Southerns/Northerns: Electrophoresis, Blotting, and Crosslinking in **2.5 Hours Instead of 30**.

Stratagene has streamlined agarose gel electrophoresis and blotting. The system decreases the time required, from sample loading to prehybridization ten-fold.

![Diagram](image)

**STRATAGENE METHOD — TIME 2.5 HOURS**

<table>
<thead>
<tr>
<th>Step</th>
<th>Time</th>
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<tbody>
<tr>
<td>Size Fractionate DNA On Agarose Gel</td>
<td>2 HOURS</td>
</tr>
<tr>
<td>Stain Gel And Pretreat</td>
<td>15 MIN</td>
</tr>
<tr>
<td>Transfer To A Solid Support</td>
<td>15 MIN</td>
</tr>
<tr>
<td>Crosslink DNA To A Solid Support</td>
<td>30 SECONDS</td>
</tr>
<tr>
<td>12 HOURS</td>
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**CONVENTIONAL METHOD — TOTAL TIME 30 HOURS**

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<td>12 HOURS</td>
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</table>

**VAGE™ System**

The VAGE™ vertical agarose/acylamide gel electrophoresis system allows the casting of agarose or acrylamide gels in the unit. Nucleic acids can be electrophoresed through a 3 mm, 0.8% vertical agarose gel in less than two hours with excellent resolution (Figure 1). Because the gels are thin, staining, depurination, and denaturation can be accomplished in 15 minutes.

**FIGURE 1:**

Figure Legend: Fractionation of end labeled DNA markers on 3mm thick 0.8% agarose by the VAGE apparatus and transfer to Duralon — UV™ membranes using the PosiBlot pressure blower.

A. Ethidium stained gel showing high resolution.
B. Same gel after pressure blotting.
C. Autoradiogram of membrane after pressure transfer.
The PosiBlot™ positive pressure bloter permits the transfer of nucleic acids in 1/3 the time of vacuum bloters and 1/50 the time of capillary blotting (Figure 2). Pressure blotting does not dehydrate gels as do other methods. This allows the use of substantially higher pressure differentials, compared with vacuum blotting, without gel collapse. The PosiBlot apparatus reduces blotting time to 15 minutes.

The PosiBlot™ UV Crosslinker fixes nucleic acids to solid supports such as nitrocellulose or nylon membranes, in less than one minute. This compares favorably to vacuum baking, which requires 2 hours. The Stratagene apparatus actually monitors the ultraviolet energy flux and deactivates the light source upon reaching the user-programmed energy level (Figure 4). Figure 3 shows an autoradiogram of a human genomic Southern blot performed using the VAGE, PosiBlot and Stratalinker all in 2.5 hours.

Stratagene offers a full selection of nitrocellulose, reinforced nitrocellulose and nylon membranes. Each membrane is stringently lot tested to ensure consistency when performing Northern and Southern blotting. Please call Technical Services for detailed information on Stratagene’s time saving blotting systems and membranes.

**Stratalinker™ UV Crosslinker**

![Image of Stratagene instruments]

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• Dr. Anthony Carrano, Lawrence Livermore National Laboratories

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