

BioDiscovery system : discover a macrocosm of results in microcosmic analysis : peptide mapping, protein microisolation, and DNA/RNA separations / Millipore Waters Chromatography.

Contributors

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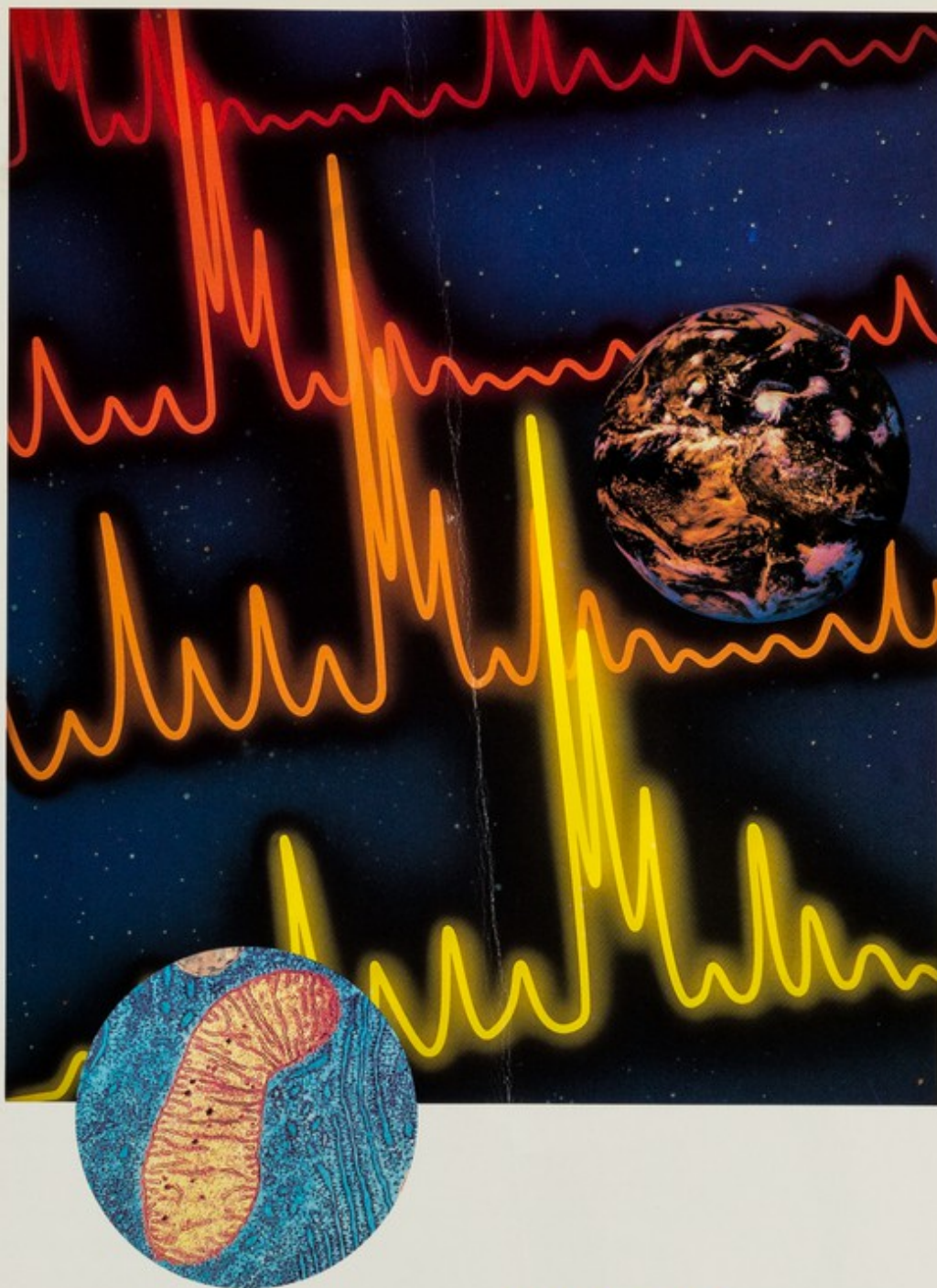
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**BioDiscovery™
System**

*Discover a
Macrocosm
of Results in
Microcosmic
Analysis*

*Peptide
mapping, protein
microisolation,
and DNA/RNA
separations*

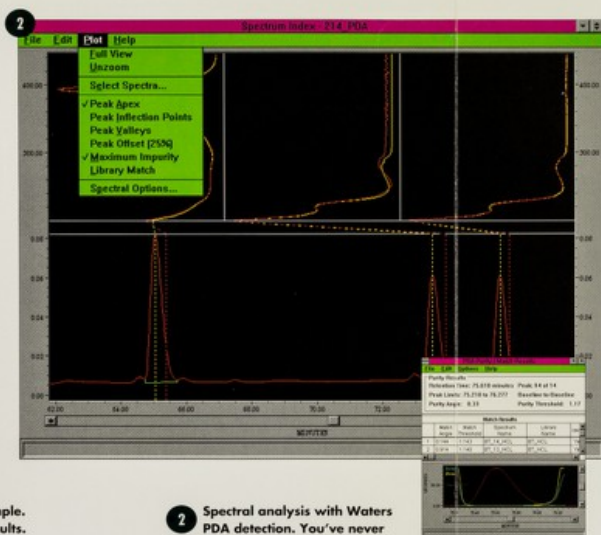


MILLIPORE
Waters Chromatography

Discover the power to learn more with less.

The Waters[™] BioDiscovery System combines an automated, applications-optimized instrument with unique column chemistries, the most sensitive, high-resolution spectral detection available, and comprehensive methods documentation and results management to give you optimal microanalytical power.

Imagine the possibilities.



1 Minimum sample. Maximum results.

This low-dispersion, microvolume system provides everything you need for complex, sample-limited applications such as microbore peptide mapping. Optically clear mobile phases, nonmetallic microbore columns, and advanced spectral detection enable you to perform highly complex analyses easily, using only picomoles of sample. The BioDiscovery System maximizes sensitivity and throughput, giving you the ability to collect more concentrated fractions with a reduced risk of sample loss.

2 Spectral analysis with Waters PDA detection. You've never seen anything like it.

With spectral and detection sensitivity at the picomole level, Waters photodiode array (PDA) detection reveals the most elusive structural details of your sample. In the PDA Spectrum Index Plot shown, three peaks were selected out of the several dozen peaks in a Cytochrome c tryptic digest. Two of the three peaks appear to be spectrally identical; however, automated PDA Peak Purity and Spectral Library routines easily distinguish between these two peptides, which differ by only a single lysine residue.

Discover the power to take biochromatography further than you've ever gone before.

3 Flexible fluid handling puts you on the path to easier, faster methods development and optimal results.

The BioDiscovery System incorporates a number of features that ensure reliable system performance, provide easier, faster methods development—and ensure the integrity of your results. Its advanced fluidic design gives you more options in biomolecular separations, assuring your ability to achieve optimal results. The high-performance polymeric fluid path is compatible with UV-clear mobile phases, enabling you to select alternative modifiers that you ordinarily couldn't use, and to obtain improved signal-to-noise performance, increased sensitivity, and more separation selectivity. The polymeric fluid path also allows the use of buffers that promote biomolecule stability, eliminating the risk of sample contamination.

The AutoBlend[™] feature provides dependable eluent blending and column washing, with four buffer inlets that minimize the need to premix mobile phases. Biologically labile samples are automatically kept cool to prevent sample degradation. Nonmetallic, flexible tubing and finger-tight fittings provide convenient, easy system operation and maintenance.

4 Waters columns bring you a world of results.

Waters columns are application-optimized for microbore, analytical, and micro-preparative methods. DeltaPak[™] 5 micron reversed phase packings and our innovative 2 mm I.D. HPLC (High Performance Inert) columns provide exceptionally high-resolution peptide mapping. We also offer ProteinPak[™] HR columns for protein microisolation with quantitative recoveries, and GenPak[™] FAX Ion Exchange columns for DNA/RNA separations. To guarantee optimal separation performance, our columns are manufactured and tested in Millipore's ISO 9002-certified manufacturing facilities.

Discover the freedom to do what you do best with Millennium[™] technology. The BioDiscovery System incorporates Millipore's exclusive Millennium Chromatography Manager and optional Millennium System Suitability Software for straightforward, error-free system operation and rapid assessment of system performance, using chromatography separation summary statistics and graphics. Plate count, resolution, tailing, and relative standard deviation (%RSD) are automatically calculated for you. This software also allows you to visually identify trends and monitor both system and separation performance using a variety of easy-to-use tools.

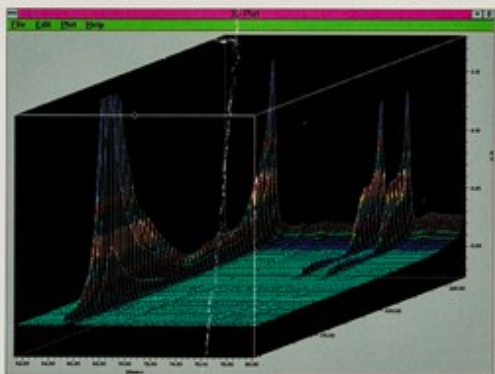


OPTIMIZED RESULTS

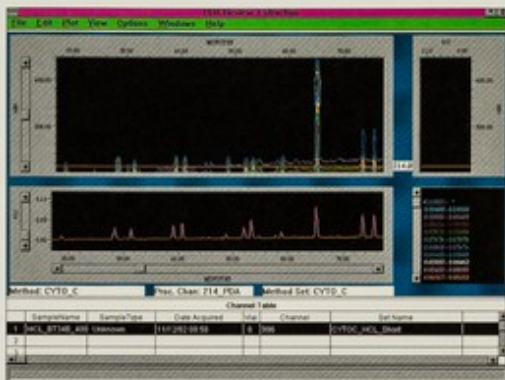
Discover the eye-opening analytical power of advanced spectral detection ...

... and see more than you've ever seen before.

Photodiode Array Detection provides a full spectral map of your sample through continuous monitoring and data acquisition at all UV/Vis wavelengths between 190 nm and 800 nm. It lets you look at your peaks from every angle, displaying all spectral information to verify that there are no surprise peaks



anywhere. No hidden peaks within peaks. No unexplored peaks behind peaks. You can even zoom in on the smallest peaks and isolate and expand them for further analysis using our exclusive View Cube™ technology, as demonstrated in this example, which gives you a three-dimensional perspective on the same three peaks shown in the Spectrum Index Plot on page 2.



With total spectral analysis, you'll know you've seen it all.

The BioDiscovery System combines optically clear mobile phases, microbore columns, and advanced data analysis of high-resolution spectral information to give you a clear view of every peak in your

chromatogram, no matter how many there are—even when you select a single wavelength. This analysis of a complete, highly complex Cytochrome c tryptic digest uses UV-transparent HCl as the mobile phase modifier to maximize sensitivity and allow you to distinguish between peptides that differ by only one amino acid.

A Waters BioDiscovery System could be the most important discovery you make this year ...

... because it's sure to lead you to many more. If you're attempting to detect subtle variations in a protein structure, monitor fermentation and cell culture processes, identify an unknown biomolecule, or purify a protein for compositional analysis, this versatile system belongs in your lab, along with amino acid analysis, mass spectrometry, and other advanced analytical technologies available from Millipore. Make the Waters BioDiscovery System the first of many important discoveries in your laboratory this year.

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