

E-Gel® Agarose Gels

Cat. nos. G6000-XX, G5018-XX, G6018-XX, G5518-01

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Instructions are provided below for using E-Gel® and clear E-Gel® pre-cast agarose gels with the E-Gel® PowerBase™ v.4. For more detailed information, and instructions on use with the E-Gel® iBase® power system, refer to the E-Gel® Technical Guide available at www.lifetechnologies.com or contact Technical Support.

General Guidelines

- Prepare samples with recommended DNA amount and sample volume.
- Load 100–250 ng of molecular weight markers in an appropriate volume.
- Keep all sample volumes uniform. Load deionized water in empty wells.
- Run the gel immediately after loading samples and markers.
- Dilute samples that contain high salt concentration buffers (certain restriction enzyme and PCR buffers) 2- to 20-fold before loading (refer to the E-Gel® Technical Guide for details).

Prepare Samples

Use 20–100 ng DNA per band for samples containing one unique band or up to 500 ng per lane for samples containing multiple bands.

The total sample volume is 20 µL for single or double comb gels. For double comb gels, load 10 µL of the molecular weight marker in lane M.

Prepare DNA samples in deionized water OR loading buffer (the recommended final concentration for loading buffer is 10 mM Tris-HCl; 1 mM EDTA, pH 7.5; 0.005% bromophenol blue; and 0.005% xylene cyanol FF).

Load Samples

1. Remove E-Gel® agarose gel from package and remove the comb from the cassette.
2. Plug the E-Gel® PowerBase™ v.4 into an electrical outlet using the adaptor plug on the base.
3. Insert the gel into the base, starting from the right edge of the cassette. The Invitrogen logo should be located at the bottom of the base. Press firmly at the top and bottom to seat the gel in the base. A steady, red light illuminates on the base if the gel is correctly inserted.

Note: Instructions for using an E-Gel® agarose gel with the E-Gel® iBase™ device is included in the E-Gel® Technical Guide.

4. Load 20 µl of prepared sample into each well.
- Note:** The wells of the double comb gel are compatible for loading with a multichannel pipet..
5. Load appropriate DNA molecular weight markers.
6. Load 20 µl of water into any remaining empty wells.

Product Use

For research use only. Not intended for animal or human therapeutic or diagnostic use.

Step 1



Steps 2, 3



Steps 4–6



Run Conditions

1. Press and release the 30-minute (single comb gel) or 15 minute (double comb gel) button on the E-Gel® PowerBase™ to begin electrophoresis. At the end of each run, the current automatically shuts off and the power base signals the end of the run with a flashing red light and rapid beeping.
2. Press and release either button to stop the beeping. Remove the gel cassette and analyze your results. For Clear E-Gel® gels, open the gel cassette with an E-Gel® Opener (Cat. no. G530001) to remove the gel and post-stain the gel using 1:10,000 dilution of the DNA stain of choice in TE or TAE buffer.

Troubleshooting

Observation	Cause	Solution
No current	Cassette improperly inserted or is defective	Remove the gel cassette and re-insert the cassette correctly. Use a fresh cassette.
Poor resolution or smearing of bands	Sample overloaded	Do not load more than 200 ng of DNA per band in a volume of 20 μ L.
	High salt samples	Dilute your samples 2- to 20-fold as described in the E-Gel® Technical Guide.
	Sample not loaded properly or low sample volume loaded	Do not introduce bubbles while loading samples. For proper resolution, keep all sample volumes uniform and load water into empty wells. Use Two-Step Loading method (see E-Gel® Technical Guide).
Melted gel	Increased current due to longer run times	Do not run the gel longer than 40 minutes.
Sample leaking from wells	Wells damaged during comb removal	Be sure to remove the comb gently without damaging the wells.
	Sample overloaded	Load 20 μ L of sample per well. Use the Two-Step Loading method (see the E-Gel® Technical Guide).

Purchaser Notification

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