## DNA Sequencing

Sanger Sequencing is the most accurate, definitive method for identifying genetic variation, and Applied Biosystems capillary electrophoresis platforms are the industry standard, providing the most reliable, efficient, and widely published technology for DNA sequence analysis. The 3500 Series, used in combination with Applied Biosystems BigDye® Cycle Sequencing Kits, exceeds expectations by delivering more automation, performance, data quality checks, and ease of operation than ever before.
The 3500 Series offers easy conversion between applications with minimal user intervention. Run modules for the 3500 Series are optimized for speed, accuracy, and reproducibility and give a range of options for read length. In addition, sequencing modules have been developed specifically for samples prepared with the BigDye® XTerminator™ Purification Kit, yielding improved sequence quality.

## Fragment Analysis

Designed to detect up to 6 fluorescent dyes simultaneously, the 3500 Series will enable even higher levels of multiplexing for fragment analysis applications, delivering increased levels of throughput and more data points per run, which can lower the cost per sample. For demanding DNA fragment analysis applications, a combination of advanced optical manufacturing processes, an optimized reagent for normalization, and specifically designed algorithms delivers substantial improvement to signal uniformity without increasing run cost.

## Snap In and Run

The 3500 Series integrates seamlessly into your work environment, ensuring ease of use without sacrificing reliability. Hands-on time is reduced by providing ready-to-use, load-and-run consumables. The pre-formulated primary consumables eliminate the possibility of mixing and handling errors and when empty, the cathode and anode buffer containers may be recycled.*
The polymer pouches, cathode and anode buffer containers, and easy-to-install capillary array include integrated Radio Frequency Identification (RFID) tags on the product labels. These state-of-the-art devices enable viewing, tracking, and reporting of critical information about reagents and consumables including usage, lot number, part number, expiry date, and on-instrument lifetime within the 3500 Series Data Collection Software. These features help streamline critical daily administrative tasks, saving you time and effort when tracking your system’s performance. The result is a powerful tool that minimizes the barrier between your ideas and the outcomes of your experiments.

**Ultimate Visibility. Ultimate Control.**

3500 Series Data Collection Software breaks new ground in user-friendly navigation with its intuitive dashboard design, highly visible buttons for common operations, easy-to-read graphical displays to monitor the state of consumables, and handy maintenance scheduling calendar functionalities.

Data Collection Software has been redesigned from the ground up, delivering built-in quality control and greatly simplifying functions such as plate setup, data collection, and analysis workflow. This enables operators to assess and make decisions about the quality of data as it is produced on the instrument. By providing immediate access to base-called or size-called data, scientists can make decisions about the quality of data as it is generated, without first transferring output files into secondary analysis software packages.

And the system offers pre-configured plate templates to further support rapid and efficient sequencing and fragment analysis run setup. All this comes together to make the 3500 Genetic Analyzer the easiest capillary electrophoresis system to use… as few as 3 clicks to run.

**Bringing It All Together**

The 3500 platform can run a wide variety of applications —including de novo sequencing and resequencing (mutational profiling)—as well as microsatellite analysis, MLPA™, AFLP,® LOH, MLST, and SNP validation or screening. The majority of applications can be run on a single polymer and capillary array, and the 3500 Series Data Collection Software integrates seamlessly with several downstream Applied Biosystems software packages to provide comprehensive analysis of genetic data:

**Variant Reporter™ Software**—designed for mutation detection and analysis, SNP discovery and validation, and sequence confirmation.

**Sequencing Analysis Software with KB™ Basecaller**—designed to analyze, display, edit, save, and print sequencing data.

**SeqScape® Software**—used for mutation detection and library-based allele identification.

**GeneMapper® Software**—an ideal tool for genotyping, allele calling, fragment sizing, and SNP analysis.

**Precise. Rapid. Integrated. Versatile.**

The Applied Biosystems 3500 Series Genetic Analyzers are part of our complete, integrated system for sequencing and fragment analysis applications combining optimized reagents for DNA isolation, including application-specific kits and workflows for a wide variety of genetic studies, and ending with tools for analysis and display of data. The 3500 Series offers the most powerful suite of tools for genetic analysis available.

With breakthrough hardware design, a whole new approach to consumables, and powerful enabling software, the 3500 Series delivers new levels of performance and convenience to the work that you do every day. From research in cancer, genetic disorders, diabetes, neurology, agriculture, microbial identification, forensics, and more—the 3500 Series embodies Applied Biosystems commitment to providing scientists with the industry's most trusted, versatile, and innovative tools.

Applied Biosystems