Catalog #581

MV10 Vertical Protein Electrophoresis Apparatus

Features:

- New, sleek design with sturdy lid overmold and modified base shape (which improves separation speeds by 10-15%) - by far the most user friendly vertical protein electrophoresis unit with a simple gel clip system.
- Single-piece molded base design prevents leaking.
- Electrodes are constructed entirely of platinum.
- Electrical leads are a single-unit design, making them resistant to fraying. Leads are recessed into the cover to prevent shock and the right angle design helps to improve stability by minimizing tipping.
- Color-coded terminals, leads, and one-way lid fit ensure correct polarity. Color-coded push tabs make it easy to remove the lid.

The totally redesigned MV-10 is engineered for the electrophoretic fractionation of native proteins, SDS denatured proteins, and DNA fragments, depending on the type of gel and electrophoresis buffer. The unit can be conveniently powered by the EDVOTEK series of power supplies (EDVOTEK Catalog #s 509 & 5010). The optimal voltage is 70-150 volts.

MAINTENANCE

Upon completion of the electrophoresis run, turn off the power source and disconnect the leads before removing the cover. Gently lift the cover straight up to prevent pulling directly on the electrodes. The gel should be removed for staining. Staining solutions should not be introduced into the apparatus chamber.

Avoid touching the delicate platinum electrodes. The power should always be turned off and the leads disconnected from the power source when the cover is removed. Do not attempt to run the apparatus without the cover in place.

To clean the electrophoresis apparatus chamber, rinse with distilled or deionized water and let the components air dry. Do not use detergents of any kind, or expose any part of the apparatus to any organic solvent, alcohol, strong acid or alkali.

The acrylic chamber of the apparatus will withstand normal intended use. However, should a leak develop, immediately shut off power. Do not use the apparatus. Call 1-800-EDVOTEK for further consultation.

OPERATION

The MV10 vertical electrophoresis unit is designed to run pre-cast, polyacrylamide slab gel cassettes. The cassettes for EDVO-Kits requiring polyacrylamide gel electrophoresis are sold separately (Cat. #651 or 652).

1. Orient the electrophoresis unit so that the black lead on the cover will be on your left.
2. Use the push tabs to carefully remove the cover.
3. Prepare the gel cassettes according to instructions (many pre-cast gel types require the removal of tape at the bottom opening of the gel).

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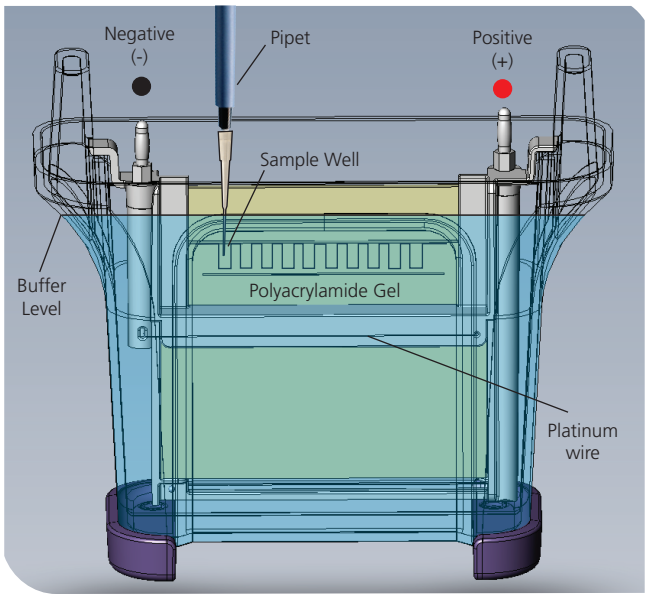

Proper Orientation of the Gel in the Electrophoresis Unit

1. Place the gel cassette in the electrophoresis unit in the proper orientation. The proteins samples will not separate in gels that are not oriented correctly. The shorter plate of the cassette (opening to the wells) should face forward, assuming the black lead is on the left and the red lead is on the right. The taller, back plate of the gel cassette will sit up against the part of the gel clip that protrudes out.
2. Fill the chamber with approximately 575 ml of electrophoresis buffer. The sample wells should be submerged. Do not use more than 575 ml of buffer.
3. Rinse each of the wells of the gel with diluted electrophoresis buffer by using a transfer pipet to squirt a stream of buffer into each well.
4. Load samples into wells of the gel. Replace the cover onto the unit, with the black lead on the terminal indicated by the black dot and the red lead on the terminal indicated by the red dot.
5. Plug the black and red leads into the negative and positive inputs, respectively, of the D.C. power supply.
6. Turn the power supply on, set to the recommended voltage, for the appropriate time. Allow the tracking dye to migrate to the bottom of the gel, but not off the end of the gel.
7. Turn the power supply off, remove the cover, remove the gel cassette.
8. Refer to EDVO-KIT instructions for specific staining procedure.

Sample Loading

For use with automatic micropipets with appropriate tips. The polyacrylamide gel should be prepared and used within 1 to 2 hours before the electrophoresis experiment. Prolonged contact between the gel and electrophoresis buffer without conducting electrophoresis will eventually cause the equilibration of gel buffer with the buffer. This can cause a decrease in sample resolution and alter run times. Buffer equilibration problems do not occur when the gel and buffer are the same, such as in tris-borate polyacrylamide systems for the electrophoresis of nucleic acids.

1. The comb and tape should be removed from the precast gel before immersion in electrophoresis buffer in the electrophoresis chamber. The sample wells should be submerged under buffer. Rinse the wells with a transfer pipet by squirting a stream of buffer into each well.
2. Place a fresh tip on the micropipet. Fine-tipped micropipet tips (Cat. #638) are recommended.
3. Place the lower portion of the pipet tip below the surface of the electrode buffer, directly over a sample well. The tip should be at an angle pointed towards the well. The tip should be partially against the back plate of the gel cassette but the tip opening should be over the sample well.
   Do not try to jam the pipet tip in between the plates of the gel cassette.
4. Eject all of the sample by steadily pressing down on the plunger of the automatic pipet without stopping. Do not release the plunger before all the sample is ejected. (Premature release of the plunger will cause the mixing of buffer with sample in the micropipet tip.) Release the pipet plunger after the sample has been delivered and the pipet tip has been removed from the buffer.