

Finding Criminals Through DNA Testing of Their Relatives



Technical Bulletin 40-014

Setting the Standard for Quality DNA Identification

CODIS

The Combined DNA Index System or CODIS was officially launched in 1998 by the Federal Bureau of Investigation (FBI) to store and manage DNA profiles of convicted offenders. CODIS generates investigative leads in cases where biological evidence is recovered from the crime scene. Matches between profiles in the Forensic Index can link crime scenes together, possibly identifying serial offenders. Matches made between the Forensic and Offender Indexes provide investigators with the identity of a suspect. Currently the database contains over 5 million DNA profiles. As of February 2007, CODIS has produced over 45,400 hits, assisting more than 46,300 investigations.

Familial Searching and Genetic Privacy

Crime scene profiles that match a DNA profile in the offender database produce solid investigative leads. Crime scene profiles that produce a close, but not perfect DNA match, might indicate a relative of the true offender. Utilizing advanced statistical treatment with kinship analysis, the likelihood of various familial relationships can be determined.

The increasing acceptance and use of this technique has spurred much debate in the law enforcement, civil rights, and scientific communities.

Familial Searching & Genetic Privacy Symposium

The CODIS Unit of the FBI's Laboratory Services held a symposium on Familial Searching & Genetic Privacy in Arlington, VA on March 17-18, 2008. Participants brought a diverse range of viewpoints, and while they left without reaching a consensus, the majority developed a greater appreciation of the full scope of issues that familial searching presents.

Barry Scheck of the Innocence Project and Tania Simoncelli of the ACLU both cautioned that using familial searches is "playing with fire" when it comes to issues of race and privacy. One major concern is increasing racial disparity, as blacks are disproportionately represented in CODIS. Investigating relatives of matches and adding them to CODIS would further increase this disparity. Another concern is potential Fourth Amendment violations, challenging that familial searches may constitute unreasonable searches without probable cause.

Familial searching is used regularly in the United Kingdom, but allowed only for serious crimes when a full suspect DNA profile is available and where no other match is found in the database. The U.K. DNA database, including determining the "seriousness" of a crime, is overseen by an ethics panel.

While the legal and ethical ramifications of familial searching remain controversial, many in law enforcement are already convinced of its value, concede that intrusion on a family's privacy may be justifiable in some cases to protect public safety.

California Department of Justice Policy

In 2008, Bureau of Forensic Services of the California Department of Justice issued information bulletin 2008-BFS-01 DNA Partial Match (Crime Scene DNA Profile to Offender) Policy.

This DNA Partial Match Reporting and Modified CODIS Search Policy may result in investigative leads in unsolved cases where all other investigative leads have been exhausted. Because of privacy concerns coupled with the fact that the information that is ultimately provided will be the name or names of an offender or offenders in California's DNA database who may be related to the actual perpetrator, the policy requires special DNA testing and review of the offender's non-DNA information. The condition for partial matches and modified searches is excerpted below.



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Partial Match Criteria

When a crime scene DNA profile is searched by the standard method against California's Offender DNA Data Bank and a "partial match" results in which the profile shares at least 15 STR alleles with a different but potentially related offender profile, the name of the offender may be released to the investigating agency if the protocol outlined below has been followed and all of the following conditions are met:

1. The crime scene DNA profile is a single-source profile.
2. The case is unsolved and all investigative leads have been exhausted.
3. A commitment is made by the agency and the prosecutor to further investigate the case if the name of the potentially related offender is eventually released.
4. Y-STR typing of the same crime scene evidence that yielded the submitted forensic unknown profile is completed by the submitting agency and is concordant with the offender's Y-STR type obtained by DOJ.
5. If the Y-STR profiles have been determined to be consistent, DOJ will review non-forensic information in order to identify additional evidence bearing on relatedness, if available.
6. A DOJ committee will discuss the case with the local law enforcement agency, the local laboratory, and the prosecutor's office. After reviewing all of the available information, the offender's name will be released unless there is a reason not to release it.
7. If the committee cannot reach consensus, the decision to release the name to the investigating agency will be made by the Attorney General or his designee.

Special Request for a Modified CODIS Search

When a law enforcement agency is investigating an unsolved case that has critical public safety implications, the agency may request that DOJ conduct a modified CODIS search with the objective of identifying any offender(s) in the database who are likely to be related to the unknown perpetrator. In these situations, the name of an offender may be released to the investigating agency if the protocol outlined below has been followed and all of the following conditions are met:

1. A written request is sent to the Chief of the Bureau of Forensic Services that describes the case, and attests that all other investigative leads have been exhausted, and that the investigating agency and the prosecutor's office are committed to further investigate the case if the name of an offender is eventually released.
2. The crime scene profile is a single-source profile.
3. Y-STR typing of the same crime scene evidence that yielded the submitted forensic unknown profile has been completed by the submitting agency prior to the search.
4. The modified CODIS search conducted by DOJ must result in a manageable number of candidates.
5. The candidate matches resulting from the modified CODIS search will be prioritized by DOJ using appropriate statistical calculations for relatedness.
6. Based on this prioritization, DOJ will conduct Y-STR analysis of the offender sample(s).
7. If the Y-STR profiles of the evidence and offender sample(s) are consistent, DOJ will review non-forensic information in order to identify additional evidence bearing on relatedness, if available.
8. A DOJ committee will discuss the case with the local law enforcement agency, the local laboratory, and the prosecutor's office. After reviewing all of the available information, the offender's name will be released unless there is a reason not to release it.
9. If the committee cannot reach consensus, the decision to release the name to the investigating agency will be made by the Attorney General or his designee.



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