

1.1 Product Description

The Experion Pro260 analysis kit is used for protein analysis with the Experion automated electrophoresis system (Figure 1.1). The Experion system employs LabChip microfluidic technology to automate protein and nucleic acid electrophoresis by integrating separation, detection, and data analysis within a single platform. The Experion automated electrophoresis system uses smaller sample and reagent quantities than standard analysis methods, and it accomplishes analysis in a single 30-minute, automated step.

The Experion Pro260 analysis kit supplies the microfluidic chips, reagents, and instructions required to separate and analyze 10–260 kD proteins under denaturing conditions. The sensitivity of the Experion Pro260 analysis kit is comparable to (though sometimes more sensitive than) colloidal Coomassie Blue staining of SDS-PAGE gels. Each Experion Pro260 chip can analyze up to 10 samples.

For details about how the Experion Pro260 kit analyzes proteins, refer to Appendix A in this manual.

Register your Experion system in order to ensure you receive important updates on software, tech notes, and manuals. Upon installation, a dialog will provide registration instructions.



Fig. 1.1. The Experion system. The system includes the following components: 1) automated electrophoresis station, 2) priming station, 3) vortex station used for nucleic acid analysis only, 4) system operation and data analysis tools (software), and 5) analysis kits, which include the (a) chips and (b) reagents for protein (Pro260 kit), standard-sensitivity RNA (StdSens kit), high-sensitivity RNA (HighSens kit), and DNA (DNA 1K and 12K kits) analyses.

1.2 Kit Components

Table 1.1. Components of the Experion Pro260 analysis kit.

Item	Description	Volume (per Vial)	10-Chip Kit
Pro260 chip	Microfluidic chips used for protein separation		10 chips
Cleaning chip	Chip used for cleaning electrodes		1 chip
Pro260 gel	Proprietary polymeric sieving matrix	520 µl	3 vials
Pro260 stain	Proprietary fluorescent dye	45 µl	1 vial
Sample buffer	Buffer for protein sample preparation; contains a 1.2 kD lower marker and 260 kD upper marker for alignment of samples to the Pro260 ladder	400 µl	1 vial
Pro260 ladder	Protein standard containing 9 purified recombinant proteins of 10–260 kD and optimized for automated electrophoresis on the Experion system	60 µl	1 vial
Spin filters	Used for filtering reagents during sample preparation		3 filters

1.3 Storage Conditions

Table 1.2. Storage conditions.

Item	Storage	Shelf Life
Experion Pro260 reagents	4°C	See expiration date on packaging
Experion Pro260 chips	Ambient	See expiration date on packaging
Gel-stain solution (GS, prepared)	4°C	1 month from filtration (can be refiltered once)
Gel (G, prepared)	4°C	1 month from filtration (can be refiltered once)

1.4 Specifications

Number of sample wells per chip	10
Sample volume required	4 µl
Total run time	~30 min per chip
Protein sizing range	10–260 kD
Limit of detection	2.5 ng/µl carbonic anhydrase (10 ng total) in 1x PBS; similar to colloidal Coomassie Blue G-250 stain
Linear dynamic range	5–2,000 ng/µl (bovine serum albumin in 1x PBS)

1.5 Additional Requirements

Experion automated electrophoresis station

Experion priming station

Microcentrifuge (1,000–10,000 × *g*)

Heating block or water bath set at 95–100°C

Benchtop vortexer

Aluminum foil

Calibrated pipets and narrow-bore tips (for example, VWR #87001-688 or Rainin #L-10F)

Microcentrifuge tubes, 0.5 or 1.5 ml

Deionized water, 0.2 µm-filtered (ReadyPrep™ proteomics grade water, catalog #163-2091)

β-Mercaptoethanol (catalog #161-0710)

Benchtop centrifuge (optional, catalog #166-0612)

Extra spin filter for additional filtration steps (as needed, catalog #700-7254)

Experion electrode cleaner (catalog #700-7252)