

CODIS DNA Analysis



...increase your hit rate

What is CODIS?

The COmbined DNA Index System (CODIS) is the national forensic DNA database system that began as a pilot project within 14 states in 1990. Its operation by the FBI was formalized in 1994. It first consisted of two separate indices of DNA profiles: the Convicted Offender database is an electronic database of offenders convicted of such crimes as rape and murder, while the Forensic Index contains profiles from crime scene evidence. The CODIS database has grown nationally to a size of more than 4.75 million profiles with the participation of every State, the US Army and the FBI.

In addition to the Convicted Offender and Forensic Indices, CODIS also includes an Arrestee Index, a Missing Person Index, Relatives of Missing Persons Index and an Unidentified Human Remains Index. Individual states contribute to these indices depending on the relevant legislation within their state.

For each state, there are three levels of participation in CODIS as follows:

- National DNA Index System (NDIS)
- State DNA Index System (SDIS)
- Local DNA Index System (LDIS)

All DNA profiles originate at the local level and eventually may become part of the national database, depending on the individual State's legislative or legal requirements pertaining to the use of those DNA profiles.

CODIS Success Rate

When properly populated and maintained, a CODIS database can solve crimes and prevent further crimes by helping the investigating agency to identify a suspect or a link between crime scenes. A match may allow an immediate arrest of the identified perpetrator or the coordination of investigations between police in multiple jurisdictions.

When DNA is compared at any level of CODIS, it is possible to achieve one of the following:

- Forensic Hit – A match made between profiles in the Forensic Index which can link crime scenes together
- Offender Hit – A match made between the Forensic Index and the Offender Index which can provide a suspect in an unsolved case
- Arrestee Hit – A match made between the Forensic Index and the Arrestee Index which can provide a suspect in an unsolved case

The success of this system can be summarized by the following statistics⁺:

- Total number of Forensic profiles: 177,870
- Total number of Convicted Offender profiles: 4,582,516
- Investigations Aided: 50,343

⁺ as of May 2007

As the number of profiles in CODIS continues to grow through expanded

database laws at the State level and through the cooperation of the various criminal justice communities - law enforcement, victims, prosecutors, the judiciary and DNA laboratories – the success of CODIS is also expected to grow.

Orchid Cellmark's Expertise

Orchid Cellmark has provided DNA databasing services for federal, state, and local governments since 1992 and is one of the largest contributors to the CODIS system. Our offender profiles are generated following the strict acceptance standards required for upload to the CODIS database. Other features of Orchid Cellmark's CODIS services:

- Has maintained forensic accreditation/certification through NFSTC since 1998, ASCLD/LAB since 2001, and FQS ISO/IEC 17025 accreditation since 2003
- Has generated over 750,000 offender profiles for upload to CODIS
- Routinely provides high throughput testing on the full range of sample types including bloodstains, buccal swabs, and buccal transfers
- Provides customized data analysis specifications and reporting packets to integrate with client laboratory requirements
- Uses automated equipment including sample punches and liquid handlers to increase throughput and reproducibility, and to minimize the possibility of human transfer errors
- Features a state-of-the-art laboratory information tracking system that incorporates numerous automated quality control functions including duplicate profile checks, raw data/upload data comparison, and QC sample verification
- Provides customized data analysis of single source samples using Cybergene TrueAllele® Software, approved by NDIS
- Can provide electronic data transfer to increase the speed of review/upload and to eliminate unnecessary storage of hard copies

Benefits of High Throughput CODIS Testing

Orchid Cellmark clients trust us to generate DNA profiles that help them:

- Provide high quality DNA profiles, a solid chain of custody, and excellent customer service
- Consistently meet the turnaround times required by states and the federal government
- Generate DNA data for uploading to the national database
- Remove the data review bottleneck through use of TrueAllele®
- Assist in reducing testing backlogs
- Increase the number of investigations aided through DNA testing

For more information, please call or click:
1-800-USA-LABS (872-5227) in the US
1-866-TEST-DNA (837-8362) in Canada
www.orchidcellmark.com

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