

# Efficient, robust analyses through capillary electrophoresis.

## Anion and Cation Analysis Kits

### Capillary Electrophoresis

Genomics

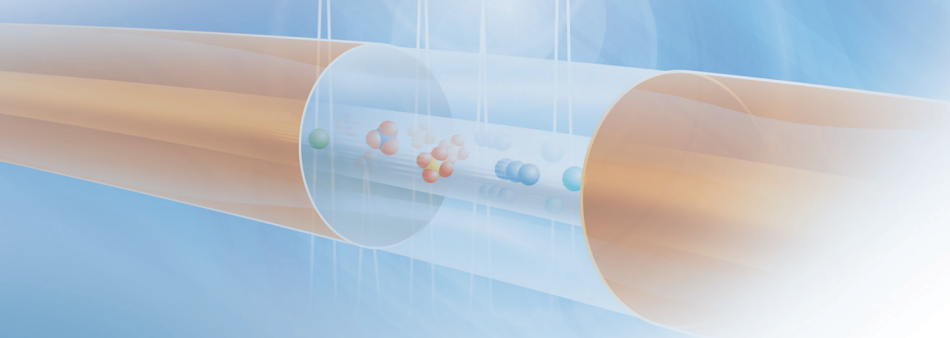
Cell Analysis

Centrifugation

Lab Tools

Lab Automation

Particle  
Characterization



When capillary electrophoresis (CE) was first introduced, it was seen as a revolutionary technique. Now, it is fulfilling a role as a well-established technique in analytical laboratories worldwide. CE offers highly efficient separations, short analysis times, and minimal solvent and reagent consumption, when compared with other separation techniques. In fact, CE should be considered first when dealing with highly polar, charged or chiral analytes.

Anions and cations (eg. organic acids and aliphatic amines) are charged polar species that lend themselves well to the CE format. The most robust ion analysis CE methods use bare fused-silica capillaries with a dynamic coating technology to modulate the electro-osmotic flow. Since many small molecules do not absorb UV light, the primary mode of detection is indirect, in which a UV-absorbing chromophore is added to the background electrolyte, the displacement of which provides the basis for detection.

Whether you apply capillary electrophoresis to counter-ion, beverage or industrial applications, you will find that CE with our ion analysis kits provides robust analyses even when handling diverse sample matrices. Only a small sample amount is needed and generally little sample preparation is required. Separations are fast and efficient.

Typical advantages of our ion kits include routine detection of more ions, shorter run times, and less sample preparation time prior to each analysis. These kits are generic in nature, resulting in less method development time, which improves the economy of ion application solutions.

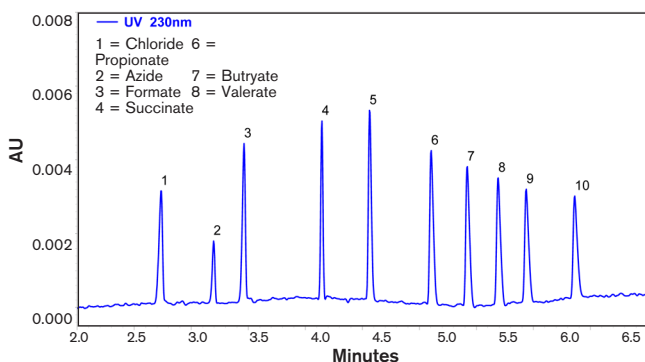
In the discovery phase of pharmaceutical development, one of the most important pieces of data is the correct assignment of molecular mass to the compound to be tested. The formula weight of most drugs cannot be accurately determined without first quantifying the drug counter-ion. Basic drugs may have an inorganic salt or organic acid as counter-ions, whereas acidic drugs may have a metal cation. Regulatory agencies like the U.S. Food and Drug Administration (FDA) and European Medicines Agency (EMA) require that the active and inactive ingredients of pharmaceutical products be tested for identity, strength, quality and purity. Hence, counter-ion analysis is an important part of the purity determination of a drug.

Our kits allow the analysis of compounds over a wide range of polarities, and compound libraries can be processed for counter-ion content in the absence of solubility data.

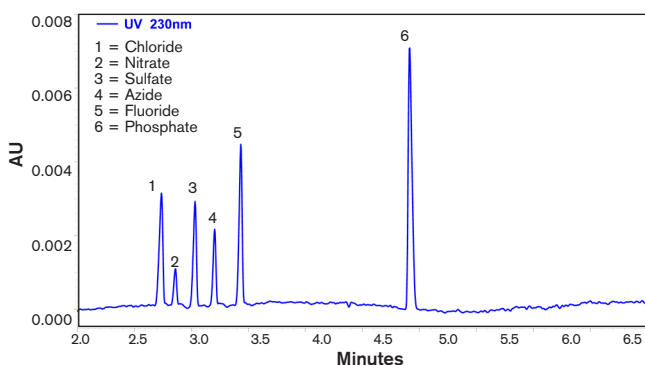
Our Anion and Cation Analysis Kits are specifically formulated for P/ACE MDQ CE systems configured with a UV detector.

# Ion Analysis for Capillary Electrophoresis

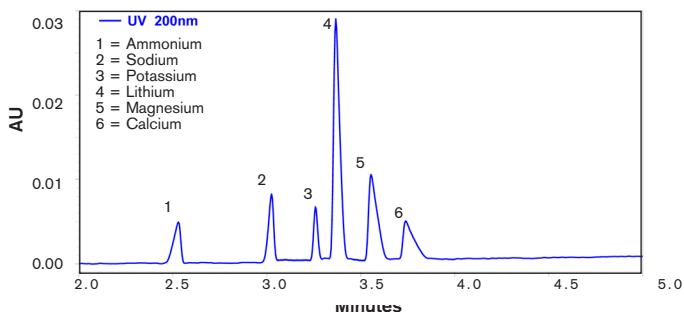
## Organic Anions Test Mixture



## Inorganic Anions Test Mixture



## Cations Test Mixture



Our ion analysis test kits are designed for ion concentrations in the 1-100 ppm range. Sensitivities below that are possible under special conditions only. Typically a %CV of 1% or less is expected for migration time.

The Beckman Coulter Ion Analysis Kits contain the supplies necessary for separation and quantitation of cations, using the P/ACE MDQ Capillary Electrophoresis system. Each kit yields approximately 500 tests.

### Anion Analysis Kit (A53537)

Analysis of inorganic ions and organic acids.



Component	Quantity
Anion Coating	1
Anion Separation Buffer	1
Conditioner — Na	1
Anion Acid Rinse	1
Anion Internal Standard	1
Anion Organic Test Mix	1
Anion Inorganic Test Mix	1
Capillary, 50 cm, 75 im I.D.	3 pieces
Rinse Solution	1

### Cation Analysis Kit (A53540)

Analysis of small inorganic cations and aliphatic amines.



Component	Quantity
Cation Coating A	1
Cation Coating B	1
Cation Separation Buffer	1
Conditioner — Na	1
Conditioner — Li	1
Cation Internal Standard	1
Cation Test Mix	1
Capillary, 50 cm, 75 im I.D.	3 pieces
Rinse Solution	2
Ion Analysis Insert	1



A P/ACE MDQ CE system with liquid capillary cooling and UV detection is recommended for ion analysis with our dynamic coating kits. The P/ACE MDQ CE system comes with a variety of sampling formats, including a 96-well plate, which allows this system to be compatible with many forms of laboratory automation. The P/ACE MDQ can also be used for chiral analysis, basic drugs, pKa determination, nucleic acid purity analysis and more.



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