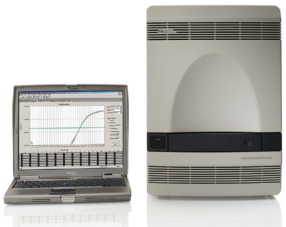
Applied Biosystems 7500 and 7500 Fast Real-Time PCR Systems

Real Fast. *Real* Versatile. *Real* Performance.

SDS v1.4 Software

- Customizable 21 CFR Part 11 module
- Export to JPG and PowerPoint®
- Isothermal assay option
- Configurable graphs and plots



Applied Biosystems
7500 Fast Real-Time PCR System

The Applied Biosystems Advantage

Built on over ten years of real-time expertise, the Applied Biosystems 7500 and 7500 Fast Real-Time PCR Systems are versatile platforms for the detection and quantification of nucleic acids in standard 96-well formats. Our integrated real-time PCR solutions combine innovative thermal cycling systems, powerful software, optimized reagents, your choice of off-the-shelf or custom assays, and superior support for a variety of applications.

7500 and 7500 Fast
Real-Time PCR Systems

- Flexible five-color detection systems are easily calibrated for your choice of dyes without requiring the addition of new filter sets
- Plate Setup Wizard walks you effortlessly through experimental design
- Advanced optical multicomponenting algorithm minimizes spectral cross talk—superior for multiplexing
- Variable excitation capacity allows greater sensitivity for the greatest range of dyes including FAM™/SYBR® Green, VIC®/JOE™, NED™/TAMRA™/Cy3®, ROX™/Texas Red®, and Cy5®

Results in 30 Minutes

The Applied Biosystems 7500 Fast Real-Time PCR System offers maximum performance in the minimum time. Fully optimized for Fast cycling, the 7500 Fast delivers high-quality results in as little as 30 minutes.

The specially designed Peltier-based 7500 Fast block ensures thermal uniformity at top speeds. Faster ramp rates and novel well design enable rapid results without compromising extension times or assay quality.

The Applied Biosystems 7500 Fast System is the original Fast solution including validated Fast reagents and over 600,000 available TaqMan® Gene Expression Assays.

Applied Biosystems 7500 Fast Real Time PCR System

Applied Biosystems provides pre-formulated, ready-to-use, quality tested 5′ nuclease TaqMan® assays for use with 7500 and 7500 Fast Systems.

Assay Details	**Applications**	
Assay Formats	**Gene Expression**	**SNP Genotyping**
TaqMan® Genomic Assays	www.allgenes.com	www.allsnps.com
Custom TaqMan® Genomic Assays		
Genome Availability (non-custom)	**Number of Assays**	
Human	> 207,000	>4,000,000
Mouse	184,000	N/A
Rat	150,000	N/A
D. Melanogaster (Drosophila)	40,000	N/A
A. Thaliana (Arabidopsis)	97,000	N/A
Rhesus Macaque	> 76	N/A
Canine	> 6,800	N/A

Sequence Detection Software

Sequence Detection Software (SDS) for the 7500 and 7500 Fast Systems runs on the Windows® XP operating system. SDS software can be used for instrument control, data collection, and advanced data analysis.

Powerful and user-friendly, SDS includes:

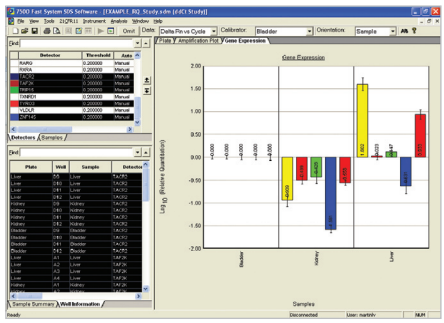
- Simple plate setup streamlined for each application—option to setup before or after completing the run
- Real-time amplification monitoring
- Flexibility to add additional PCR cycles during a run
- Correct plate-setup mistakes easily without losing collected data
- Integrated normalization to ROX™ dye or your choice of reference dyes
- Lamp-lifetime monitoring ensures highest possible instrument performance
- Versatile system can be used as a plate reader or a regular thermal cycler if needed

Advanced Data Analysis

- Relative quantitation analysis including simultaneous analysis of up to ten plates
- Unlimited standard curves for absolute quantitation of multiple targets per plate
- Auto-baseline and auto-threshold options for streamlined data analysis
- Automated SNP genotyping, including two-cluster calling and quality-value assignment
- Customizable relative quantitation graphs and enhanced standard curve plots
- Sort and filter data for easy viewing and reporting
- Expanded standard error/standard deviation calculations
- One-click graphical export to PowerPoint® or JPG for top notch presentations
- View and analyze data by sample or detector (gene target)

Independent Detector Plate Setup

Plate-independent detectors allow you to save gene targets, standards, and endogenous controls independently from the assay plate. Easily stored, detectors can be added in any combination to future assays.



- Easily setup multiplex assays—view all targets in the well simultaneously without flipping through dye-layer tabs
- Simplify plate setup and save templates for future use—never set up the same assay twice
- Copy and paste wells from one plate to another for easy standard curve setup

Reagents and Disposables

A complete line of reagents including TaqMan® Fast Universal PCR Master Mix, TaqMan® Universal PCR Master Mix, *Power* SYBR® Green PCR Master Mix, and disposables including 96-well plates, is available for use with the 7500 and 7500 Fast Real-Time PCR Systems.

Complete Validation Solutions

- IQ/OQ—A certified Applied Biosystems Service Engineer will assist you with your Installation Qualification and Operational Qualification (IQ/OQ) or Instrument Performance Verification (IPV) process as part of your overall system validation
- 21 CFR Part 11 compliance—The SDS 21 CFR Part 11 Module is the most flexible module available to assist with 21 CFR Part 11 compliance using real-time PCR systems. Customize the 21 CFR Part 11 support tools to meet your compliance needs
- 9600 emulation mode—Seamlessly transfer assays from your 9600 to the 7500 or 7500 Fast System

Service and Support

Applied Biosystems has the most extensive network of Field Application Specialist (FAS) and Support Engineers dedicated to real-time PCR.

Included with the purchase of a 7500 or 7500 Fast System:

- Full instrument installation and performance verification by a certified Field Service Engineer
- One day of FAS training
- One-year warranty

Additionally, Applied Biosystems has a portfolio of flexible service options designed with your lab in mind.

Performance Specifications

Once installed, an Applied Biosystems Field Service Engineer will ensure your 7500 or 7500 Fast System is performing to specifications. Using the RNase P Instrument Verification Plate, we will verify that:

- Your 7500/7500 Fast System can distinguish between samples containing 5,000–10,000 DNA template copies, with a statistical confidence level of 99.7%
- A 7500 Fast System can complete this analysis in as little as 30 minutes

"I was very impressed with the performance of the AB 7500 Fast instrument coupled with AB's Fast PCR master mix. Conversion from our standard real time PCR procedure was very simple and straightforward. We saw an increase in sensitivity, and the run only took about 35 minutes."

Karen, Associate Scientist,
Veterinary Diagnostic Laboratory

Demonstrated Performance		
Instrument	**7500 System**	**7500 Fast System**
Performance		
Dynamic Range	9 logs of linear dynamic range	
Sensitivity	Detection of 10 copies of template in a 50 µL reaction for a single reporter TaqMan® assay, with 99.7% confidence.	Detection of 10 copies of template in a 20 µL reaction for a single reporter TaqMan® assay, with 99.7% confidence.
Run Time	< 2 hours	< 30 minutes
System Specifications		
Thermal Cycling System	Peltier-based, 96-well block	
Optical System	CCD camera with halogen lamp excitation; five-excitation and five-emission filters	
Calibrated Dyes at Installation	FAM™/SYBR® Green, VIC®/JOE™, NED™/ TAMRA™/Cy3®, ROX™/Texas Red®, and Cy5®	
Additional Dye Available	Calibration for new dyes within the wavelength range is possible by following the custom dye calibration procedure in the User's Manual. Purchase of additional filter sets is not necessary.	
Passive Reference Dyes	ROX dye or any calibrated dye. Use of a passive reference dye is optional.	
Reaction Volumes	20-100 µL	10-30 µL
Sample Format	Standard 96-well plates and 0.2 mL tubes	Fast 96-well plates optimized for 10 µl reactions
Peak Block Heating Rate	2.5°C	5.5°C
Temperature Range	4°C - 100°C	4°C - 100°C
Temperature Accuracy	+/- 0.25°C of setpoint/display temperature, measured at 3 minutes after clock start	
Temperature Uniformity	+/- 0.50°C, 30 seconds after clock start	
Dimensions (w x d x h)	34 cm (13.99 in) x 45 cm (17.72 in) x 49 cm (19.29 in)	
Weight	34 kg (75 lb)	
Software Specifications		
Applications	Relative quantitation, absolute quantitation, allelic discrimination, plus/minus, isothermal	
Dye Discrimination	Multicomponenting algorithm	
Multiplate Data Comparison	Compare up to 10 plates of gene expression assays	

ORDERING INFORMATION

Description	Part Number
7500 Real-Time PCR System with Notebook Computer and SDS Software	4351104
7500 Real-Time PCR System with Tower Computer and SDS Software	4351105
7500 Fast System Upgrade Kit	4362143
7500 Fast Real-Time PCR System with Notebook Computer and SDS Software	4351106
7500 Fast Real-Time PCR System with Tower Computer and SDS Software	4351107
Notebook Computer for 7500/7500 Fast System	4375199
Tower Computer for 7500/7500 Fast System/7500 Fast Upgrade Kit	4375198
7500 System SDS v1.4 Software Upgrade Kit	4379637
7500 Fast System SDS v1.4 Upgrade Kit	4379638
7500 System SDS v1.4 Software 21 CFR Part 11 Module	4377354
7500 Fast System SDS v1.4 Software 21 CFR Part 11 Module	4377355
17" Flat Panel Monitor	4376656

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