

Applied Biosystems  
3130 and 3130*xl*  
Genetic Analyzers.



# 3130 and 3130*xl*

Genetic Analyzers

# Introducing the Applied Biosystems

## Applications

- De novo* sequencing • Resequencing • Comparative sequencing
- Mutation/heterozygote detection • SAGE™ • SNP validation and screening • Genotyping
- Microsatellite analysis • AFLP® analysis • LOH • Conformational Analysis



The 3130 Series Systems include the powerful 3130x/ Genetic Analyzer—a robust, fully automated 16-capillary system, and the 3130 Genetic Analyzer, which offers identical capabilities in an economical, upgradable 4-capillary configuration.

# 3130 Series Genetic Analyzers.

Wherever your research takes you, Applied Biosystems 3130 and 3130xL Genetic Analyzers can get you there faster, easier, and more cost-effectively. The versatile, next generation platform delivers virtually boundless performance—higher data quality, improved automation and ease-of-use, faster turnaround times, and higher reliability across the complete range of sequencing, resequencing, and fragment analysis applications.

## A powerful blend of flexibility and performance

The 16-capillary 3130xL Genetic Analyzer and the upgradable 4-capillary 3130 Genetic Analyzer give you all the benefits of the industry-leading Applied Biosystems fluorescence-based capillary electrophoresis (CE) system. The 3130 and 3130xL instruments leverage the same technology, reagents, and software interface that make our larger production-scale instruments so successful—an important consideration for labs wishing to standardize on a common platform.

Both systems offer industry-leading performance, plus sophisticated automation capabilities that make the most of your time and increase your lab's productivity.

- **Minimal set-up, simple operation**—Right from the beginning, just attach the polymer bottle to the instrument and go. You don't have to be an expert to get expert results.
- **Continuous, unattended 24-hour operation**—with fully automated polymer delivery, sample injection, separation, detection, and data analysis.

- **Long-term reliability**—Robust engineering and extremely low maintenance requirements make the 3130 Series Systems the platforms of choice for high usage and multiple user environments.
- **One polymer, one array for both sequencing and fragment analysis applications**—seamlessly switch between sequencing and fragment analysis runs, even in the same plate.
- **Maximum flexibility**—Multiple array and polymer configurations allow you to optimize performance for your particular application.

## 4-capillary 3130 Genetic Analyzer: Upgrade whenever you're ready

The flexible, 4-capillary 3130 system gives you all the advanced automation and superior performance of Applied Biosystems 3130xL platform, with acquisition and operating costs tailored to a growing research lab. And as your throughput needs increase, the system can be easily upgraded to 16 capillaries.

It's the perfect way to obtain the capacity and savings you need today without limiting your growth options.

# Do your best work even better.

The 3130 Series Systems are more than just DNA sequencers. You can run a wide variety of sequencing and fragment analysis applications—including microsatellite analysis, AFLP, LOH, SNP validation, and SNP screening—as well as *de novo* sequencing and resequencing (mutational profiling). The full range of applications can be run on a single polymer and capillary array; you can also further optimize your applications using additional array lengths and run conditions

## Enhanced data quality, more successful samples per day

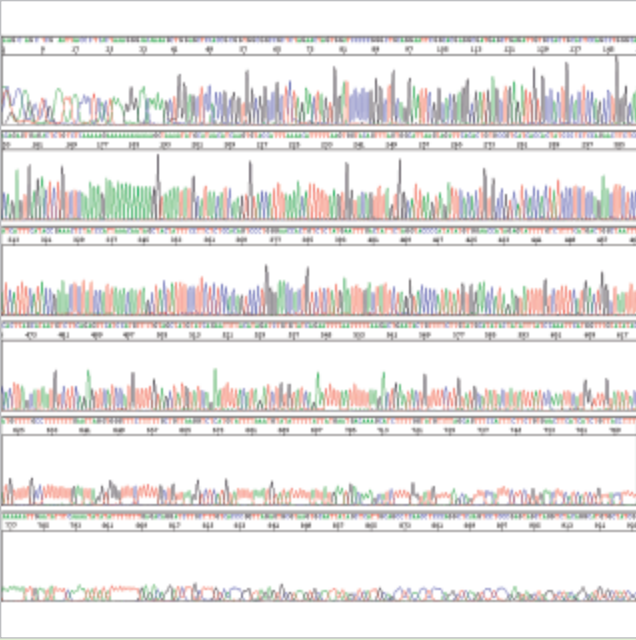
The advanced, proven optics of the 3130 series provide an extremely high signal-to-noise ratio and a uniform cross-array signal profile. In addition, improved thermal control and the use of advanced 3130 POP-7™ Polymer enables longer read lengths, faster turnaround times and superior performance compared to slab gel or other capillary-based systems.

The superior sensitivity and accuracy also improves your success rates across a wide range of sample template types and concentrations—minimizing failed sequences, and maximizing your lab's throughput. And unlike slab-gel systems, you need only minimal amounts of DNA for accurate analysis.

## Optimized BigDye® reagent chemistries brighten the picture

Applied Biosystems BigDye® Terminator v3.1 and v1.1 Cycle Sequencing Kits provide a comprehensive solution for today's wide range of sequencing applications. For applications at every throughput level, these robust chemistries give you longer reads and the highest data quality ever. Both formulations successfully read through challenging motifs and more of your challenging templates.

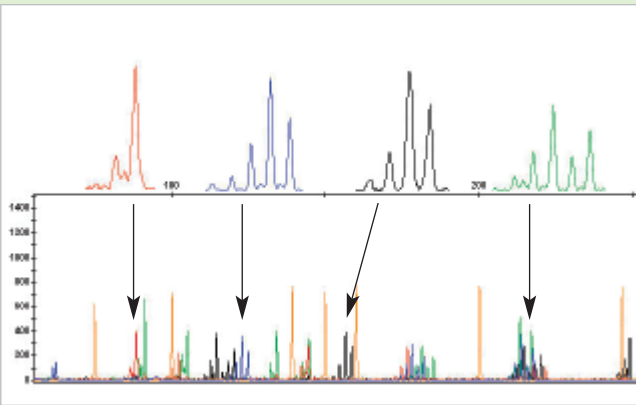
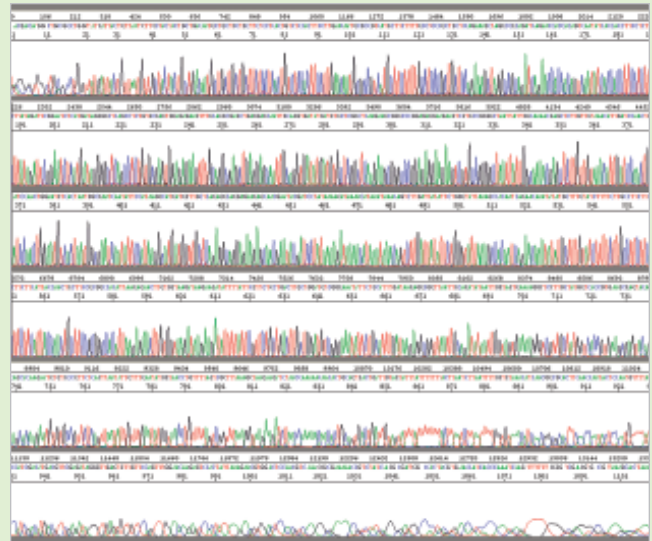




◀ **Sensitive detection and accurate basecalling.**

Sequencing sample run on the 3130x<sub>i</sub> system shows excellent QV<sub>20</sub> length of read of 864 bases. BigDye® Terminator Sequencing Standard v3.1, 3130 POP-7™ Polymer. Run time: 2 hours using the StdSeq 50\_POP-7 run module.

▶ **Long-read sequencing.** Using the 80 cm capillary array, you can achieve fast, accurate read lengths of 1,000 base pairs (bp) or longer in a single sequencing reaction. This sample generated a QV<sub>20</sub> length-of-read of 1,090 bases.



◀ **Multiplexed fragment analysis.** Fragment analysis sample run with internal size standard on the 3130 system using the Fragment Analysis default module. Use of five fluorescent dyes allows 4-dye multiplexing of microsatellites (plus size standard) in each lane significantly increasing throughput compared to traditional 4-dye systems.

# Give your research every advantage.

Discover for yourself what thousands of labs around the world already know: the proven power of Applied Biosystems genetic analyzers can help you accomplish more, every day. Fully integrated software applications for sequencing, resequencing, and fragment analysis streamline and automate data collection, analysis, and reporting. And with simple, speedy set-up, minimal maintenance requirements, plus a full complement of walkaway automation features, you'll spend less time running samples, and more time moving your research forward.

## Increased productivity with a system that is easy to operate and maintain

The Automated Polymer Delivery System enables true one-button operation from polymer delivery, sample injection to separation, detection, and data generation. The elimination of syringe set-up and clean-up, in combination with automated polymer delivery and easy-to-use wizards for instrument operation and maintenance, facilitates faster turnaround time and increased productivity. Whether it is sequencing or fragment analysis, researchers should be able to generate abundant amounts of superior quality data with minimal hands-on time.



**Powerful automation features enable “hands-free” operation.** Just attach your polymer bottle to the instrument and select an easy-to-use set-up wizard to begin operation. Once the run is started, the system requires no further attention until your entire run is complete.



### All the elements for successful genetic analysis

In addition to leading-edge, high-performance instruments, Applied Biosystems brings together all the elements you need for a complete genetic analysis solution, including:

- Easy-to-use, application-focused software that simplifies data collection, analysis, and reporting.
  - GeneMapper® software is a flexible, easy-to-use package that significantly reduces the time and effort in the genotyping process. Whether you are working with micro-satellites or SNPs, the automated allele-call editing and rapid analysis help you get fast, accurate results.
  - Sequencing Analysis software automates basecalling, and assigns quality values. It also lets you trim, display, edit, and print DNA sequencing data using the KB™ Basecaller module.
- SeqScape software is fully integrated with the Data Collection software and reagents designed for the 3130 Series Systems. It provides fast, accurate results for mutation detection and analysis, SNP discovery and validation, pathogen sub-typing, allele identification, and sequence confirmation.
- Industry-standard reagents optimized specifically for your 3130 Series System for use on a wide array of applications.
- Responsive, knowledgeable applications support and technical service.

# When you're successful, we're successful.

Applied Biosystems has been with you from the beginning of the genomic revolution. Since 1981, we've been anticipating research needs with innovative technology, and along the way, building an unchallenged track record of practical success in labs around the world. Whatever the future may hold, you can be sure we'll be there to help support your next discovery.



**iScience.** To better understand the complex interaction of biological processes, life scientists are developing revolutionary approaches to discovery that unite technology, informatics, and traditional laboratory research. In partnership with our customers, Applied Biosystems provides the innovative products, services, and knowledge resources that make this new, **Integrated Science** possible.

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Applera is committed to providing the world's leading technology and information for life scientists. Applera Corporation consists of the Applied Biosystems and Celera Genomics businesses.

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**NOTICE TO PURCHASER:** This instrument is Authorized for use in DNA sequencing and fragment analysis. This authorization is included in the purchase price of this instrument and corresponds to the up-front fee component of a license under process claims of U.S. Patent Nos. 5,821,058 and 5,332,666 and under all process claims for DNA sequence and fragment analysis of U.S. patents now or hereafter owned or licensable by Applied Biosystems for which an Authorization is required, and under corresponding process claims in foreign counterparts of the foregoing for which an Authorization is required. The running royalty component of licenses may be purchased from Applied Biosystems or obtained by using Authorized reagents purchased from Authorized suppliers in accordance with the label rights accompanying such reagents. Purchase of this instrument does not itself convey to the purchaser a complete license or right to perform the above processes. This instrument is also licensed under U.S. Patent No. 5,171,534 and apparatus and system claims in foreign counterparts thereof. No rights are granted expressly, by implication or by estoppel under composition claims or under other process or system claims owned or licensable by Applied Biosystems. For more information regarding licenses, please contact the Director of Licensing at Applied Biosystems, 850 Lincoln Centre Drive, Foster City, California 94404, USA.

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The Applied Biosystems 3130/3130x Genetic Analyzer includes patented technology licensed from Hitachi, Ltd. as part of a strategic partnership between Applied Biosystems and Hitachi, Ltd., as well as patented technology of Applied Biosystems.

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