

Maximum sensitivity.
Maximum productivity.



Agilent 7100 Capillary Electrophoresis System

Our measure is your success.

products | applications | software | services



Agilent Technologies

More sensitivity for your most challenging separations.

Capillary Electrophoresis (CE) offers fast separations with exceptional efficiency and resolution for charged substances such as biomolecules, low molecular weight basic or acidic drugs and ions—separations that are often difficult to achieve with HPLC. CE also excels where sample amounts are very limited and requires much less buffer than liquid or ion chromatography. Used in standalone mode, as the separations component of a CE/MS or as a complementary, orthogonal technology to LC, Agilent's new 7100 CE system brings unprecedented HPLC-like sensitivity to a wide range of analytical challenges.

The system delivers best-in-class analytical performance, the industry's broadest selection of detectors and plug-and-play compatibility with all of Agilent's 6000 Series mass spectrometers. Legendary Agilent reliability, familiar ChemStation software and the confidence of a single-vendor solution all add to the value equation—making the Agilent 7100 the clear choice for your lab's next (or first) CE or CE/MS system.

The smaller, quieter and more energy-efficient Agilent 7100 Capillary Electrophoresis system delivers unprecedented sensitivity and handling and is 100% backward-compatible with Agilent's previous generation CE solutions.



The most robust, easiest-to-own CE in the world

Productivity, reliability and ease-of-use are built into the 7100 CE system, with a ruggedized internal pressure system and improved capillary cooling that enables higher capillary diameters. In addition, an improved replenishment system allows longer unattended operation, and a new vial sensor prevents conflicts when loading vials before or during a run.

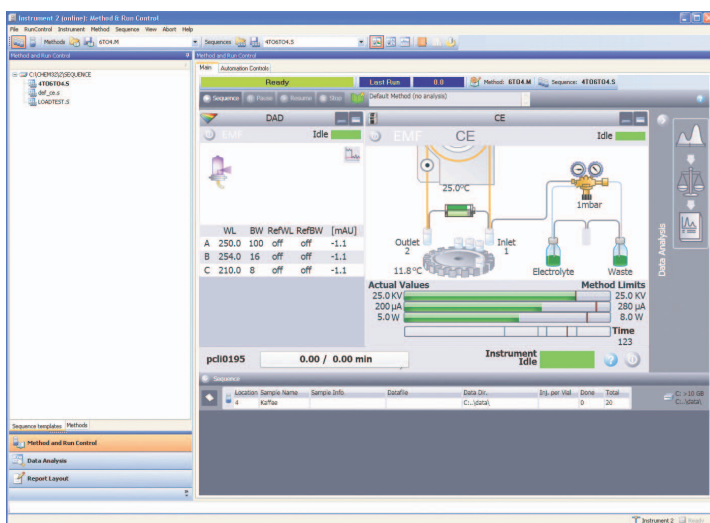
The system's modular architecture allows fast, easy access to electrodes and pre-punchers, electronics and tubing for routine maintenance and service. A quick-change, self-aligning capillary cartridge — compatible with all commercially available capillaries — swaps out in seconds. And Agilent LabAdvisor diagnostic software maximizes uptime and heads off problems before they happen.

Industry-leading analytical capabilities

A new, built-in diode array detector offers significantly increased sensitivity. A linear dynamic range of 1×10^4 combined with a baseline noise of $<50 \mu\text{AU}$ allows detection of impurities as little as 0.05% of a main peak. When used with Agilent's bubble cell capillaries, sensitivity is 10–15x better than competitive instruments! Resolution gets a significant increase, too, thanks to the 7100's 40 Hz sampling rate. Lamp lifetime has also been substantially increased.



The 7100 CE allows fast, easy access to electrodes, pre-punchers, electronics and tubings.



The ChemStation software for CE presents all functions in an easy-to-use graphical user interface and features improved method setup functionality.

Agilent ChemStation software minimizes start-up and training time.

Since the system uses the same industry-standard control and acquisition software that drives our GC & LC systems, new operators will feel right at home. Regulatory compliance tools are part of the package. In addition, the Agilent 7100 CE system allows raw data to be analyzed in third party software, or archived in a LIMS.

CE separation power. HPLC sensitivity.

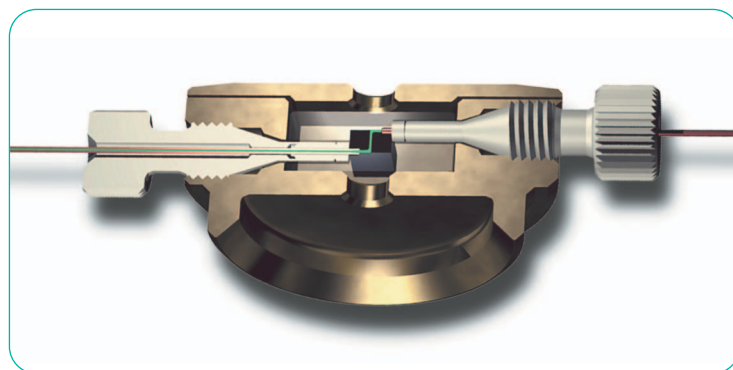
With its high efficiency and resolution, rapid analysis time and minimal sample and solvent requirements, capillary electrophoresis has become an established technique in many laboratories for the analysis of charged or ionizable and polar compounds. The Agilent 7100 CE system covers a broad range of separation modes, including capillary chromatography and CE-MS. Its flexibility spans applications in a broad cross-section of industries, from drug discovery and development through quality control and ion analysis.



- | | |
|----------------------------|---|
| • Pharmaceutical | impurity testing, chiral compounds & drug formulation, ion and counter-ion analysis |
| • Biopharmaceutical | proteins, peptides, oligonucleotides, glycans, carbohydrates, metabolites |
| • Chemicals | plating baths, quality assurance testing |
| • Food and beverage | organic acid analysis |
| • Forensics | amino acid and organic acid determination, screening for drugs of abuse |
| • Environmental | inorganic ions, pesticides, trace organic analysis |

Agilent can help with your CE application!

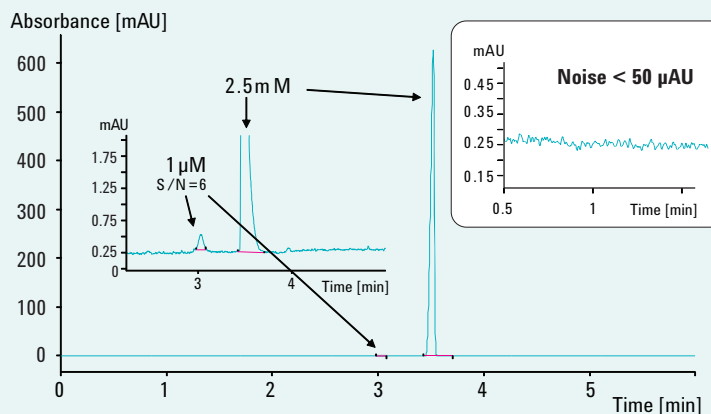
As part of our “one-stop” CE solution Agilent offers a complete selection of instrument supplies, capillaries and reagents—including our bubble cell capillaries, and proprietary high sensitivity cell to enhance linear dynamic range and sensitivity.



The Agilent high sensitivity cell boosts sensitivity by 10x, extends the instrument's linear detection range and allows simple capillary replacement.

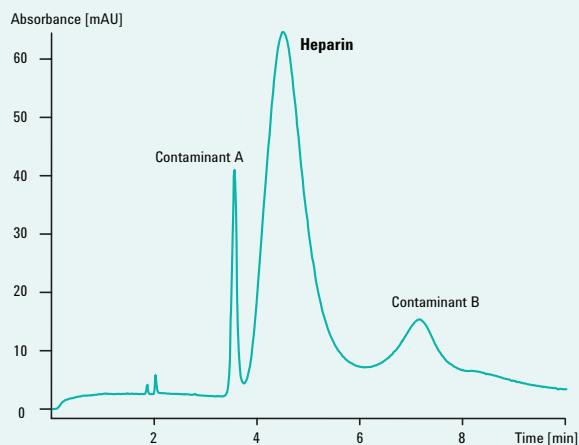
Trace impurity analysis in pharmaceutical compounds.

The best-in-class sensitivity of the 7100 CE system allows detection of impurities as little as 0.05% of the main peak—a significant advantage in critical pharmaceutical QA/QC analyses.



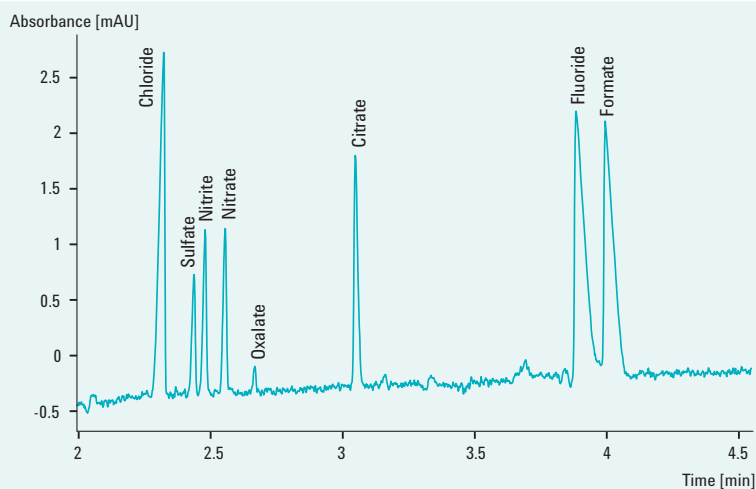
High-speed, high-resolution CE analysis of Heparin.

Agilent's extended light path capillaries provide a significant sensitivity advantage for the detection of heparin-related impurities in this rapid, robust pharmaceutical quality assurance method.



CE is a powerful alternative to ion chromatography.

Whether the aim is to detect metal corrosion in nuclear power plant cooling systems or ionic contaminants in drinking water, CE is a faster, easier and more environmentally-friendly solution. Indirect UV or electrochemical detection options are available (see Partner solutions, page 6).



An experienced CE and CE/MS partner.

For more than 15 years, Agilent has worked closely with leading labs in different application areas to develop faster, better CE and CE/MS solutions. Whatever you're analyzing, whatever your application, Agilent's deep knowledge base, as well as our rich selection of fully described methods and solution kits, can improve your results and enhance your lab's productivity.

Single-vendor, fully integrated CE/MS solutions.

CE/MS combines the short analysis time and high separation efficiency of CE with the molecular weight and structural information from MS. Unlike any other supplier, Agilent offers a fully integrated solution—with all system components from one vendor and a robust ESI-CE-MS interface that connects to all Agilent 6000 Series MS systems. Of course, single-source support and service from Agilent CE experts.



The Agilent 7100 CE system integrates seamlessly with all Agilent 6000 Series mass spectrometers—including single quadrupole, TOF, Q-TOF, ion trap, ICP-MS and triple quadrupole systems. The Agilent “plug-and-play” sample introduction system requires no tedious fine-tuning, and the unique design of the MS inlet makes the CE separation conditions independent of MS operation conditions.



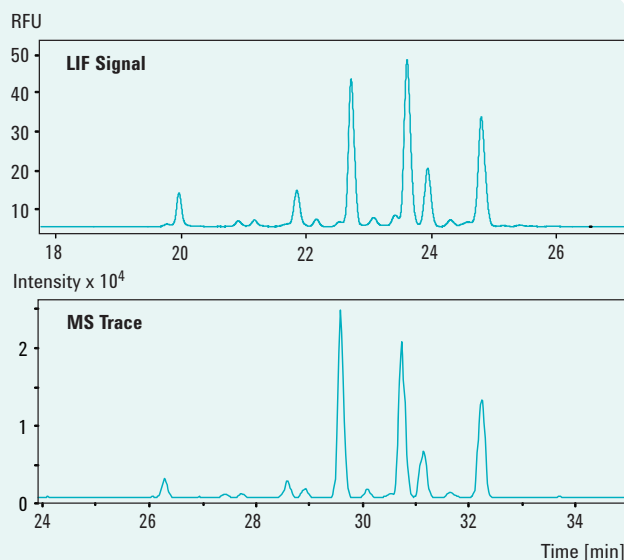
ESI spraying system.

The ESI-spraying system from Agilent is ready-to-go. It needs no positional adjustments, allowing very simple and stable operation. It also enables the use of conventional electrophoretic buffers or additives, such as phosphate or cyclodextrins.



Protein and glycan analysis.

Understanding of the carbohydrate structures on antibodies is one key to assessing their therapeutic potential. CE/MS is a vital tool for the rapid analysis of complex protein moieties and their bound glycans with high sensitivity, resolution and reproducibility. The glycan species enzymatically cleaved from an antibody sample can be visualized with a CE-LIF-TOF solution (see Partner solutions below).



Partner solutions

Agilent has the right detector for your CE application. The 7100 CE system features the required interface with an integrated A/D converter that allows quick and easy integration of external detectors. So in addition to the Agilent's own built-in diode array detector or mass spectrometer, you can add laser induced fluorescence or contactless conductivity detection, available through Agilent Partners:

Picometrics

Laser Induced Fluorescence (LIF) detection:
www.picometrics.com

Istech

Electrochemical detection
www.istech.at/capillary_electrophoresis.htm

I.S.T.
Innovative Sensor
Technologies GmbH

picometrics

If there's a CE or CE/MS system in your lab's future, here's some required reading.

Agilent's new CE Discovery Kit includes a comprehensive CE primer, plus valuable application information and the latest Agilent CE and CE/MS product literature—everything you need to make the best-informed decision when selecting your next (or your first) CE system. To receive your free copy, contact your Agilent representative or visit www.agilent.com/chem/CE.



Agilent Services keep your lab running at peak productivity.

With a 98% customer satisfaction rating, Agilent's service engineers are the most respected—and best-trained—in the industry. Whether you need support for a single instrument or a multi-lab, multi-vendor operation, we can help you solve problems quickly, increase your uptime and optimize your lab's resources.

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