell (to be used with BR00022 baffle);

d. Life Mini Gel Tank (to be used with BR00019 baffle);

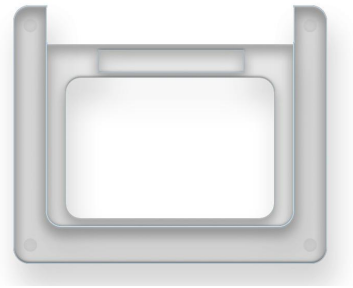
e. Beijing Liuyi DYCZ-25E, DYCZ-24K, DYCZ-24KS, DYCZ-24KF;

f. Junyi Dongfang JY-SCZ2+;

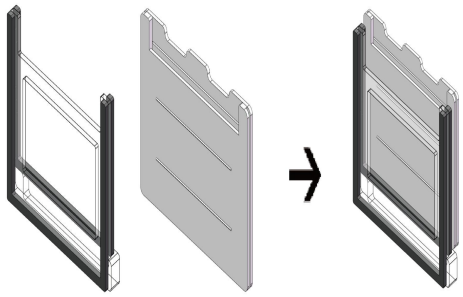
g. Tianneng VE180;

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

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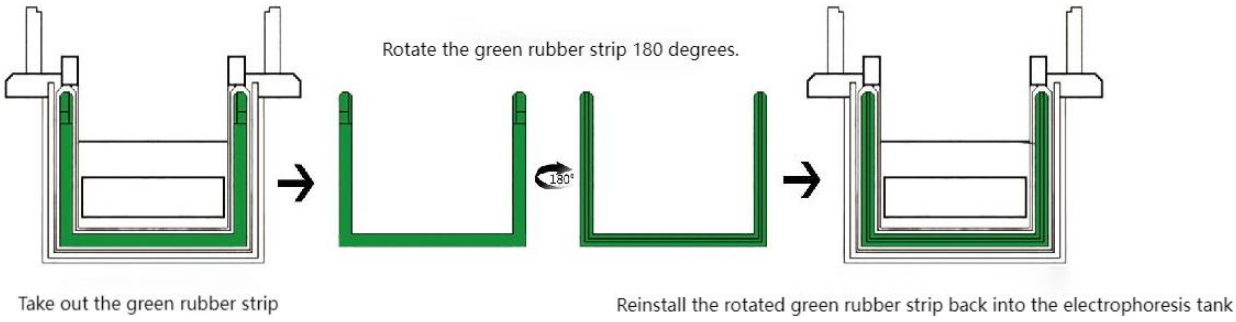
and reinstalled in reverse, with the smooth side facing outward, to prevent liquid leakage (as shown in the figure below). Additionally, there are plastic gaskets with a thickness of approximately 0.5 mm; add them as needed based on the actual width of your electrophoresis tank.

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 Bis-Tris precast gel uses the MOPS/MES buffer system; do not use other electrophoresis buffers such as Tris-Gly for electrophoresis.

2.If clearer and straighter protein bands are required, reduce the voltage to 100-120 V and appropriately extend the electrophoresis time.

3.When performing electrophoresis at a voltage of 150 V, the initial current for 1 gel is approximately 60 mA, and the initial current for 2 gels is approximately 140 mA. Additionally, the current gradually decreases as time increases.

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.

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5.For wet transfer, perform membrane transfer at a constant voltage of 120 V for 60-90 minutes. To achieve a better membrane transfer effect, the 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 transfer buffer will all affect the transfer efficiency. For large proteins, try to select gels with low concentrations.

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.

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