Principle
Hb Differentiation

The membrane is supplied in pre-cut dimensions for immediate use in all electrophoresis apparatus. Apacor supply a comprehensive range of ancillary products including, buffers, reagents and stains which have been optimised for use with Apacor Cellulose Acetate Membranes.

The electrophoretic separation and detection of haemoglobins is a principal application for Apacor Cellulose Acetate Membranes. The membrane provides unrivalled clarity for the diagnosis of haemoglobinopathies including Sickle Cell Diseases and Thalassemia.

Electrophoresis exploits the negative charge which haemoglobin will adopt under alkaline conditions; since each haemoglobin variant carries a different net charge, they will all migrate at different speeds. Following electrophoretic migration these fractions are visualised by staining and classified by comparison with known standards.

Haemoglobinopathies occur when production of normal adult haemoglobin is suppressed and replaced by one or more variants, or normal haemoglobins are produced in abnormal proportions. Screening can highlight these abnormalities before the onset of symptoms, allowing better patient management and counselling.

Procedure Overview
Serum Electrophoresis

Apacor Cellulose Acetate Membranes are indicated for use in the electrophoretic separations of serum proteins.

This process is the single most powerful tool to indicate the wellbeing of a patient, with a large spectrum of diseases indicated by atypical protein migration.

Electrophoretic separation exploits the speed of migration as determined by the protein charge.

Atypical protein bands indicate clinical significance.

Performance Benefits
- Range of membrane sizes
- Clinical and routine analysis
- Can be used in all machines
- High sensitivity
- Easy to handle
- Clear resolution
- Reproducible results
**STEP 1 - SAMPLE APPLICATION**
Allow the membrane to soak fully using Apacor High Resolution Buffer II. Dry with adsorbent pads and then place the applicator block onto the membrane. Load a 25µl sample in a 15 second application.

**STEP 2 - ELECTROPHORESIS**
Ensure that the electrophoresis chamber is filled with High Resolution Buffer II and that the polarity of the chamber is correct. Electrophorese for 20 minutes at 2-10 milliamps.

**STEP 3 - STAINING**
Remove the membrane from the electrophoresis chamber and transfer to vessel containing Ponceau S Solution. Remove the excess with 5% acetic acid solution. Place the membrane in clearing solution. The membrane will clear, giving high resolution banding.

**STEP 4 - EXAMINATION**
Migrations patterns should be compared to a known control. For quantitative determination, use densitometry or elute separated fractions. When using Ponceau S Solution, the densitometric scan should be undertaken at 525nm.

**High Resolution Buffer II**
Product Code 51106
Product Overview
High Resolution Buffer II is a general-purpose electrophoresis buffer intended for use in the qualitative and quantitative separation of proteins. Routine applications include serum proteins, lipoproteins, LDH, CK and alkaline phosphatase isozyme electrophoresis, and immunoelectrophoresis. (This product should not be used to conduct haemoglobin electrophoresis.)

**Ponceau S Solution**
Product Code 51284
Product Overview
Ponceau S Solution is intended as a stain for haemoglobin, glycosylated haemoglobins, serum and other proteins following electrophoretic migration.

**Adsorbent Paper**
Product Code 82600
Product Overview
Apacor supply a range of adsorbent papers, which are used to blot the sample before media application. The papers are made from a special non-leaching high absorbency material, which allows fast preparation of the electrophoresis media.

Products can be ordered direct from Apacor or from an appointed distributor
Visit our website for all the latest information www.apacor.com or email on: sales@apacor.com

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