Directions for Use

Visual Violet™ Gel Kit

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>N733-KIT</td>
<td>Visual Violet™ Gel Kit</td>
<td>30 x 100 mL gels</td>
</tr>
<tr>
<td>N733-KIT-SAMPLE</td>
<td>Visual Violet™ Gel Kit</td>
<td>4 x 100 mL gels</td>
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General Information

The Visual Violet™ Gel Kit provides an in-gel stain that eliminates the need for UV irradiation of agarose gels to visualize DNA bands following electrophoresis. Since UV light introduces nicks and other lesions in DNA, downstream applications sensitive to DNA damage can be affected. With Visual Violet™, cloning efficiency can increase 3- to 5-fold over that obtained with ethidium bromide stained gels.

Electrophoresis can be monitored in real time with Visual Violet™ and the run can be stopped as soon as the desired band resolution is obtained. Bands are visible immediately after electrophoresis with the naked eye or on a white (visible spectrum) light box without destaining. Fragments may be excised and purified for use in downstream applications by conventional methods, including spin-column chromatography and alcohol precipitation.

The sensitivity of Visual Violet™ is less than Ethidium Bromide. While DNA quantities of 50 ng per band can be visualized for 1,000 bp fragments, concentrations of 200 ng or higher are recommended for optimal visualization. Visual Violet™ is ideal for the detection of medium to large DNA fragments (500 to >40,000 bp).

A 6X loading buffer is included with the Visual Violet™ stain. This loading buffer does not contain a tracking dye since common tracking dyes such as bromophenol blue can interact with Visual Violet leading to poor resolution and band distortion. Electrophoresis should be monitored by following the Visual Violet™ dye front which migrates in the opposite direction of the DNA. Bands should not be allowed to migrate beyond the Visual Violet™ dye front.

- Increase cloning efficiency up to 5-fold
- No post-run staining or destaining
- Sensitive down to 50 ng of DNA per band (1,000 bp)
- Compatible with downstream applications
Directions for Use

Storage/Stability

Store at room temperature (18 – 26°C).

Product Use Limitations

For research use only. Not for therapeutic or diagnostic use.

Materials Supplied

<table>
<thead>
<tr>
<th>Component</th>
<th>N733-KIT</th>
<th>N733-KIT-SAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Violet™ Gel Additive, 200X</td>
<td>N731-15ML</td>
<td>N731-2ML</td>
</tr>
<tr>
<td>Visual Violet™ Loading Buffer, 6X</td>
<td>N732-2ML</td>
<td>N732-350UL</td>
</tr>
</tbody>
</table>

Required Materials Not Supplied

Agarose
1X running buffer (TAE, TBE or sodium borate)
DNA MW Marker

Protocol/Procedure

1. Visual Violet™ Gel Additive, 200X should be added to melted agarose immediately before gel casting.
   a. Melt 1 g of agarose in 100 mL of 1X TAE.
   b. Cool agarose to 60°C.
   c. Add 0.5 mL of Visual Violet™ Gel Additive, 200X and mix.
   d. Pour agarose into gel casting system, add comb and let gel solidify.
   e. After gel solidifies, remove comb and submerge in 1X TAE running buffer.
2. For each DNA sample, mix 1 volume of Visual Violet™ Loading Buffer, 6X with 5 volumes of DNA.
3. Load DNA samples on gel and resolve DNA at 5 – 8 V/cm.
   **Important:** DO NOT let the DNA migrate beyond the Visual Violet™ dye front.
4. After the run, remove the gel and place on a light box for optimum visualization of the DNA.
Frequently Asked Questions

<table>
<thead>
<tr>
<th>Questions</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>What buffers can I use during electrophoresis?</td>
<td>TAE, TBE, and sodium borate buffers can all be used with Visual Violet™.</td>
</tr>
<tr>
<td>Why can’t I see my DNA?</td>
<td>1. Not enough DNA was loaded onto the gel.</td>
</tr>
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<td></td>
<td>2. The DNA was run past the Visual Violet™ dye front.</td>
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</table>

References