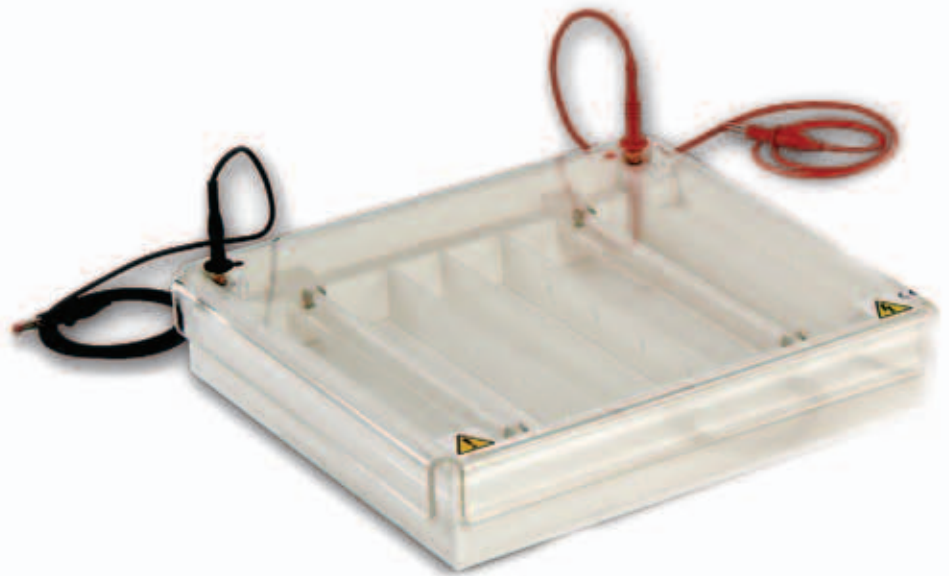


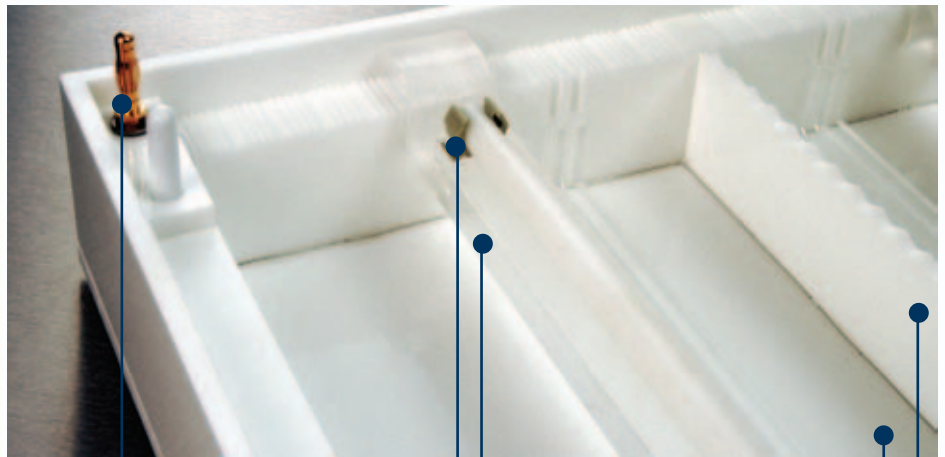
BENEFITS INCLUDE

- **Developed in collaboration with end-users** - as with all our gel electrophoresis units, the CA-SYS and units have been designed in close consultation with end-users: in this case NHS biomedical scientists who routinely use cellulose acetate electrophoresis to screen for mucopolysaccharide (MPS) disorders in children
- **Active tank area:** -
CA-SYS - 24.5 x 26cm (W x L) easily accommodates larger 145 x 192mm membranes, or up to three standard 78 x 75/150mm membranes simultaneously
- **Adjustable bridge prices** - can be located anywhere within the tank to support cellulose acetate membranes or horizontal precast gels
- **Clamping bars within clip holders** - hold the cellulose acetate membrane or paper wick gently in position
- **Asymmetric offset electrodes** - ensure that the membrane is run in the correct polar orientation
- **Transparent lid** - allows electrophoresis to be monitored as it happens as well as maintaining uniform atmospheric conditions
- **A central partition** - separates the buffer and lends additional support to longer membranes and precast gels
- **Membranes available** - in small, standard and large formats



CA-SYS Cellulose Acetate System

The CA-SYS cellulose acetate system has been designed in close collaboration with the UK National Health Service (NHS) to run cellulose acetate membranes and wick-based electrophoresis applications, particularly in the two-dimensional screening of inherited metabolic disorders in children.



Asymmetric offset electrodes - ensure that the membrane is run in the correct polar orientation

Clamping bars within clip holders - hold the cellulose acetate membrane or paper wick gently in position

Adjustable bridge prices - can be located anywhere within the tank to support cellulose acetate membranes or horizontal precast gels

Active tank area - CA-SYS - accommodates up to **three small/standard** 78 x 75/150mm membranes or **one large** 145 x 192mm membrane

Central partition - separates the buffer and lends additional support to longer membranes and precast gels

Applications Include:

- Serum Proteins
- Lipoproteins
- Haemoglobin
- Metabolites in Urine and Spinal Fluids

TECHNICAL SPECIFICATION

CA-SYS

Unit Dimensions (W x L x H)	30 x 32 x 6.5cm
Active Tank Dimensions (W x L x H)	24.5 x 26 x 3.5cm
Recommended Buffer Volume (ml)	1200ml
Maximum Membrane Length (mm)	230mm
Recommended Power Supply	55V (10mA)
Power Output Connectors (diameter)	Shrouded, 4cm
Recommended Power Supplies	Consort EV243

ORDERING INFORMATION

CA-SYS

Complete System

Cellulose acetate system, including 30 x 32cm tank with central partition, 2 x adjustable bridge pieces with clamping bars, transparent lid and 4mm power output connectors

Part No.

CA-SYS

Replacement Parts & Accessories

2 x adjustable bridge pieces with clamping bars, 27cm in length	CA-ABS
2 x 1 metre power leads with shrouded 4mm power output connectors	CABLE-4
Platinum Wire - 2 x 0.2mm thick platinum electrode wire	PT-0.2

Membranes

	Part No.
100 x ATX-micro solid standard, small-format cellulose acetate membranes, 78 x 75mm	CA-MEM-S
50 x ATX-micro solid standard, medium-format cellulose acetate membranes, 78 x 150mm	CA-MEM-M
50 x ATX-micro solid large-format cellulose acetate membranes, 145 x 192mm	CA-MEM-L

Outline Protocol for Two-dimensional (2-D) Electrophoresis of Urinary Glycosaminoglycans - a Diagnostic Indicator of Mucopolysaccharide Disorders

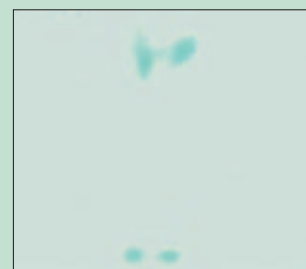
Buffer 1: Pyridine: Acetic Acid: Distilled Water (10:1:89 v/v)

Buffer 2: 0.1M Barium Acetate, pH 6.0

Stain: Alcian Blue

Destain: 5% Acetic Acid (v/v)

- Spot 2 x 1µl aliquots of extracted urine sample, stained with Alcian Blue, onto a 78 x 75mm cellulose acetate membrane, previously soaked and electrophoresed in Buffer 1 for 10 minutes at 55V (7.5V/cm) using either the CA-SYS or system.
- Run the membrane at 55V for a further 75 minutes in Buffer 1.
- Remove the cellulose acetate membrane from the CA-SYS or system, allowing it to dry in a fume cupboard for 1 hour.
- Float the cellulose acetate membrane face down for 5 seconds in Buffer 2, before rotating it at 90° to its original orientation and then spotting a 0.5µl aliquot of MPS Type III urine as a positive control.
- Dry and then electrophorese the cellulose acetate membrane at 55V for 3½ hours.
- Stain the cellulose acetate membrane face down for 15 minutes, before rinsing it in water and standing it overnight in Destain.
- After destaining, rinse the cellulose acetate membrane with water and dry it flat between two sheets of filter paper.



Diagnostic Analysis of Mucopolysaccharide Disorders with the CA-SYS unit. Extracted urine sample was applied to a 78 x 75mm cellulose acetate membrane, electrophoresed at 55V for 75 minutes in the first dimension, and then electrophoresed in the second dimension for a further 3½ hours at same voltage as described in the Outline Protocol. (Courtesy of the NHS)