



## Investigator<sup>®</sup> 24plex Kits

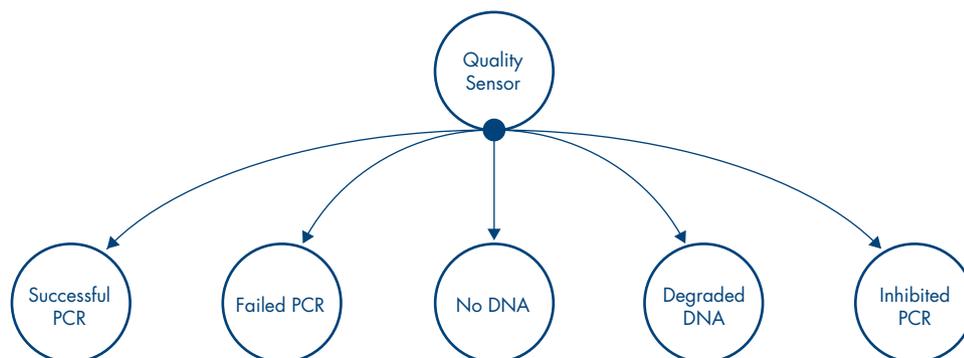
### Advanced STR solutions for the extended CODIS core loci with a unique Quality Sensor

The Investigator 24plex Kits are multiplex STR kits for the co-amplification of the extended CODIS core loci and European Standard Set (ESS) loci, as well as SE33, DYS391 and Amelogenin. This comprehensive set of loci provides compatibility with current forensic databases worldwide. With 23 loci, the Investigator 24plex Kits offer high discrimination power and deliver more information for forensic applications and paternity testing.

- International compatibility with all new CODIS core and ESS loci in one reaction
- Two kit configurations, one for casework, one for reference samples
- Integrated Quality Sensor for better decision making and data interpretation
- Smart primer design for best-in-class concordance rates with NIST final data set and minimal allelic overlap, reducing the risk of misinterpretation

### Advanced STR analysis with an innovative and unique Quality Sensor

As part of our dedication to improving forensic workflows, we have developed a new feature to give you more information about your sample quality. The innovative Quality Sensor (QS) allows the Investigator 24plex Kits to generate additional, valuable information for your quality control and performance checks. The QS is amplified simultaneously with the DNA, without the need for extra steps. Suboptimal profiles can now be interpreted correctly, thus minimizing unnecessary PCR reruns.



## Investigator 24plex QS Kit

For casework sample analysis of extracted DNA

The Investigator 24plex QS Kit uses QIAGEN novel Fast Reaction Mix 2.0 PCR chemistry, enabling robust amplification of 22 STR markers, Amelogenin and the Quality Sensor, in just 60 minutes.

The benefits of the kit include:

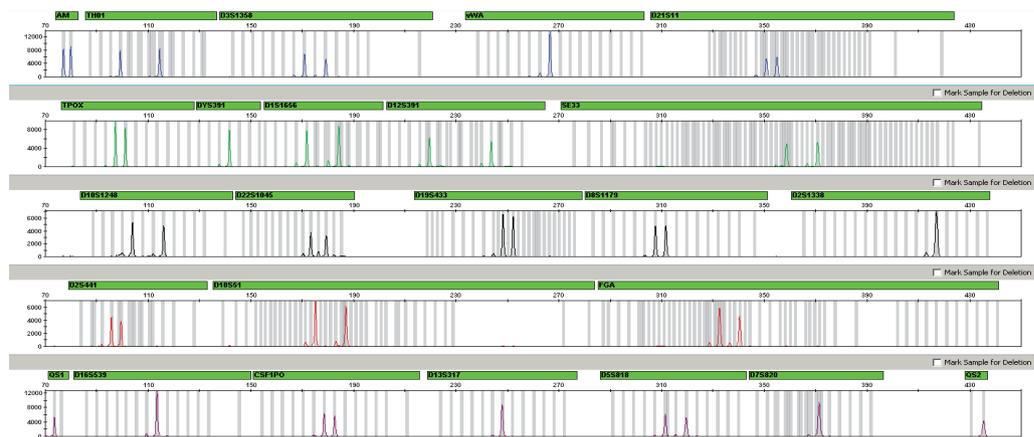
- Quality Sensor for better decision making and data interpretation
- Highest sensitivity and inhibitor tolerance bring highest pass rate for the most challenging samples
- Robust gender typing for all populations, even with degraded or inhibited samples

Small DNA traces can be challenging for casework sample analysis. Often, these traces are present as a mixture with other DNA. In such situations, the clean baseline and high sensitivity provided by the Investigator 24plex QS Kit is crucial for your success. Besides the sensitivity and robustness expect from Investigator kits, the QS indicates how best to proceed. This allows you to reduce cost and increase process efficiency. Let the QS redefine the way you think about casework sample analysis.

Get full profiles, and more allele calls from inhibited or degraded samples

Since the Investigator 24plex QS Kit is extremely inhibitor resistant, the presence of inhibitors from inappropriate DNA extractions is one less issue to worry about. The high sensitivity allows for highest possible allele calls from low-template DNA samples. The kit is specifically designed to extract the maximum possible information from your precious and challenging casework samples, by combining robust gender typing, inhibitor-resistant chemistry and the innovative Quality Sensor.

**Figure 1. Electropherogram of control DNA 9948.** The sample was amplified in the presence of 500  $\mu$ M hematin, which did not interfere with amplification, meaning that a high-quality profile was obtained. This can be seen as the Quality Sensor fragments QS1 (lowest panel on the left) and QS2 (lowest panel on the right) were not adversely affected, indicating a successful run.



## Investigator 24plex GO! Kit

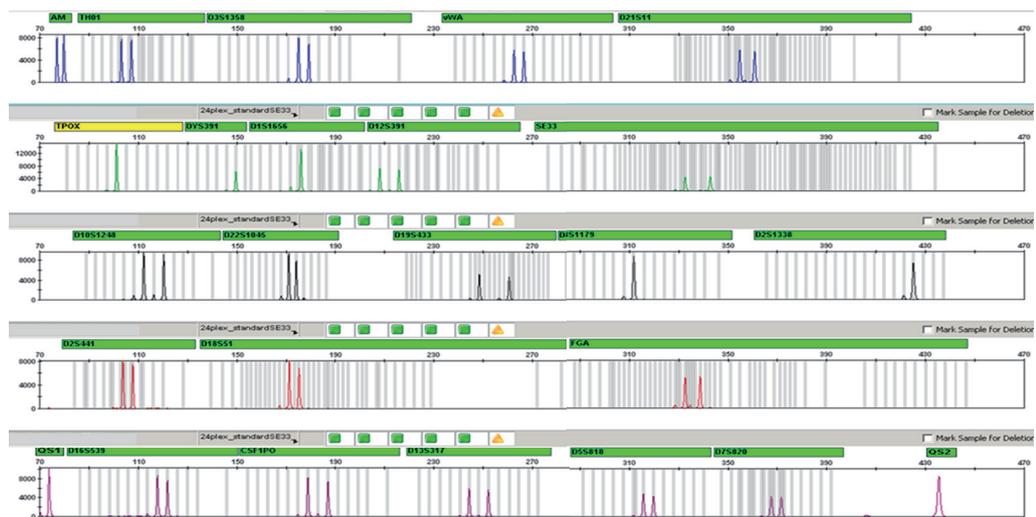
For direct amplification of reference samples

The Investigator 24plex GO! Kit enables direct amplification of 22 STR markers, Amelogenin and the Quality Sensor from swabs and FTA® papers, in just 45 minutes.

The benefits of the kit include:

- Ideal for reference samples from buccal cells or blood on FTA paper or buccal swabs
- Quality Sensor for less unnecessary PCR reruns
- Swab lysis in just 5 minutes

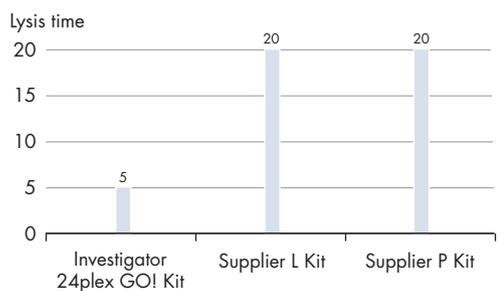
Direct amplification can dramatically increase your lab's throughput and simultaneously decrease the complexity of your STR analysis processes. This reduces costs and minimizes the potential for error. The Investigator 24plex GO! Kit offers protocols specifically optimized for blood or saliva samples on FTA papers or buccal swabs. The Quality Sensor allows you to see if your PCR was unsuccessful or if there was no DNA present. This streamlines your decision-making process and enables you to focus your resources, optimally.



**Figure 2. Reliable direct amplification from buccal swab DNA with the Investigator 24plex GO! Kit.** Swab lysate was amplified according to the kit handbook. Analysis was performed on an Applied Biosystems 3500 Genetic Analyzer.

Don't waste time waiting for your PCR run

Reducing PCR time can improve your efficiency. With the Investigator 24plex GO! Kit, you get more than rapid PCR protocols. The innovative Investigator STR GO! Lysis Buffer reduces the time required for swab lysis to just 5 minutes. Don't wait – just GO!



**Figure 3. Comparison of swab lysis time for direct amplification.** The effective swab lysis time of the Investigator STR GO! Lysis Buffer for the Investigator 24plex GO! Kit protocol, and swab lysis times for other suppliers are shown.

**Table 1 Technical specifications**

	Investigator 24plex QS Kit	Investigator 24plex GO! Kit
DNA input volume	Up to 15 µl	1.2 mm FTA punch or 2 µl lysate
Volume per reaction	25 µl	20 µl
Matrix	BT6	BT6
Fluorescence dyes	6-FAM™, BTG, BTY, BTR2, BTO, BTP	6-FAM, BTG, BTY, BTR2, BTO, BTP
Genetic Analyzers	Applied Biosystems 3500 Genetic Analyzers	Applied Biosystems 3500 Genetic Analyzers

**Table 2. Dyes**

Dye	Markers						
6-FAM	Amelogenin	TH01	D3S1358	vWA	D21S11		
BTG	TPOX	DYS391	DIS1656	D12S391	SE33		
BTY	D10S1248	D22S1045	D19S433	D8S1179	D2S1338		
BTR2	D2S441	D18S51	FGA				
BTP	QS1	D16S539	CSF1PO	D13S317	D5S818	D7S820	QS2

## Ordering Information

Product	Contents	Cat. no.
Investigator 24plex QS Kit (100)	Primer Mix, Fast Reaction Mix 2.0, Control DNA, Allelic Ladder 24plex, DNA Size Standard 550 (BTO), Nuclease-Free Water	382415
Investigator 24plex QS Kit (400)		382417
Investigator 24plex GO! Kit (200)	Primer Mix, Fast Reaction Mix 2.0, Control DNA, Allelic Ladder 24plex, DNA Size Standard 550 (BTO)	382426
Investigator 24plex GO! Kit (1000)		382428
Investigator STR GO! Punch Buffer (200)*	Lysis buffer for 200 samples of epithelial cells on paper	386526
Investigator STR GO! Lysis Buffer (200)	Lysis buffer for 200 swab samples	386516
Matrix Standard BT6 (50)	Matrix standard 6-FAM, BTG, BTY, BTR2, BTP and BTO	386224

\* Other kit sizes available; please inquire.

Investigator 24plex QS Kits meet ISO 18385 requirements.

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](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

Learn more at [www.qiagen.com/24plex](http://www.qiagen.com/24plex).

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