

Investigator[®] Quantiplex[®] and Investigator Quantiplex HYres Kits

Reliable and easy-to-interpret quantification results

Investigator Quantiplex and Investigator Quantiplex HYres Kits quantify human DNA in a sample using quantitative real-time PCR and QIAGEN's Fast Reaction Chemistry. They confirm that a sample contains sufficient amplifiable DNA to enable DNA fingerprinting analysis and establish whether a sample contains inhibitors that may interfere with downstream applications. The kits are designed for use in a range of human identity and forensics applications and are available in two versions, the Investigator Quantiplex Kit for quantification of total human DNA and the Investigator Quantiplex HYres Kit for quantification of total human and human male DNA.

- Reliable human DNA quantification by real-time PCR in ~50 minutes
- Sensitivity down to <1 pg/μl with validated multi-copy targets
- Accurate prediction of STR success
- Consistent results across gender and populations
- Integrated internal control to confirm successful amplification or identify PCR inhibition
- Automatable assay setup with the QIAgility[®] or QIASymphony[®] AS



Figure 1. Investigator Quantiplex and Investigator Quantiplex HYres Kits.

Investigator Quantiplex Kits

For total human DNA quantification

Sometimes less is more and you're just interested in the total amount of human DNA from a forensic sample – with confidence and a result you can trust. The Investigator Quantiplex Kit delivers highly accurate results, enabling a very high correlation of quantification data with STR results. As shown in Table 1, NIST standard reference material 2372 “Human DNA Quantitation Standard – Component C” was quantified using the Investigator Quantiplex Kit and kits from other suppliers. Results obtained from the Investigator Quantiplex Kit were consistently closer to actual DNA concentration values than those obtained using other suppliers’ kits that only quantify human DNA.

Table 1. Accurate quantification results*

Theoretical concentration	Investigator Quantiplex Kit	Supplier A	Supplier B
2.5 ng/µl	2.784 ± 0.125	2.112 ± 0.137	4.508 ± 0.176
0.25 ng/µl	0.276 ± 0.009	0.151 ± 0.015	0.499 ± 0.055
0.025 ng/µl	0.024 ± 0.001	0.012 ± 0.001	0.054 ± 0.003

* Average of 3 replicates ± SD.

Investigator Quantiplex Kit – The cost-saving approach for obtaining reliable and easy-to-interpret results for total human DNA quantification. Do you want to learn more?



Watch the webinar **A comparison of protocols for human DNA quantification in forensic casework** by Connie Leigh Brown, DNA Laboratory Director and DNA Technical Leader for the Jefferson Parish Sheriff's Office Regional DNA Laboratory in metropolitan New Orleans.



Read the scientific paper **Investigator Quantiplex Kit: For reliable quantification of human DNA in forensic samples**, Di Pasquale et al., Forensic Science International: Genetics Supplement Series 3 (2011) e413–e414.

Investigator Quantiplex HYres Kit

For total human and male DNA quantification

For applications such as sexual assault casework analysis, it's not just about total human DNA, but to distinguish between the male portion of the total human DNA might be critical for the overall examination of the forensics sample. Thanks to QIAGEN's optimized targets, the Investigator Quantiplex HYres Kit quantifies DNA using the most relevant fragment sizes for accurate DNA fingerprinting (146 bp for total DNA and 129 bp for male DNA), ensuring a high correlation between quantification and STR results. For male DNA, a validated multi-copy target is used, enabling a sensitivity below 1 pg/ μ l (Figure 2). For total DNA, the multi-copy marker 4NS1C® – as also used in the Investigator Quantiplex Kit – provides a very high sensitivity, down to <1 pg, with a linear range down to 4.9 pg/ μ l (data not shown).

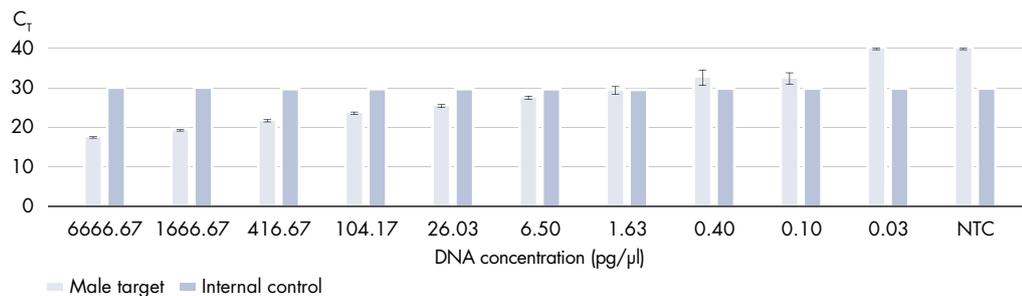


Figure 2. Sensitive quantification. The male component of Control DNA Z1 was serially diluted from 6.67 ng/ μ l to 0.03 pg/ μ l and quantified using the Investigator Quantiplex HYres Kit on the Rotor-Gene® Q. Optimal quantification occurs over a wide linear range (6.6 ng/ μ l to 6.5 pg/ μ l). Male DNA is detectable down to <1 pg/ μ l. **NTC:** No-template control.

Investigator Quantiplex HYres Kit – Gaining sensitive and consistent results for total human and male DNA quantification from forensic casework samples. Do you want to learn more?



Watch the webinar **Maximizing STR success with the most challenging types of sample using multiplex real-time PCR quantification of total human and total male DNA** by Dr. Francesca Di Pasquale, R&D team leader QIAGEN GmbH.



Read the scientific paper **The Qiagen Investigator Quantiplex HYres as an alternative kit for DNA quantification**, Frégeau et al., Forensic Science International: Genetics 16 (2015) 148–162.

Table 2. Technical specifications

Parameter	Investigator Quantiplex Kit	Investigator Quantiplex HYres Kit
Human target (length/channel)	146 bp/FAM™	146 bp/FAM
Male target (length/channel)	–	129 bp/Cy5®
Internal Control (length/channel)	200 bp/VIC®	200 bp/VIC
Volume per reaction	25 µl	20 µl
PCR speed Rotor-Gene Q	50 min	58 min
PCR speed ABI 7500 (standard)	58 min	62 min

Ordering Information

Product	Contents	Cat. no.
Investigator Quantiplex Kit (200)	Primer Mix IC FQ, Reaction Mix FQ, Control DNA Z1, Dilution Buffer	387016
Investigator Quantiplex HYres Kit (200)	Primer Mix IC YQ, Reaction Mix YQ, Control DNA Z1, Dilution Buffer	387116
Rotor-Gene Q 5plex HRM Platform	Real-time PCR cyclers and High Resolution Melt analyzer with 5 channels (green, yellow, orange, red, crimson) plus HRM channel, laptop computer, software, accessories, 1-year warranty on parts and labor, installation and training not included	9001580
QIAgility System HEPA/UV (incl. PC)	Robotic workstation for automated PCR setup (with UV light and HEPA filter); including notebook computer, QIAgility Software, installation and training, 1-year warranty on parts and labor	9001532
QIASymphony AS	QIASymphony assay setup module, 1-year warranty on parts and labor	9001301

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

Learn more about our quantification solutions for human identity and forensic testing at www.qiagen.com/quantiplex-kits.

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