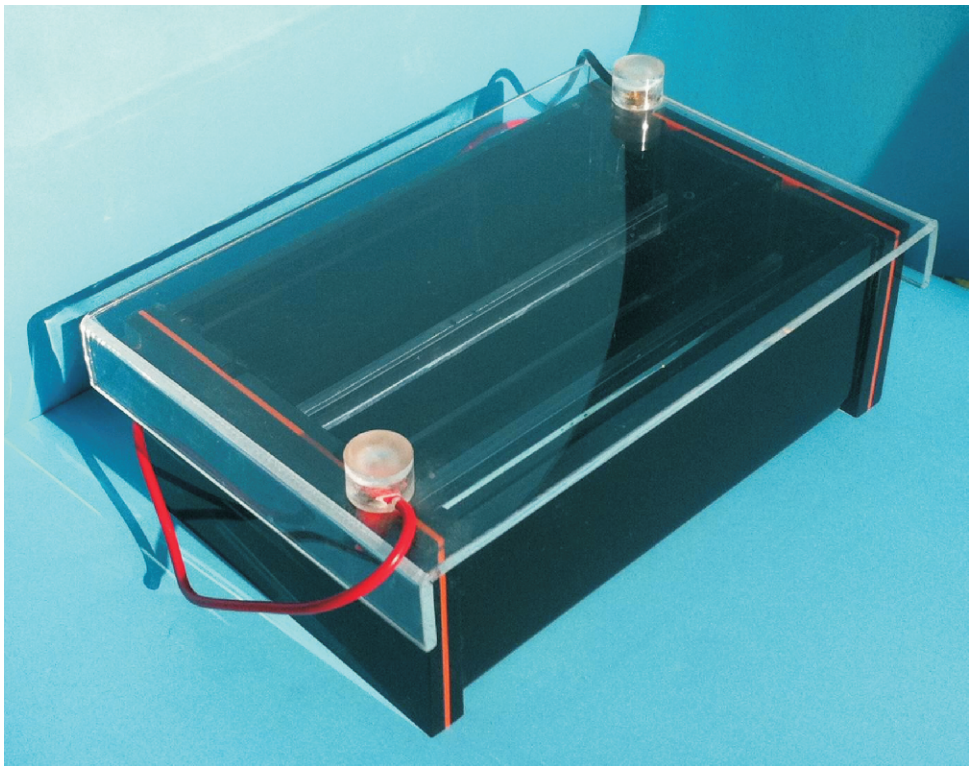
GTI-Protein Electrophoresis Apparatus

Instruction Manual



Genetic Technology Instrumentation

Electrophoresis is used for the separation of charged molecules like proteins by an electric current applied to a matrix. Electrophoresis of haemoglobin and serum proteins can provide important diagnostic information. GTI Protein Electrophoresis is specially designed to accommodate cellulose membranes strips.

Electrophoresis

1. Reconstitute the Electrophoresis buffer in 1L of distilled water.
2. Fill the chambers of the electrophoresis apparatus with buffer and equalize the buffer level in both compartments by gently tilting the electrophoresis tank.
3. Apply filter paper wicks over the two bridges of the electrophoresis tank.
4. Carefully remove any air bubbles trapped below the filter paper wicks.
5. Dip the cellulose acetate membrane electrophoresis strip in the buffer and keep for 5-10 minutes.
6. Gently wipe the electrophoresis strip between two layers of filter paper. Take care that the electrophoresis strip should not get dried.
7. Place the electrophoresis strip across the two bridges ensuring good contact of the margins with the bridges.
8. Apply ~2 ul of haemolysate or serum with a pipette on the negative side of the strip.
9. Wipe excess haemolysate/serum from the strip with the corner of a piece of filter paper.
10. Run electrophoresis at 230 -240 Volts for 20 minutes or as desired.

Staining

1. At the end of electrophoresis remove the strip from the chamber and immediately dip in fixative (3% Tri-chlor Acetic Acid) for 2-3 minutes.
2. Transfer the strip to Ponceau-S stain and keep for up to 5 -10 minutes.
3. Decolorize the strips in 2-3 changes of 5% Acetic acid. Excess stain may also be removed from the strip by placing it under gently running tap water.
4. Wash till the background of the strip turns white. Be careful not to wash off the stain from the bands of haemoglobin/serum proteins. The bands of Hb-A_2 being very low in quantity can easily get washed by excessive washing.
5. Dry the strip by pressing between two layers of filter paper. The strips may be completely dried in an incubator at 37^{o}C. At the end of drying the strips may be preserved for record keeping by overlaying with cellophane adhesive tape on its front surface.