Novex™ Tris-Glycine Mini Gels, WedgeWell™ Format

invitrogen

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Contents and storage

Gel type	Amount	Storage
Novex™ Tris-Glycine Gels	Box of 2 or 10 gels	Store at 2–8°C for up to 12 months. Do not freeze.

Product description

Novex™ Tris-Glycine Gels are precast polyacrylamide gels designed for optimal separation and resolution of a broad range of proteins (8–250 kDa) under denaturing gel electrophoresis conditions. The gels feature wedge-shaped WedgeWell™ sample wells with a capacity of up to 60 µL of sample per well.

Novex™ Tris-Glycine Mini Gels are available with the following specifications:

- **Polyacrylamide percentage**: 6%, 8%, 10%, 12%, 14%, 16%, 4–12%, 4–20%, 8–16%, and 10–20%
- **Well format**: 10, 12, and 15 wells
- **Thickness**: 1.0 mm

Required materials

- Protein sample and protein ladder
- NuPAGE™ Sample Reducing Agent (10X) (for reduced samples)
- Novex™ Power Supply Adapters (Cat. No. ZA10001) if not using a Thermo Fisher Scientific™ power supply
- Mini Gel Tank (Cat. No. A25977) or XCell SureLock™ Mini-Cell (Cat. No. EI0001)

For denaturing applications	For native applications
• Novex™ Tris-Glycine SDS Sample Buffer (2X)	• Novex™ Tris-Glycine Native Sample Buffer (2X)
• Novex™ Tris-Glycine SDS Running Buffer (10X)	• Novex™ Tris-Glycine Native Running Buffer (10X)

Online resources

- Visit thermofisher.com/proteingels for additional information and protocols.
- For support, visit thermofisher.com/support.

Choosing a well format

Well type	Recommended loading volume	Maximum loading volume	Maximum protein load
10-well	40 µL	60 µL	0.5 µg/band
12-well	30 µL	45 µL	0.4 µg/band
15-well	20 µL	35 µL	0.25 µg/band

Choosing a protein ladder for your application

Type	Marker	Cat. No.
Pre-Stained	PageRuler™ Prestained Protein Ladder PageRuler™ Plus Prestained Protein Ladder	26616 26619
Unstained	PageRuler™ Unstained Protein Ladder PageRuler™ Unstained Broad Range Protein Ladder	26614 26630
Western blot	iBright™ Prestained Protein Ladder MagicMark™ XP Western Protein Standard	LC5615 LC5602

Go to thermofisher.com/proteinladders for more information on protein ladders.

Choosing buffers for your application

Buffer	Application	Cat. No.
Novex™ Tris-Glycine SDS Running Buffer	Denaturing gel electrophoresis	LC2675
Novex™ Tris-Glycine Native Running Buffer	Native gel electrophoresis	LC2672
Novex™ Tris-Glycine Transfer Buffer	Wet transfer	LC3675

Limited product warranty and licensing information

For Research Use Only. Not for use in diagnostic procedures.

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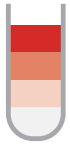
Perform protein gel electrophoresis using Novex™ Tris-Glycine Mini Gels

Step 1 — Prepare samples



Prepare 1X Sample Buffer for dilutions of samples if needed. Volumes are provided for a 40-µL sample size. Scale volumes proportionally for larger sample sizes.

Components	Denaturing sample	Native sample
Sample	*x* µL	*x* µL
Tris-Glycine SDS Sample Buffer (2X)	20 µL	—
Tris-Glycine Native Sample Buffer (2X)	—	20 µL
NuPAGE™ Sample Reducing Agent (10X)	4 µL	—
Deionized Water	to final volume	to final volume
Total Volume	40 µL	40 µL

Heat **denaturing samples** at 85°C for 2 minutes. **Do not heat native samples**.

Step 2 — Prepare buffers

Denaturing Buffer: Add 100 mL of 10X Tris-Glycine SDS Running Buffer to 900 mL of deionized water to prepare 1X SDS Running Buffer.

Native Buffer: Add 100 mL of 10X Tris-Glycine Native Running Buffer to 900 mL of deionized water to prepare 1X Native Running Buffer.

Step 3 — Prepare gel

a. Remove the comb, and rinse the gel wells three times using 1X Running Buffer.

b. Remove the white tape near the bottom of the gel cassettes.

c. Place the gels in the mini gel tank.

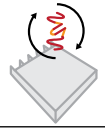
Step 4 — Load buffers

Fill the chambers with the appropriate 1X running buffer.

Mini Tank: Add 400 mL of buffer to each chamber.

XCell SureLock™ Mini-Cell: Add 600 mL of buffer to the upper chamber, and 200 mL to the lower chamber.

Step 5 — Load samples and ladders



a. Load the appropriate volume of your samples in the appropriate wells.

b. Load your protein ladder in the appropriate well.

Step 6 — Run the gel

Optimal run times vary depending on gel percentage and power supply used for electrophoresis.

Electrophoresis tank	Time (Denaturing sample)	Time (Native sample)	Voltage
Mini Tank	25–40 minutes	35–50 minutes	225 V constant
XCell SureLock™ Mini-Cell	35–45 minutes	45–55 minutes	225 V constant

Note: If you are not using a Thermo Fisher Scientific™ power supply, install Novex™ Power Supply Adapters.

For support, visit thermofisher.com/support.

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Buffer formulation

The following recipes are provided to allow preparation of buffers from scratch.

The pH listed for each buffer is for the 1X solution. **Do not use acid or base to adjust the pH**. Buffers are stable for 6 months when stored at 4°C.

Prepare 1000 mL of 10X Tris-Glycine SDS Running Buffer

25 mM Tris Base, 192 mM glycine, 0.1% SDS, pH 8.3

1. Dissolve the following reagents in 400 mL ultrapure water.

Reagent	Amount
Tris Base	29 g
Glycine	144 g
SDS	10 g

2. Mix well and adjust the volume to 1000 mL with ultrapure water.
3. Before electrophoresis, dilute buffer to 1X with water.

Prepare 1000 mL of 10X Tris-Glycine Native Running Buffer

25 mM Tris Base, 192 mM glycine, pH 8.3

1. Dissolve the following reagents in 400 mL ultrapure water.

Reagent	Amount
Tris Base	29 g
Glycine	144 g

2. Mix well and adjust the volume to 1000 mL with ultrapure water.
3. Before electrophoresis, dilute buffer to 1X with water.

Prepare 500 mL of 25X Tris-Glycine Transfer Buffer

12 mM Tris Base, 96 mM glycine, pH 8.3

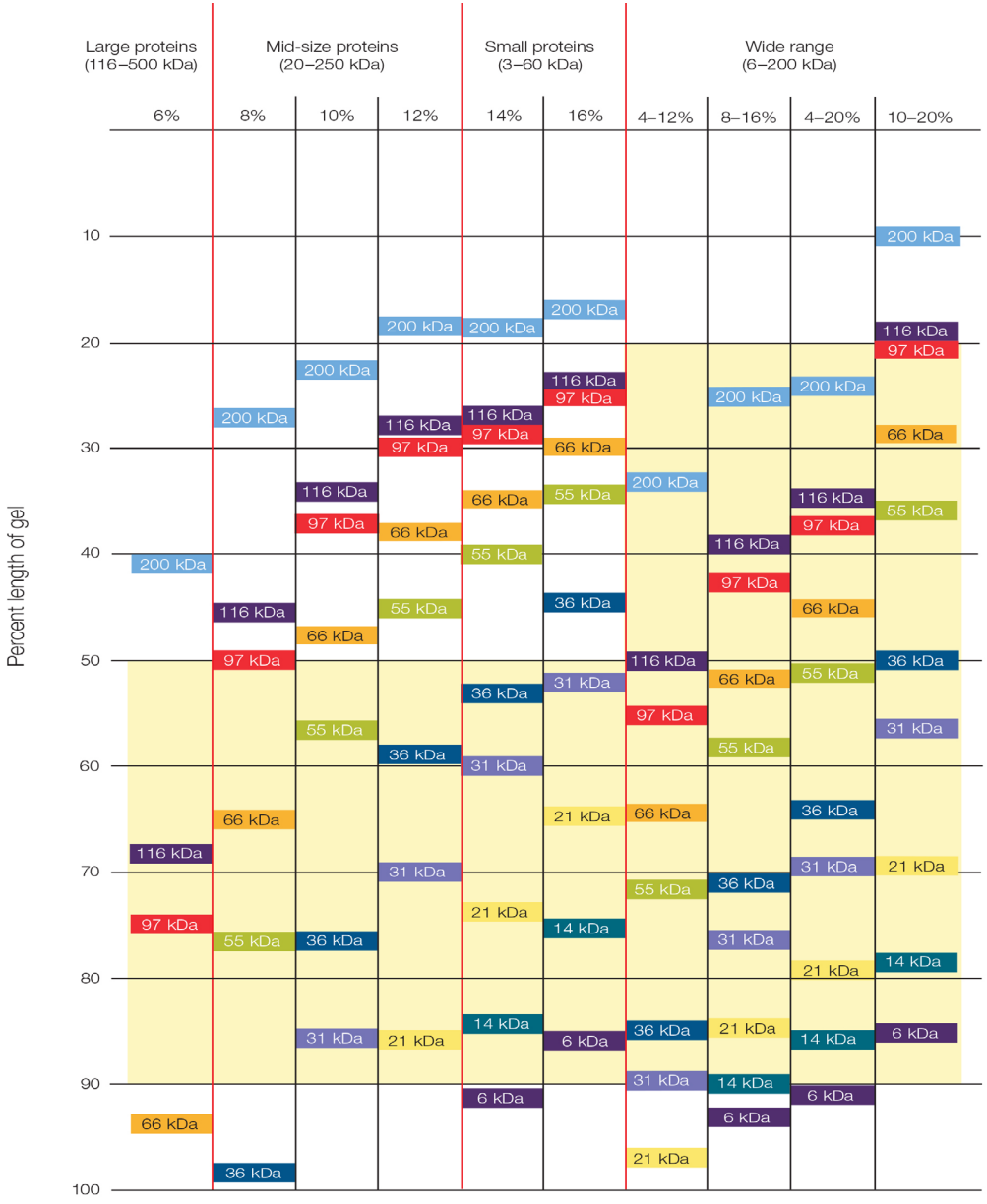
1. Dissolve the following reagents in 400 mL ultrapure water.

Reagent	Amount
Tris Base	18.2 g
Glycine	90 g

2. Mix well and adjust the volume to 500 mL with ultrapure water.
3. Before western transfer, dilute buffer to 1X with water.

Migration patterns of protein standards on Novex™ Tris-Glycine gels

Refer to the migration chart to find the gel best suited for your application. Your proteins of interest should migrate through ~70% of the length of the gel for the best resolution.



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Choosing the right gel type for your application

Thermo Fisher Scientific protein gels					
Gel type	**Gel % available**	**Separation range**	**Shelf life**	**Average run time**	**Applications**
Bolt™ Bis-Tris Plus	8%, 10%, 12%, 4–12%	6 to 400 kDa	up to 16 months	22–45 min	Best choice for separation of small- to medium-sized proteins. Neutral pH environment minimizes protein modifications. Wedge well design can accommodate large sample volumes. Ideal for Western blot transfer and analysis, and all techniques in which protein integrity is crucial.
NuPAGE™ Bis-Tris	8%, 10%, 12%, 4–12%	1.5 to 300 kDa	12 months	35–50 min	Separation of small- to medium-sized proteins. Neutral pH environment minimizes protein modifications.
NuPAGE™ Tris-Acetate	7%, 3–8%	36 to 500 kDa	6 months	60 min	Separation of larger proteins.
Novex™ Tricine	10%, 16%	2 to 200 kDa	1–2 months	90 min	Separation of small proteins and peptides.
NativePAGE™ Bis-Tris	3–12%, 4–16%	15 to 10,000 kDa	12 months	90–120 min	Separation of native proteins.
Novex™ Tris-Glycine	6%, 8%, 10%, 12%, 4–20%, 4–12%, 14%, 16%, 8–16%, 10–20%	8 to 250 kDa	up to 12 months	90 min	Separation of small- to medium-sized proteins using traditional Laemmli-style gels.
E-PAGE™	E-PAGE™ *96* 6% E-PAGE™ *48* 8%	10 to 220 kDa	6 months	14–25 min	High-throughput for recombinant production analysis and protein profiling.
IEF	pH 3–7, pH 3–10	pI 3.5 to pI 8.5	2 months	150 min	Separation of proteins based on isoelectric point.
Zymogram	10% (gelatin)	10 to 220 kDa	2 months	90 min	Separation of proteins based on size and activity.