QuantStudio 5 Real-Time PCR System for Human Identification

The Applied Biosystems™ QuantStudio™ 5 Real-Time PCR System for Human Identification (HID) is the latest addition to the Applied Biosystems™ HID quantification solutions. This instrument is designed for both new and experienced users who need an easy-to-use, reliable, and affordable real-time PCR system with proven quality and outstanding support. Combined with our latest advancements in quantification chemistries and real-time software, this system equips laboratories for future advances in forensics—offering maximum dye versatility along with accurate, trusted results.

QuantStudio 5 Real-Time PCR System for Human Identification—performance specifications	
Dye compatibility	FAM™/SYBR™ Green, VIC™/JOE™/HEX™/TET™, ABY™*/ NED™/TAMRA™/Cy®3, JUN™*, ROX™/Texas Red™, Mustang Purple™, Cy®5/LIZ™, Cy®5.5
Multiplexing	96-well: up to 6 targets
Dynamic range	10 logarithmic units
Sensitivity (resolution)	Detect differences as small as 1.5-fold in target quantities in a singleplex reaction
Sensitivity (no. of copies)	1 copy

QuantStudio 5 Real-Time PCR System for forensic applications		
Forensic database	Laboratories without direct amplification workflows	
Forensic casework	Confirmatory screening of male DNA Sexual assault sample workflow	Quality and quantity sample assessment

Additional application possibilities on the QuantStudio 5 Real-Time PCR System				
Key areas	Gene expression	Genotyping	Copy number variation (CNV)	miRNA profiling

QuantStudio 5 Real-Time PCR System for Human Identification—specifications	
Excitation (light source)	Bright white light-emitting diode (LED) source with a median lifetime of >5 years
Dimensions and weight	27 x 50 x 40 cm (W x D x H), <26 kg
Sample capacity (wells)	96-well 0.2 mL block
Reaction volume	96-well: 10–100 µL for 0.2 mL block
Maximum ramp rate	6.5°C/sec
Average sample ramp rate	3.66°C/sec
Temperature uniformity	0.4°C
VeriFlex™ Blocks	96-well: 6 independent temperature zones
Heating/cooling method	Peltier
Run time	~70 min for Applied Biosystems™ Quantifiler™ Trio and HP kits ~100 min for Applied Biosystems™ Quantifiler™ Duo and Human kits
Calibration	Factory-calibrated*
Onboard memory	10 GB, which translates to approximately 2,000–5,000 run files
Electrical approvals	IEC, CE

* The instrument is factory-calibrated with FAM, SYBR Green I, VIC, NED, ABY, JUN, Mustang Purple, TAMRA, Cy5, and ROX dyes. In order to run the HID assay, HID ABY (Cat. No. 4461591) and HID JUN (Cat. No. 4461593) dyes will be delivered with each instrument, and will require calibration upon installation.

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QuantStudio 5 Real-Time PCR System for Human Identification—specifications, continued	
Filters/colors	96-well: 6 decoupled filters, up to 21 combinations
Excitation/detection range	96-well: 450–680 nm/500–730 nm
Data acquisition	Whole-plate imaging
Touchscreen	Interactive touchscreen with real-time application viewing
Online ecosystem*	Connect cloud platform
Communication interface*	Connect cloud platform, USB, or Wi-Fi
External devices	2D barcode reader via USB connection
System configuration	Stand-alone, PC connection via Ethernet (colocated) or LAN
International standards	ISO 13485

* Not validated for human identification.

HID Real-Time PCR Analysis Software—specifications	
Component	**Recommended requirements**
Computer requirements	OS: Microsoft™ Windows™ 10 Enterprise 2016 LTSB Processor: Intel™ Core™ i5-6440HW CPU @2.6 GHz, 16 GB RAM Installed memory: 16 GB
Instrument firmware	QuantStudio 5 Real-Time PCR System: 1.3.3 or later
Simplified workflow for HID	Predefined templates for HID Quantifiler assays
Supported platforms	QuantStudio 5 (96-well, 0.2 mL) and Applied Biosystems™ 7500 real-time PCR systems
Run protocols	Preoptimized run protocols or ability to customize
Key features	Virtual standard curve, short tandem repeat (STR) sample normalization (dilution) and reaction setup, generation of quality flags, calculation of quality value (degradation index) and male:female (M:F) sample mixture ratio
Validation	Validated for the following HID quantification assays on QuantStudio 5 and 7500 platforms: Quantifiler Trio, HP, Duo, and Human

Ordering information

Product	Quantity	Cat. No.
HID QuantStudio 5 Real-Time PCR System	1 system, includes laptop	A34321
	1 system, includes desktop	A34322
Quantifiler HP DNA Quantification Kit	400 reactions	4482911
Quantifiler Trio DNA Quantification Kit	400 reactions	4482910
HID Real-Time PCR Analysis Software	Single-user license	A31150
	5-user license	A31152
	Upgrade—single-user license	A31153
	Upgrade—5-user license	A31154

To learn more, go to **thermofisher.com/quantstudio**

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