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The Applied Biosystems 7500 Fast Real-Time PCR System

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.

- Specially designed Fast block ensures thermal uniformity at top speeds
- Faster ramp rates enable rapid results without compromising extension times or assay quality
- Fast optical plates ensure excellent precision in 10-30 uL reaction volumes
- Use TaqMan Fast Universal PCR Master Mix to run multiple Fast assays on one plate
- Finish more runs per day with the excellent performance equivalent to that offered by the 7500 System

High Resolution Melting Analysis now Available

The Applied Biosystems High Resolution Melting (HRM) Software is the easiest to use melting analysis software enabling real-time PCR melt curve assays to be used more accurately for mutation scanning and genotyping. The HRM Software is available on the 7500 Fast Real-Time PCR System, which delivers precise results in a standard 96-well format.

Use the Applied Biosystems High Resolution Melting (HRM) Software to perform more sophisticated melting analysis with an easy to follow workflow and minimal subjective data analysis steps.

- Shortens analysis time by auto-calling genotypes and automatically omitting the no template controls
- Minimizes subjective analysis by automatically grouping unknown variant clusters
- No temperature shift required – distinguish between homozygous mutants and wild type more easily
- Allows easy data review with customizable multi-plot views, expandable windows and one-click color assignment to highlight curves of interest
- Facilitates data presentation with the option to export data and graphs directly to PowerPoint or as JPEG files

NEW - 7500 Software v2.0

Now the easy-to-use StepOne software is available for both the 7500 and 7500 Fast systems with the 7500 Software v2.0 upgrade. The 7500 Software v2.0 incorporates your

favorite StepOne Software features, such as a variety of plate setup wizards, standard curve dilution and master mix recipe calculators, QC flags, data filters, and email notification when a run is finished. The 7500 Software v2.0 also includes an enhanced Gene Expression Study package and has a variety of new melting curve protocol options, including multiple peak detection, step and hold temperature control, and customizable ramp rates.

The NEW Gene Expression Study package accommodates large studies better than any other instrument software package:

- Import an unlimited number of Comparative CT (relative quantitation) files to one study
- Group samples and view data both by technical replicate group and biological replicate group
- Use any gene(s) as an endogenous control, including averaging multiple controls together
- Enter known efficiency values to be factored into the RQ results

One System -- Many Applications

Applications include gene expression analysis, pathogen quantitation, SNP genotyping, isothermal and +/- assays utilizing internal positive controls. To facilitate many of these applications, Applied Biosystems provides preformulated, ready-to-use, quality-tested, TaqMan® assays for use with the 7500 Fast system. Now you can reduce your assay optimization efforts.

Instrument	
Thermal Cycling System	Peltier-based system
Block Format	96-well block (Fast)
Compatible Consumables	96-well plates (Fast) and 0.1 mL tube strips
Supported Volumes	10–30 µL
Sample Ramp Rate	<ul style="list-style-type: none"> • Fast Mode: +/- 3.5°C/sec • Standard Mode: +/-1.6°C/sec • 9600 Emulation Mode: +0.8 and -1.6°C/sec
Peak Block Ramp Rate	5.5°C/sec
Temperature Range	4°C-100°C
Temperature Accuracy	+/-0.25°C (35°C to 95°C) of setpoint/display temperature, measured at 3 minutes after clock start.
Temperature Uniformity	+/-0.50°C, 30 seconds after clock start.
Optical System	Tungsten-halogen lamp excitation source. Five-excitation filters, five-emission filters and CCD camera
Calibrated Dyes at Installation	SYBR® Green I, FAM™, VIC™, JOE™, NED™, TAMRA™, ROX™, Texas Red®, Cy3™, Cy5™
Passive Reference Dyes	ROX™ or any calibrated dye. Option exists to select no passive reference.

Additional Dyes 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.
Data Collection	Standard: Collects data for all 5 filters for all wells regardless of plate setup. Plate setup may be altered after run completes. Expert: Collects data for selected individual filter or group of filters for all wells regardless of plate. Plate setup may be altered after run completes.
Quantitative PCR Run Time	37 min (fast mode), ~30 min (fast mode-expert), <2 hrs (standard and 9600 emulation mode)
Electrical	US/Canada: <ul style="list-style-type: none"> • Voltage: 120 VAC \pm 10% • Frequency: 50/60 Hz \pm 1% • Nominal Current Draw: 8A • Power: 950 W
Software	<ul style="list-style-type: none"> • System Software included at no additional cost. Applications include Absolute Quantitation, Relative Quantitation, Allelic Discrimination, Isothermal and Plus/Minus assays. • Primer Express Software (to custom design primers and probes) included at no additional cost.
Instrument Physical Specifications	
Width	34 cm (13.39 in.)
Height	49 cm (19.29 in.)
Depth	45 cm (17.72 in.)
Weight	34 kg (75 lbs)
Performance/Throughput	
Sensitivity	Demonstrated performance of detecting a single starting copy of the RNase P gene from human genomic DNA
Dynamic Range	9 logs of linear dynamic range
Precision	Using the TaqMan RNase P Instrument Verification Plate, the 7500 Fast System can distinguish between 5,000 and 10,000 template copies with 99.7% confidence.
Real-Time PCR Throughput	Manual loading of four-five 96-well plates per 8-hr day
End-Point Throughput	Variable using manual loading (at minimum, four-five 96-well plates per 8-hr day if real-time PCR is additionally performed)
Notebook Computer Specifications	
Chassis Type	Notebook
Display Type	15 inch SXGA+, TFT/active matrix, LCD Display
Processor	Intel Core 2 Duo T5500 - 1.66GHz
Front Side Bus / Cache	667MHz / 2 MB L2 Cache
Wireless LAN	Dell Wireless 1390 WLAN (802.11b/g 54 Mbps)
Memory	1.0 G DDR2-533 MHz SDRAM on 2 DIMM
Hard drives (qty 1)	1 x 80 GB, 9.5MM, 5400 RPM
CDRW/DVDROM Optical Drive	8X DVD+/-RW

Operating System	Windows XP Pro SP2 operating system, license on chassis, with media
External I/O Ports	Serial, docking connector, S-Video, IEEE-1394, 4 USB, VGA, headphone/speaker out, infrared port, RJ-11, RJ-45, AC power, integrated microphone
Primary Battery	4 cell, 32WHr Lithium Ion
Security	Cable lock provided
Minitower Computer Specifications	
Chassis Type	Minitower
Display Type	Dell™ UltraSharp™ 1704FPV LCD display, 17" Flat Panel
Processor	Celeron 346/3.06GHz
Front Side Bus / Cache	533 MHz / 256KB
Memory	1 GB NON ECC 533 MHz DDR2 2X512
Hard drives (qty 1)	1 x 80 GB SATA 3.0 Gb/s
DVD+RW IDE Drive	16XDVD+/-RW
Operating System	Windows XP Pro SP2 operating system, license on chassis, with media
External I/O Ports	Microphone, stereo in, stereo out (back) & stereo out (front), headphone, RJ-45 network port, 8 USB 2.0 ports, 2 front & 6 back (USFF - 7 USB 2.0 ports, 2 front & 5 back), 1 VGA port, 1 parallel port, 1 serial port RJ45, 1 VGA out 15-hole, 2 serial 9-pin, 2 PS/2 ports.



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