

Applied Biosystems - 7500 Fast Real-Time PCR System



GENERAL DESCRIPTION:

For Research Use Only. Not for use in diagnostic procedures. ABI 7500 Fast Real-Time PCR System is used for molecular biology applications via quantitative or real-time PCR, including quantitative gene expression analysis, genotyping, SNP analysis, pathogen detection, drug target validation and for measuring RNA interference. 7500 Fast can also be used to quantify messenger RNA (mRNA) and MicroRNA (miRNA) in cells or tissues. Customers may develop/design their own assays or take advantage of Applied Biosystems/Life Technologies pre-designed, fully-optimized assays.



TECHNICAL DESCRIPTION:

ABI 7500 Fast uses detection systems that employ real-time TaqMan[®] polymerase chain reaction amplification of genes on a Peltier-based thermocycling apparatus, or customer-designed SYBR-based assays.

CONTACT INFORMATION

Life Technologies
 850 Lincoln Centre Drive
 Foster City, CA 94404
 POC: Lance Wakida
 www.lifetechnologies.com

COST

- \$49,9000/system
- N/A/analysis

Tier Selection

Final tier assignment is based on overall product score.

- Top Tier
- Second Tier
- Third Tier
- ◐ Fourth Tier
- Bottom Tier

RANKINGS

	Biological	Chemical	Radiological
FIELD USE System			
MOBILE Laboratory			
DIAGNOSTIC Laboratory			
ANALYTICAL Laboratory			

Notes

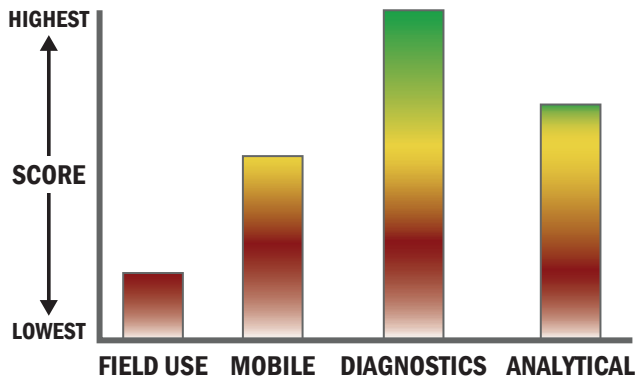
This device is used by the DoD and CDC LRN laboratories for real-time PCR analysis.

Survey Source

Vendor Supplied Information

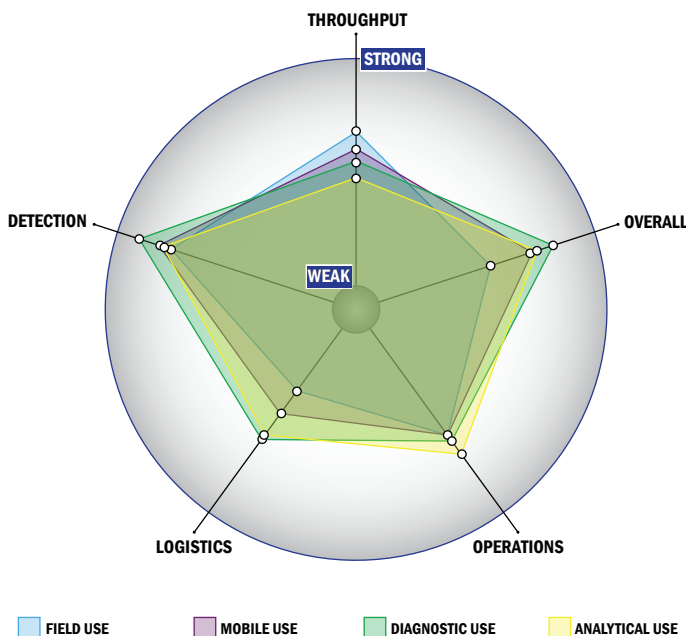
Scoring Analysis

System scores are compared across the four scenarios and ranked from highest to lowest.



Impact Chart

The Impact Chart is a spider graph representing specific categories and designed to give the reader a visual depiction of how a particular system is expected to operate across the four different scenarios. The score for each of the seven categories is presented as the percentage of the total possible score. Higher category scores extend the spokes of a graphic toward the outer edge of the chart. The area graphed for each of the four scenarios relates to how well the system performed in that scenario. Graphics for each of the four scenarios are super-imposed for ease of comparison.



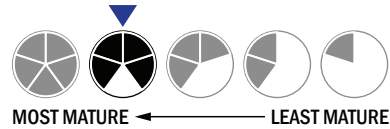
Evaluation Criteria

Throughput:

- Between 30 and 60 minutes for detection
- Multiple samples, multiple tests/sample per run
- 95-32 samples every 2 hours
- The system could be adapted to a fully automated system with some effort
- Device or system is intended for multiple detection assays
- 0-1 solutions, buffer, eluents, and/or reagents
- 3 components
- No set-up of the system is required
- 3-5 steps are required for detection

Logistics:

- A day of training and technical skills are required
- Approximately the size of a carry-on luggage suitcase
- Between 25 and 50 kg
- Wireless and wired connections are available
- System or device has 110V electrical requirement
- The device is not intended for portable use
- Is commercially available



Operations:

- Can be used from 4°C to 37°C
- Components must be frozen (-20°C)
- Performance is not influenced by relative humidity
- Between 6 months and 1 year shelf life
- 3-5 years expected life
- Results cannot be viewed in real-time
- The system is not capable of autonomy
- The system software is closed and not available for modification
- The system hardware is closed and not available for modification

Detection:

- Efforts are underway to achieve 510K clearance
- Efforts are underway to achieve FDA approval
- Less than 50 µL
- Excellent specificity. System has occasional false alarms under certain conditions (<2%)
- 1-100 CFU/mL of original sample
- 1-100 PFU/mL of original sample
- Manual kit not integrated with the system handles spore lysis

