



YamayBio

Stain-Free Gradient-Like PAGE Gel Kit

QUICK START GUIDE

For research use only.
Not for use in diagnostic procedures.

Contents and Storage

| Cat. No. | Quantity | Component | Cat. No. | Volume |
|----------|------------|---|----------|------------------------|
| | | GL-Stacking Buffer A | RF1513 | 80 mL |
| | | GL-Stacking Buffer B | RF1514 | 80 mL |
| | | GL-Resolving Buffer A | RF1515 | 250 mL |
| RF1541 | 100 Assays | GL-Resolving Buffer B | RF1516 | 250 mL |
| | | Enhanced Catalyst | RF1500 | 8 mL |
| | | GL-PAGE Gel Running Buffer Instant Granules | MS8137 | 40 sticks (0.5 L x 40) |

Storage: The enhanced catalyst should be stored at -20 °C. All other components should be stored at 4 °C for 18 months. Instant granules may be stored at room temperature for up to 36 months. Once opened, the enhanced catalyst can be stored at 4 °C for up to 6 months. The product is shipped at room temperature.

Introduction

This kit provides all the required reagents for preparing PAGE gels and performing electrophoresis. The resulting gels display a gradient-like separation profile that enables efficient resolution of proteins across a broad molecular weight range of **10 to 250 kDa**, when used with the supplied running buffer. Electrophoresis can be completed in approximately **25 minutes** at a constant voltage of **200 V**, significantly shortening overall run time. Multi-color (red, blue, and green) stacking gels improve visibility during and help ensure accurate well filling. The PAGE gels are suitable for both denatured and non-denatured protein electrophoresis.

To prepare the PAGE gel, combine equal volumes of the gel solution and corresponding buffer solutions with the polymerization initiator (ammonium persulfate solution). Pour the resolving gel first, followed immediately by the stacking gel, without waiting for the resolving gel to polymerize. TEMED is not required, eliminating the need to handle this hazardous reagent. In addition, the proprietary polymerization initiator provides enhanced stability and catalytic efficiency, compared to conventional ammonium persulfate solutions, even after extended storage.

Quick Cast Protocol

Preparation of resolving and stacking solutions for gel casting

| For 1 mm thick mini-gel | | | | | |
|-------------------------|-----------------------|------------|----------------------|----------------------|------------|
| GL-Resolving Buffer A | GL-Resolving Buffer B | Catalyst | GL-Stacking Buffer A | GL-Stacking Buffer B | Catalyst |
| 2.3 mL | 2.3 mL | 50 μ L | 0.75 mL | 0.75 mL | 15 μ L |

| For 0.75 mm thick mini-gel | | | | | |
|----------------------------|-----------------------|------------|----------------------|----------------------|------------|
| GL-Resolving Buffer A | GL-Resolving Buffer B | Catalyst | GL-Stacking Buffer A | GL-Stacking Buffer B | Catalyst |
| 1.75 mL | 1.75 mL | 35 μ L | 0.5 mL | 0.5 mL | 10 μ L |

| For 1.5 mm thick mini-gel | | | | | |
|---------------------------|-----------------------|------------|----------------------|----------------------|------------|
| GL-Resolving Buffer A | GL-Resolving Buffer B | Catalyst | GL-Stacking Buffer A | GL-Stacking Buffer B | Catalyst |
| 3.45 mL | 3.45 mL | 70 μ L | 1.00 mL | 1.00 mL | 20 μ L |

*Volumes listed are sufficient for casting one 7.4 x 8.2 cm mini-gel. To prepare multiple gels, multiply the indicated volumes by the desired number of gels.

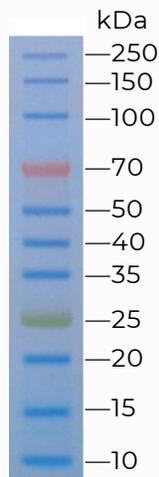
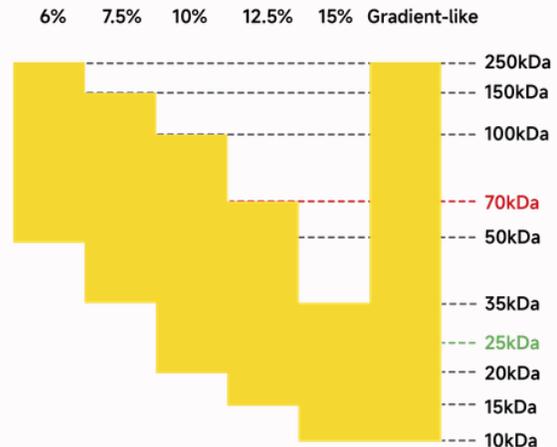


Image of prestained protein ladders (CY5466) on the gel.



Molecular weight range per gel concentration

Instructions:

1. Prepare the resolving gel by combining **equal volumes** of GL-Resolving Buffer A and GL-Resolving Buffer B in a clean conical tube to achieve the desired acrylamide concentration.
2. Prepare the stacking gel by mixing **equal volumes** of GL-Stacking Buffer A and GL-Stacking Buffer B in a clean conical tube. If the buffer contains settled dye, gently invert or shake the tube to resuspend the dye before use.
3. Add the appropriate volume of Enhanced Catalyst to the resolving gel solution and mix gently, taking care to avoid introducing air bubbles. Using a pipette, dispense the resolving gel into each cassette, stopping 0.5-1 cm below the comb teeth.
4. Add the appropriate volume of Enhanced Catalyst to the stacking gel solution and gently mix to ensure homogeneity without bubble formation.
5. Insert the pipette into the center of the cassette and slowly dispense the stacking gel until it reaches the top of the short plate. If the interface between the resolving and stacking gels appears uneven, lightly tap the cassette on the benchtop to level the boundary.
6. Carefully insert the comb immediately after pouring, ensuring that no air bubbles are trapped beneath the teeth.
7. Allow the gels to polymerize fully at room temperature.
8. The polymerized gel may be used immediately or wrapped in DI water-soaked paper towels and stored in an airtight container at 4 °C for up to 5 days.
9. Prepare the running buffer by dissolving one stick of instant running buffer granules in 500 mL of ddH₂O to obtain a 1× electrophoresis running buffer.
10. Remove the comb before loading samples. The recommended electrophoresis conditions are **200V for 25 minutes** or 150V for 35 minutes.

Note:

- Gel polymerization time is influenced by temperature. Higher temperatures generally accelerate polymerization, whereas lower temperatures may extend the process. In colder environments, increasing the catalyst volume by up to twofold may help ensure complete polymerization.
- If the kit has been stored at 4 °C, allow all components to equilibrate to room temperature before use to reduce air bubble formation during gel casting.