

# ABI PRISM® 7000 Sequence Detection System

- **Multicolor detection provides flexibility for multiplex quantitation assays, allelic discrimination assays, and plus/minus assays utilizing an internal positive control (IPC)**
- **Precision optics, combined with a sophisticated multicomponenting algorithm, provide accurate, highly-reproducible results**
- **Small footprint facilitates easy placement in any laboratory (notebook computer may be placed on top of 7000 system when space is very limited)**
- **Peltier-based, 96-well block thermal cycling system is easy to use with standard 96-well plates or 0.2 mL tubes**
- **Proven assay development guidelines save time and money**

## Introduction

The ABI PRISM® 7000 Sequence Detection System is a complete, real-time PCR system that detects and quantitates nucleic acid sequences. In real-time PCR, cycle-by-cycle detection of accumulated PCR product is made possible by combining thermal cycling, fluorescence detection, and application-specific software in a single instrument. Quantitative results are available immediately after PCR without additional purification or analysis.

Real-time, quantitative PCR applications include gene expression and



ABI PRISM® 7000 Sequence Detection System

pathogen detection. Post-PCR detection is also available for non-quantitative assays such as allelic discrimination (SNP detection) and plus/minus assays.

## Fluorescence Detection

All sample wells are illuminated using a tungsten-halogen lamp. Fluorescence emission is optimized for use with: FAM™/SYBR® Green 1, VIC®/JOE™, TAMRA™, and ROX™ dyes on a charge-coupled device (CCD) camera.

## Assay Chemistry

Rapid assay development guidelines are provided to ensure success when using the fluorogenic 5' nuclease assay or the SYBR® Green 1 double-stranded DNA binding dye assay. Rapid assay development guidelines consist of the following steps:

- Automatically design primers and probes using Primer Express® Software (included with the 7000 system)

- Use TaqMan® Universal PCR Master Mix or SYBR® Green PCR Master Mix to provide standardized component concentrations and simplify assay set-up
- Use universal thermal cycling parameters so that multiple assays can be run on the same 96-well plate
- Use default primer and probe concentrations to eliminate assay optimization

Default primer and probe concentrations are valid for multicolor SNP assays using TaqMan® MGB (minor groove binder) probes, and single color quantitation assays using TaqMan® probes or SYBR® Green 1 dye detection. Assay optimization is recommended for multiplex quantitation assays to minimize PCR competition.

## TaqMan® Genomic Assays

Applied Biosystems provides preformulated, ready-to-use, quality-tested, 5' nuclease TaqMan® probe-based assays for use with the 7000 system.

## System Components

### 7000 Sequence Detector

- Peltier-based, 96-well block thermal cycling system
- Tungsten-halogen excitation source
- Fluorescence detection via a CCD camera

## Computer Specifications

Applied Biosystems supplies a Dell™ Business Line computer (notebook or tower) for use with the 7000 system. For the latest computer specifications, please visit the Applied Biosystems Web site at [www.appliedbiosystems.com](http://www.appliedbiosystems.com)

## Sequence Detection Software

The software runs on the Windows® 2000 Operating System and is used for instrument control, data collection, and data analysis. Software features include:

- Real-time monitoring during data collection
- Intuitive multiplex assay set-up and analysis
- Simple dissociation curve data collection and viewing
- Intuitive allelic discrimination viewer, enabling simple allele calling of all samples on a plate
- Automatic identification of samples

## Ordering Information

Description	P/N
ABI PRISM® HID 7000 Sequence Detection System for Human Identification with Notebook Computer	4349132
ABI PRISM® HID 7000 Sequence Detection System for Human Identification with Tower Computer	4349117
ABI PRISM® 7000 Sequence Detection System with Notebook Computer	4330087
ABI PRISM® 7000 Sequence Detection System with Tower Computer	4339940

containing a PCR inhibitor when performing plus/minus assays with an IPC

## Installation Specifications

Using the TaqMan® RNase P Instrument Verification Plate, the ABI PRISM® 7000 Sequence Detection System can distinguish between samples containing 5,000 and 10,000 template copies with a 99.7% confidence level.

## Reagents and Disposables

A complete line of reagents and disposables is available for use with the ABI PRISM® 7000 Sequence Detection System.

## Dimensions

### ABI PRISM® 7000 Sequence Detection System

Width	39 cm (15.25 in)
Depth	51 cm (19.75 in)
Height	53 cm (20.75 in)
Weight	34 kg (75 lbs)

	Notebook Computer	Tower Computer
Width	33 cm (13 in)	43 cm (17 in)
Depth	28 cm (11 in)	59 cm (23 in)
Height	31 cm (12.25 in) (open) 5 cm (2 in) (closed)	46 cm (18 in)
Weight	3.6 kg (8 lbs)	32 kg (70 lbs)

## Service and Warranty

The purchase price includes installation and training by service representatives plus a one-year warranty on parts and labor.

## Support

Applied Biosystems technical specialists and scientists provide worldwide applications support and service.



**iScience.** To better understand the complex interaction of biological systems, 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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