WIDE RANGE Gel Preparation Buffer (4x)

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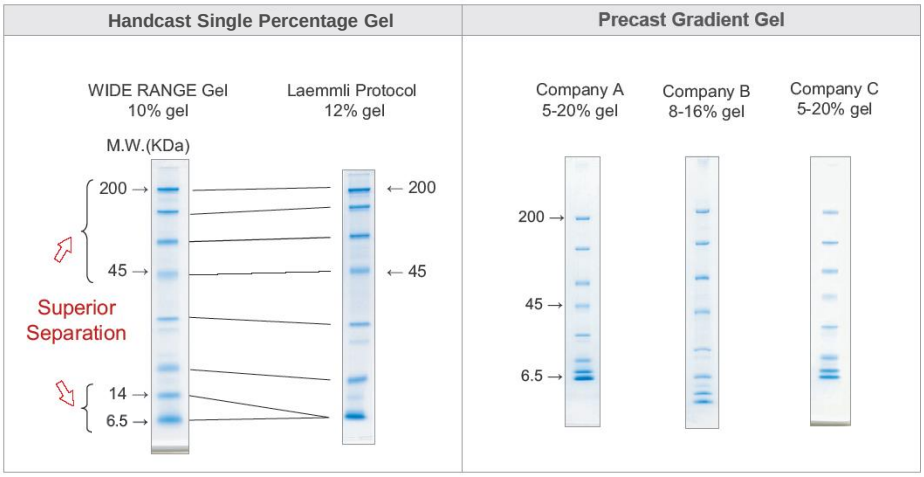
Innovations for Life Sciences.

Gradient gels offer a much wider separation range of proteins than single percentage gels. However, casting gradient gels is more difficult and labor intensive. WIDE RANGE Gel Preparation Buffer offers a gradient gel-like separation on a single percentage gel by simply mixing it with acrylamide/bisacrylamide gel casting solution. The gel can be used with the common sample buffer and running buffer. It is also suitable for standard staining methods including CBB and silver staining.

Features

- **Simple casting procedures**
  WIDE RANGE Gel Preparation Buffer is a 4x concentrated neutral pH buffer. It can be used for preparation of both stacking gel and resolving gel by replacing the Tris-HCl buffer in Laemmli buffer system.
- **A wide separation range**
  WIDE RANGE Gel provides a much greater separation range than the gel casted with a conventional Laemmli buffer system.
- **Improved stability and strength**
  The increased tensile strength allows easy handling even a low percentage gel. The neutral pH buffer improves the stability of gel resulting in a longer shelf life than the gel with Laemmli buffer system.

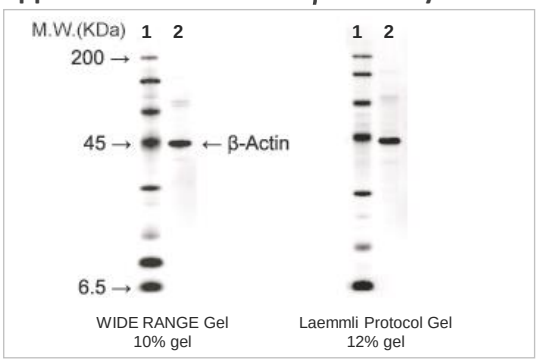
Comparison of Separation



Gel size : 10% WIDE RANGE gel and 12% Laemmli gel (10 cm x 8 cm x 1 mm)
Precast Gradient mini gels (dimensions vary by manufactures)
Sample : Protein Marker (Cat. No.: 29458)
Staining : CBB Stain One (Cat. No.: 04543)

The results show that WIDE RANGE gel provides superior separation of the close size small proteins (6.5 kDa and 14 kDa) compared to the conventional Laemmli gel. Besides, the resolutions of high molecular weight proteins (45 – 200 kDa) are wider than Laemmli gel.

Application: Detection of β-Actin by Western Blotting



Gel : 10% WIDE RANGE Gel
12% Laemmli protocol gel
Sample : 1. Chemi-Lumi One Markers (Cat. No.: 06456)
2. HeLa cell extract
Blotting : PVDF membrane (10V, 30 min)
Blocking : Blocking One (Cat. No.: 03953) (60 min)
Primary Antibody : Mouse anti β-Actin, mono, 1:200 (60 min)
Secondary Antibody : Goat anti-mouse IgG(H+L), HRP conjugate, 1:5000 + Streptavidin(HRP conjugate), 1:10000 (60 min)
Detection : Chemi-Lumi One Super (Cat. No.: 02230)

WIDE RANGE gel can be used for western blotting with the standard detection protocol.

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Application: 2D Electrophoresis with Silver Staining

Sample : HL-60 cell extract
Electrophoresis : 1D... Immobiline pH 4-7
2D... WIDE RANGE Gel Buffer (12% gel)
Staining : Sil-Best Stain One (Cat. No.: 06865)

Preparation of Different Percentage Gels with WIDE RANGE Gel Preparation Buffer

The Acrylamide/Bis premixed solutions used in this table are as follows:
40(w/v)%-Acrylamide/Bis mixed Solution (29:1) (Cat. No.: 16119)
40(w/v)%-Acrylamide/Bis mixed Solution (37.5:1) (Cat. No.: 06121)

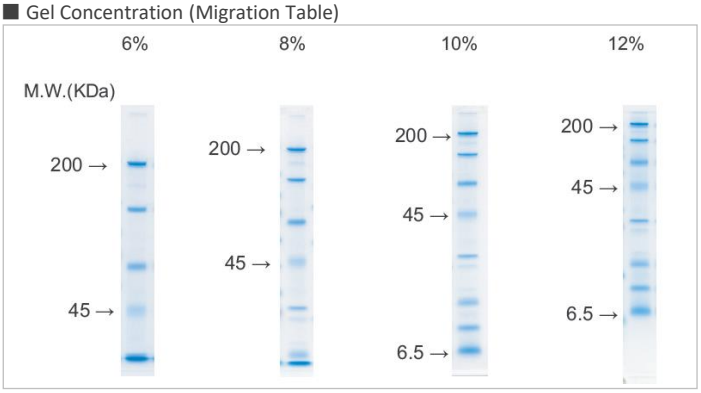
■ Preparation of Separation Gel (Unit: ml)

Acrylamide	Reagent	10 ml	20 ml	30 ml	40 ml
6%	Water	5.9	11.8	17.7	23.6
	40(w/v)%-Acrylamide/Bis mixed Solution	1.5	3.0	4.5	6.0
	WIDE RANGE Gel Preparation Buffer	2.5	5.0	7.5	10.0
	10(w/v)%-Ammonium Peroxodisulfate Solution	0.1	0.2	0.3	0.4
	TEMED	0.008	0.016	0.024	0.032
8%	Water	5.4	10.8	16.2	21.6
	40(w/v)%-Acrylamide/Bis mixed Solution	2.0	4.0	6.0	8.0
	WIDE RANGE Gel Preparation Buffer	2.5	5.0	7.5	10.0
	10(w/v)%-Ammonium Peroxodisulfate Solution	0.1	0.2	0.3	0.4
	TEMED	0.006	0.012	0.018	0.024
10%	Water	4.9	9.8	14.7	19.6
	40(w/v)%-Acrylamide/Bis mixed Solution	2.5	5.0	7.5	10.0
	WIDE RANGE Gel Preparation Buffer	2.5	5.0	7.5	10.0
	10(w/v)%-Ammonium Peroxodisulfate Solution	0.1	0.2	0.3	0.4
	TEMED	0.006	0.012	0.018	0.024
12%	Water	4.4	8.8	13.2	17.6
	40(w/v)%-Acrylamide/Bis mixed Solution	3.0	6.0	9.0	12
	WIDE RANGE Gel Preparation Buffer	2.5	5.0	7.5	10
	10(w/v)%-Ammonium Peroxodisulfate Solution	0.1	0.2	0.3	0.4
	TEMED	0.006	0.012	0.018	0.024

■ Preparation of Stacking Gel (Unit: ml)

Acrylamide	Reagent	2 ml	4 ml	6 ml	8 ml
3%	Water	1.33	2.66	3.99	5.32
	40(w/v)%-Acrylamide/Bis mixed Solution	0.15	0.3	0.45	0.6
	WIDE RANGE Gel Preparation Buffer	0.5	1.0	1.5	2.0
	10(w/v)%-Ammonium Peroxodisulfate Solution	0.02	0.04	0.06	0.08
	TEMED	0.002	0.004	0.006	0.008

■ Gel Concentration (Migration Table)



Gel size : 10 cm x 8 cm x 1 mm
Sample : Protein Marker (Cat. No.: 29458)
Staining : CBB Stain One (Cat. No.: 04543)

Ordering Information

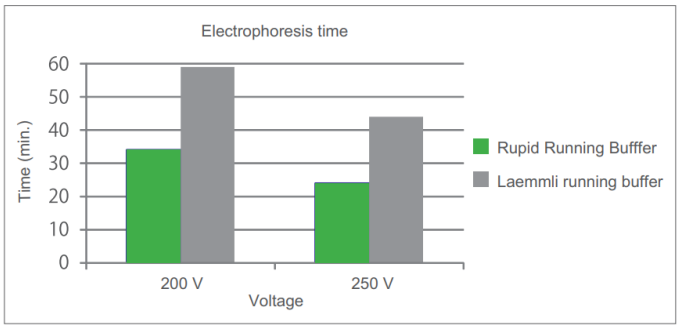
Product Name	Storage	Cat. No.	Quantity	Price (US$)
WIDE RANGE Gel Preparation Buffer (4x) for PAGE	4°C	07831-94	250 ml	103.00

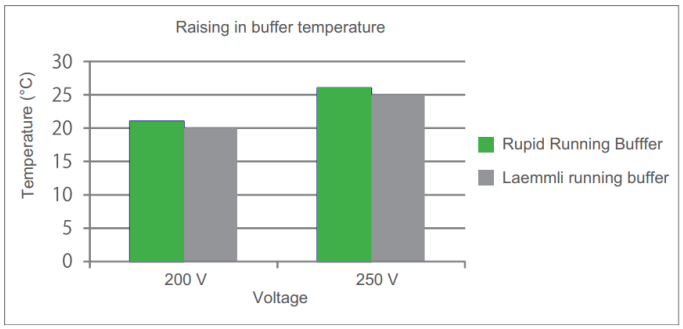
RAPID Running Buffer Solution (20x) for SDS-PAGE

Features

- **Fast Run Time** : Running mini-gel in 25 minutes
- **Easy to Use** : Premixed buffer (20x). Just prepare the Laemmli running buffer with Rapid Running Buffer.
- **Wide-range Separation** : Gradient gel-like separation on a single percentage gel.

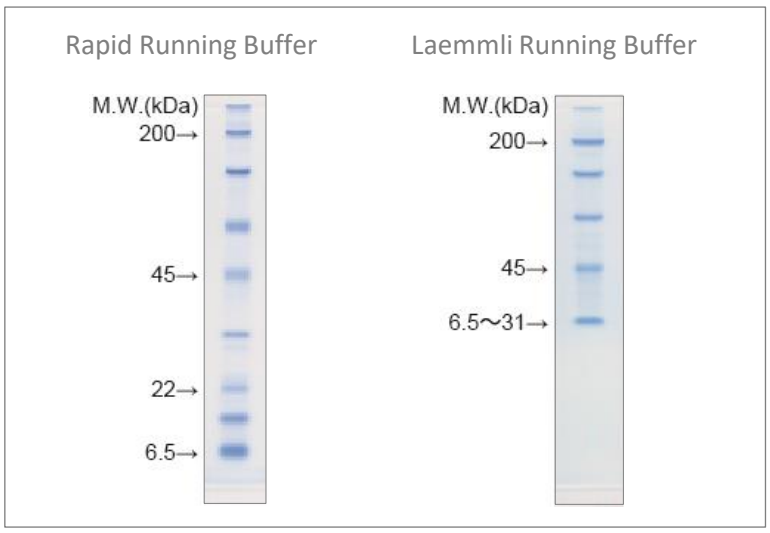
Comparison of Running Time and rise in buffer temperature





Running proteins with this product shortens the electrophoresis time to about 60% compared to Laemmli running buffer, and its rising in buffer temperature is the almost same as Laemmli running buffer's

Separation patterns of Laemmli gel with Rapid Running Buffer



Gels run at 250V for 23 minutes using either Rapid Running Buffer or traditional Laemmli Running Buffer

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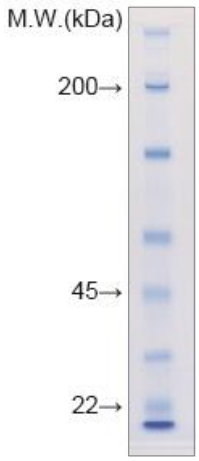
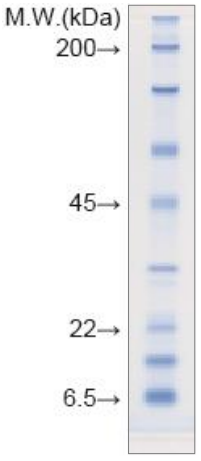
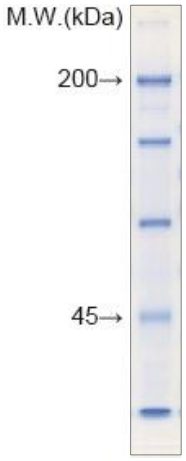
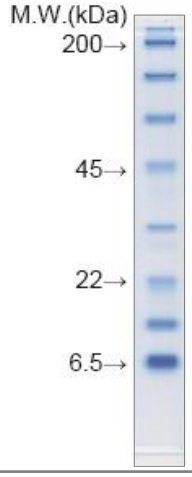
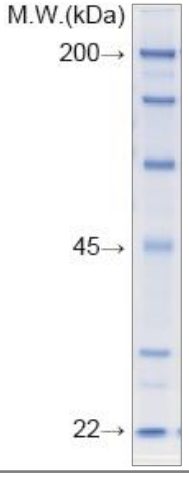
Comparison of Band Migration Pattern between Rapid Running Buffer and Laemmli Buffer

Gels run at 250V until bromophenol blue dye reached the bottom edge using either Rapid Running Buffer or traditional Laemmli Running Buffer.

Gel %	6%		8%	
Running Buffer	Rapid Running	Laemmli	Rapid Running	Laemmli
Gel Image				

Gel %	10%	
Running Buffer	Rapid Running	Laemmli
Gel Image		

Note Rapid Running Buffer is specifically designed for SDS-PAGE (Laemmli method) and cannot be used for Native-PAGE.
It may not work with some commercial precast gels. Preliminary test is recommended for using commercial precast gels.

Ordering Information

Product Name	Storage	Cat. No.	Quantity	Price (US$)
Rapid Running Buffer Solution (20x)	4°C	12981-74	250 ml	58.00