

SDS-PAGE Gel Quick Preparation Kit

(Product Number: **P777326**)

1. Principle of SDS-PAGE

- ❖ The primary function of β -mercaptoethanol is to selectively cleave disulfide bonds in protein molecules—chemical bonds that are critical for maintaining the protein's spatial conformation. Once disrupted, these bonds cause partial dissociation of the protein's secondary and higher-order structures. SDS further disrupts intramolecular noncovalent interactions, including hydrogen bonds, hydrophobic interactions, and ionic bonds, thereby promoting the gradual unfolding of the polypeptide chain and leading to complete disassembly of the higher-order structure. During this process, SDS molecules bind to the unfolded protein in a defined ratio, forming a stable SDS–protein complex.
- ❖ Because SDS molecules carry a large number of negative charges, the resulting SDS–protein complexes possess an abundance of negative charge far exceeding the protein's native charge. This effectively masks the intrinsic charge differences among proteins. Such a property is of critical importance in subsequent protein analyses, as it eliminates the influence of charge variation on the separation process and provides the basis for size-dependent protein separation.

2. Product Description

- ❖ This product includes red, yellow, blue, green, and purple gel reagent kits (6%, 8%, 10%, 12%, and 15%), incorporating “quantum dot” technology to create an upgraded version of the gel reagent kit that is colorful, simple, rapid, stable, and environmentally friendly. It addresses common issues such as the cumbersome process of gel preparation, difficulty in visualizing sample wells, and challenges in distinguishing gels of different concentrations. With this kit, red, yellow, blue, green, or purple gels can be prepared within minutes.
- ❖ Suitable for Tris–glycine electrophoresis systems. Gel yield: 125 gels (0.75 mm), >90 gels (1.00 mm), or >60 gels (1.50 mm).

3. Product Advantages

- ❖ **Colored stacking gel:** Capable of producing red, yellow, blue, green, or purple gels,

facilitating sample loading.

- ❖ **Rapid:** Preparation of a single or multiple colored gels takes only a few minutes, with no need to calculate solution volumes or perform dilutions.
- ❖ **Stable and environmentally friendly:** Free of the unpleasant TEMED odor; gels are uniform, elastic, and resistant to breakage, yielding well-defined protein bands in electrophoresis.

4. Product Components

Component	Name	Spec	Storage Temp
A	Red/Yellow/Blue/Green/Purple Stacking Gel Buffer	80mL	2-8°C
B	Stacking Gel Solution	80mL	2-8°C
C	Stacking Gel Solution	250mL	2-8°C
D	Stacking Gel Solution	250mL	2-8°C
E	Modified Accelerator	10mL	2-8°C
F	Graduated Measuring Cup	3EA	2-8°C

5. Product Information

Cat. No.	Color	Stack conc.	Sep. conc.	Sep. range (kDa)	Opt. range (kDa)
P777326-A1	Red	5%	6%	70-300	120-250
P777326-B1	Yellow	5%	6%	70-300	120-250
P777326-C1	Blue	5%	6%	70-300	120-250
P777326-D1	Green	5%	6%	70-300	120-250
P777326-E1	Purple	5%	6%	70-300	120-250
P777326-A2	Red	5%	8%	50-250	80-200
P777326-B2	Yellow	5%	8%	50-250	80-200
P777326-C2	Blue	5%	8%	50-250	80-200
P777326-D2	Green	5%	8%	50-250	80-200
P777326-E2	Purple	5%	8%	50-250	80-200

Cat. No.	Color	Stack conc.	Sep. conc.	Sep. range (kDa)	Opt. range (kDa)
P777326-A3	Red	5%	10%	20-100	30-90
P777326-B3	Yellow	5%	10%	20-100	30-90
P777326-C3	Blue	5%	10%	20-100	30-90
P777326-D3	Green	5%	10%	20-100	30-90
P777326-E3	Purple	5%	10%	20-100	30-90
P777326-A4	Red	5%	12%	15-60	15-40
P777326-B4	Yellow	5%	12%	15-60	15-40
P777326-C4	Blue	5%	12%	15-60	15-40
P777326-D4	Green	5%	12%	15-60	15-40
P777326-E4	Purple	5%	12%	15-60	15-40
P777326-A5	Red	5%	15%	8-40	10-20
P777326-B5	Yellow	5%	15%	8-40	10-20
P777326-C5	Blue	5%	15%	8-40	10-20
P777326-D5	Green	5%	15%	8-40	10-20
P777326-E5	Purple	5%	15%	8-40	10-20

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