

ClearPAGE Tris-Glycine PreCast Gel, 4-20%, 10 wells

Troubleshooting Guide

10 gels

Cat No: PCG42010

Use this guide for common electrophoresis problems with ClearPAGE Tris-Glycine PreCast Gel, 4-20%, 10 wells. The 1.0-mm gradient gel uses a 4% stacking section, has a maximum loading volume of 50 µL per well, contains no SDS, and is compatible with denaturing or native electrophoresis.

Before You Start - Quick Checks

1. Store at 4°C and do not freeze the gels.
2. For denaturing runs, use 1x Tris/Glycine/SDS Running Buffer and appropriately prepared Laemmli-treated samples.
3. Remove the bottom sealing tape, remove the comb gently, and rinse wells with 1x running buffer before loading.
4. Do not exceed the 50 µL maximum loading volume or push the pipette tip deeply into the wells.

Problem	Most likely cause	Recommended action
Samples do not enter or migrate through the gel	The bottom sealing tape may not have been removed or the electrophoresis tank may not be assembled correctly.	Remove the cassette sealing tape completely and reassemble the gel in the compatible tank with 1x running buffer.
Sample leaks from a well	The pipette tip may have been inserted too deeply and deformed the plastic plates or well.	Load gently near the top of the well without forcing the tip deep into the cassette.
Bands are distorted immediately after loading	Storage buffer may remain in the wells or the sample volume may be too high.	Rinse wells several times with 1x running buffer and keep each load at or below 50 µL.
Poor denaturing separation	The sample or running buffer may not match the denaturing protocol.	Use an appropriate ClearBand Laemmli Sample Buffer, heat samples for 5 minutes in boiling water, and run with 1x Tris/Glycine/SDS buffer.
Bands are curved or less flat than desired	The standard 180-V run may be too aggressive for the desired band shape.	Reduce the constant voltage to 150 V when clearer and flatter bands are needed.
Run is unexpectedly slow or fast	The running buffer may not have been diluted to 1x or the applied voltage differs from the protocol.	Verify the 1x buffer preparation and compare the run with the usual 180 V, approximately 50-60 minute condition.

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Troubleshooting Guide (continued)

Problem	Most likely cause	Recommended action
Gel was frozen during storage	Storage did not follow the do-not-freeze requirement.	Use a gel stored at 4°C and avoid freezing, which is outside the datasheet conditions.
Native electrophoresis gives unexpected results	The gel itself contains no SDS, but the sample and running-buffer system determines whether the run is native or denaturing.	Use the buffer and sample preparation validated for the intended native workflow; do not carry over the denaturing protocol automatically.
Protein ladder is difficult to interpret	A ladder may not have been loaded or migration conditions may differ from the validated Tris-Glycine system.	Load an appropriate protein ladder in a dedicated well and keep running conditions consistent.
Gel tears during removal from cassette	The cassette may have been pried open too aggressively.	Use a gel opener between the plates and separate each side gradually before gently peeling the gel away.
Current behavior seems abnormal	The protocol notes an initial current of about 75 mA per gel at 180 V that decreases over time.	Verify buffer concentration, cassette assembly, and power settings if current behavior differs markedly from the expected pattern.
Resolution varies between runs	Storage, well rinsing, loading volume, or voltage may not be standardized.	Standardize 4°C storage, 1x buffer preparation, well rinsing, sample loading, and voltage across experiments.

Still having trouble? Recheck 4°C storage, bottom-tape removal, 1x running buffer, well rinsing, loading volume, sample preparation, and the applied voltage before replacing the gel.