Introduction

The CODIS Core Loci Working Group has published recommendations to expand the CODIS core loci set in the United States. We developed an assay co-amplifying 23 markers according to the recommendations of the Working Group. The assay uses a 6-dye technology in order to keep the amplicon length of markers short, whilst avoiding marker overlap. The assay is based on a new PCR chemistry that ensures robust and fast PCR amplification with improved inhibitor resistance and easy handling.

Both kits contain a novel quality sensor (QS) system, used to evaluate amplification efficiency. The QS indicates whether the reaction has worked and discriminates between the presence of inhibitors or DNA degradation as a cause for the typical ski slope effect observed in STR profiles of challenging samples. This information then informs the most appropriate rework strategy.

Kit configuration

- All recommended CODIS expansion markers are included.
- Identical primers for Investigator 24plex QS and Investigator 24plex GO! Kits.
- BT6 enables high signal intensities, reduced amplicon length, and minimal allelic overlap.

Amplification of typical sample types

Investigator 24plex QS allows robust and balanced amplification of purified DNA of casework and reference samples (A). The flat baseline facilitates the analysis of difficult and mixed samples. Investigator 24plex GO! provides direct amplification protocols for blood or buccal cells on FTA or similar paper and buccal swab crude lysates (B, C).

Conclusion

The Investigator 24plex QS Kit and Investigator 24plex GO! Kit feature:
- 23 markers recommended by the CODIS Core Loci Working Group
- Markers SE33 and DYS391
- Innovative quality sensors for more information and workflow optimization
- A new matrix for 6-color setup
- Full concordance with QIAGEN’s existing STR GO! kits
- Allelic ladder with >60 additional alleles
- Minimalized allelic overlap for unambiguous results
- New reaction chemistry (FAM 2.0)
- High concordance and stability
- Rapid reaction speeds
- Very high inhibitor tolerance
- Convenient manual and automated pipetting
- Validated automated solutions for high-throughput needs

The applications presented here are intended for molecular biology applications. They are not intended for the diagnosis, prevention or treatment of a disease.

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.