

# WIDE RANGE Gel Preparation Buffer(4x)for PAGE

## 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.

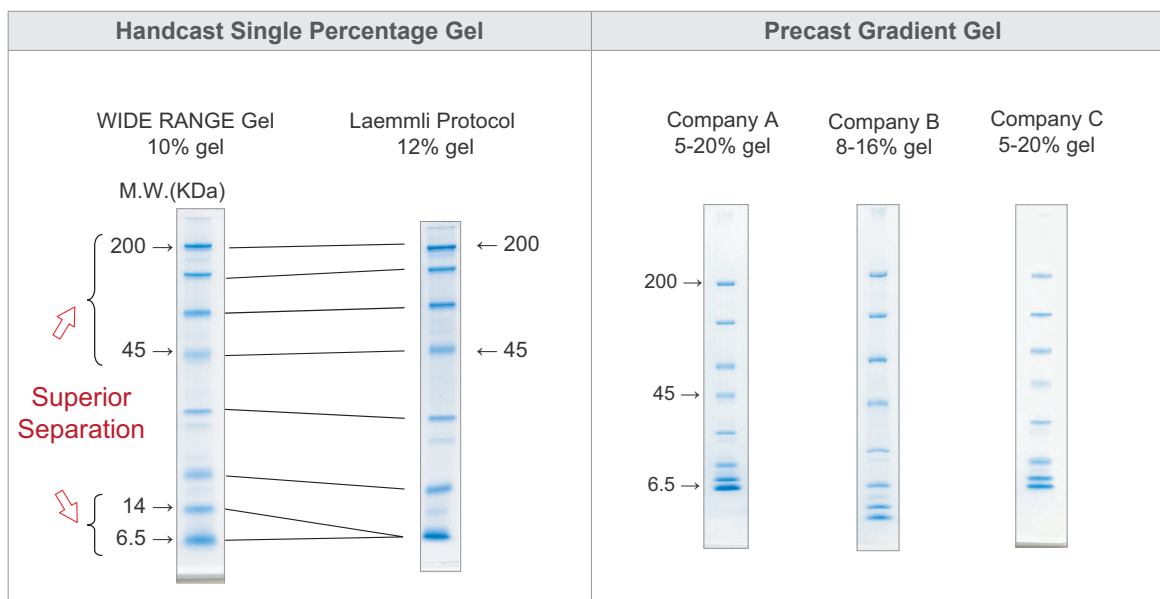


## Description

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 casing 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.

## Comparison of Separation

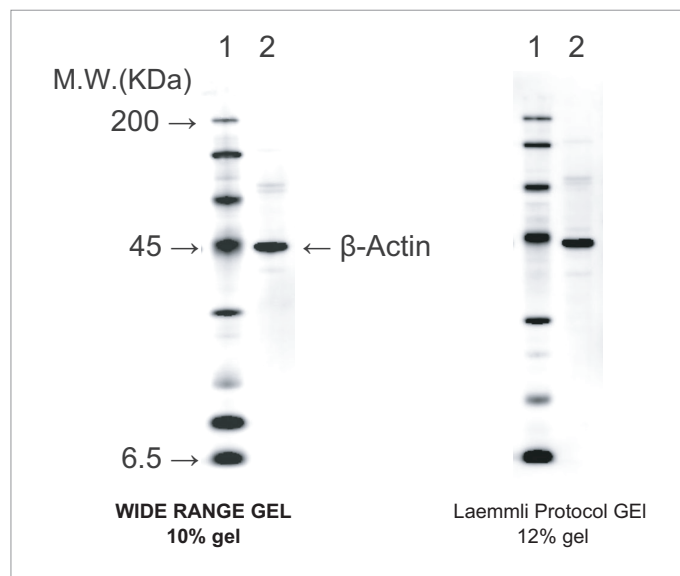
Gel size: 10 % WIDE RANGE gel and 12% Laemmli gel (10 cm x 8 cm x 1 mm)  
 Precast Gradient mini gels (dimensions vary by manufacturers)  
 Sample: Protein Marker (Product No. 29458)  
 Staining: CBB Stain One (Product No. 04543)



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 $\beta$ -Actin by Western Blotting

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



### [Detection of $\beta$ -Actin]

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

## Application: 2D Electrophoresis with Silver Staining

WIDE RANGE gel is suitable for 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(Product 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) (Product No. 16119)

40(w/v)%-Acrylamide/Bis mixed Solution (37.5:1) (Product 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	4.5	6
	WIDE RANGE Gel Preparation Buffer	2.5	5	7.5	10
	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	4	6	8
	WIDE RANGE Gel Preparation Buffer	2.5	5	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
10%	Water	4.9	9.8	14.7	19.6
	40(w/v)%-Acrylamide/Bis mixed Solution	2.5	5	7.5	10
	WIDE RANGE Gel Preparation Buffer	2.5	5	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
12%	Water	4.4	8.8	13.2	17.6
	40(w/v)%-Acrylamide/Bis mixed Solution	3	6	9	12
	WIDE RANGE Gel Preparation Buffer	2.5	5	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	1.5	2
	10(w/v)%-Ammonium Peroxodisulfate Solution	0.02	0.04	0.06	0.08
	TEMED	0.002	0.004	0.006	0.008

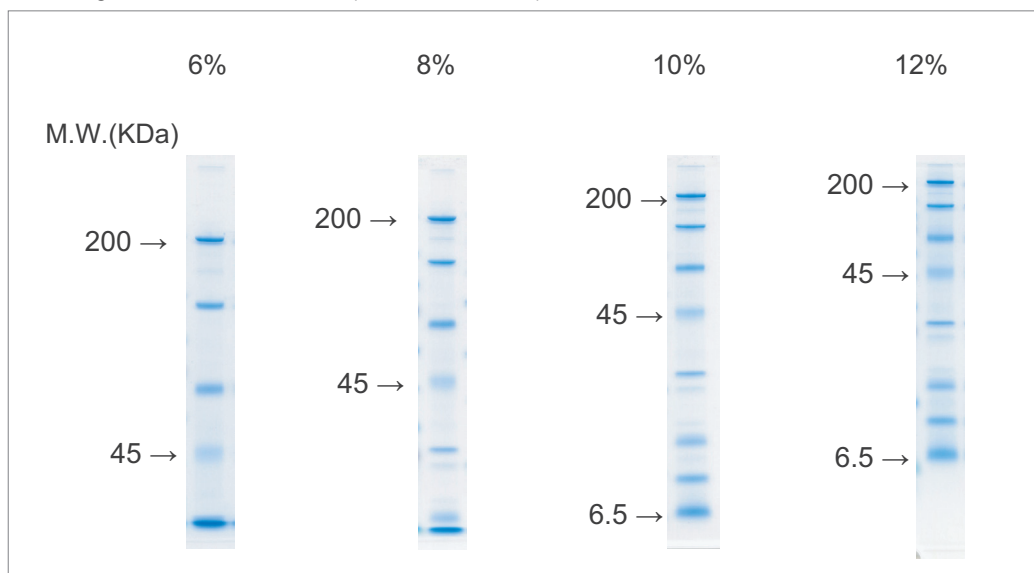
### ■ Gel Concentration

#### [Migration Table]

Gel Size: 10 cm x 8 cm x 1mm

Sample: Protein Marker (Product No. 29458)

Staining: CBB Stain One (Product No. 04543)



## Gel Strength

Even 6% wide range gel offers the same gel strength as 10% Laemmli gel.



## Ordering Information

Product Name	Grade	Storage	Product No.	PKG Size
WIDE RANGE Gel Preparation Buffer (4x) for PAGE	SP	R	07831-94	250 ml

## Related Products

Product Name	Grade	Storage	Product No.	PKG Size
<b>Gel Preparation</b>				
40(w/v)% - Acrylamide/Bis Mixed Solution (29:1)	SP	R	06119-45	500 ml
40(w/v)% - Acrylamide/Bis Mixed Solution (37.5:1)	SP	R	06121-95	500 ml
30(w/v)% - Acrylamide/Bis Mixed Solution (29:1)	SP	R	06141-35	500 ml
30(w/v)% - Acrylamide/Bis Mixed Solution (37.5:1)	SP	R	06144-05	500 ml
10% - SDS Solution [10% - Sodium Lauryl Sulfate Solution]	SP	RT	30562-04	100 ml
N,N,N',N' - Tetramethylethylenediamine	SP	RT	33401-72	25 g
10(w/v)% - Ammonium Peroxodisulfate Solution	SP	F	02634-34	10 ml
<b>Running Buffer</b>				
Running Buffer Solution(10x) for SDS - PAGE, Tris - Glycine	SP	RT	30329-61	1 L
<b>Sample Buffer</b>				
Sample Buffer Solution with 2 - ME (2x) for SDS - PAGE	SP	R	30566-22	25 ml
Sample Buffer Solution without 2 - ME (2x) for SDS - PAGE	SP	R	30567-12	25 ml
Sample Buffer Solution with Reducing Reagent (6x) for SDS - PAGE	SP	R	09499-14	5 ml
Sample Buffer Solution without Reducing Reagent (6x) for SDS - PAGE	SP	R	09500-64	5 ml
<b>Gel Steins</b>				
Dispotray (for minigel staining)		RT	06563-44	20 Pieces
Rapid Stain CBB Kit	SP	RT	30035-14	1 Set
CBB Stain One (Ready To Use)	SP	RT	04543-51	1L
Sil - Best Stain One	SP	R	06865-81	1 Set

(Storage) RT: Room temperature R: Refrigerator F: Freezer

For research use only, not intended for diagnostic or drug use.

## NACALAI TESQUE, INC.

Nijo Karasuma, Nakagyo-ku, Kyoto 604-0855 JAPAN

TEL : +81-(0)75-251-1730

FAX : +81-(0)75-251-1763

Website : www.nacalai.com

E-mail : info.intl@nacalai.com