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TBE-Urea Gels

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Instructions are provided below for electrophoresis of TBE-Urea Gels using the XCell *SureLock*® Mini-Cell. For details, refer to the *Novex*® *Technical Guide* available at www.lifetechnologies.com/manuals or contact Technical Support.

Prepare Samples

Load only about 1/10 sample as used on large gels or agarose gels. Dilute your standards and samples to ~0.01 OD (0.2 µg/band).

Reagent	Sample
Sample	x µL
TBE Urea Sample Buffer (2X)	5 µL
Deionized Water	to 5 µL
Total Volume	10 µL

Heat samples at 70°C for 3 minutes.

Prepare 1X Buffer

Add 200 mL 5X TBE Running Buffer to 800 mL deionized water to prepare 1X TBE Running Buffer.

Load Sample

Flush the wells several times with 1X TBE Running Buffer to remove urea prior to loading samples. Load the appropriate concentration and volume of your DNA sample on the gel.

Load Buffer

Fill the Upper Buffer Chamber with 200 mL and the Lower Buffer Chamber with 600 mL of 1X TBE Running Buffer.

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Run Conditions

Voltage:	180 V constant
Run Time:	50–75 minutes (dependent on gel percentage)
Expected Current:	19 mA/gel (start); 14 mA/gel (end) for 6% gel 15 mA/gel (start); 8 mA/gel (end) for 10% gel 13 mA/gel (start); 6 mA/gel (end) for 15% gel

Blotting Conditions

For blotting TBE-Urea gels, use 0.5X TBE Running Buffer. Perform transfer with nylon membranes at 30 V constant for 1 hour using the XCell II™ Blot Module. The expected start current is 360 mA and end current is 270 mA.

Dye Front Migration

The size of single-strand DNA fragments visualized at the dye fronts of the different TBE-Urea Gels is shown in the table below.

Gel Type	Dye Front	
	Bromophenol Blue (dark blue)	Xylene Cyanol (blue green)
6%	25	110
10%	20	55
15%	10	40