

Rapid DNA Testing for non-CODIS uses: Considerations for Court

Background and Introduction:

The forensic analysis of DNA is traditionally conducted by an accredited NDIS participating laboratory¹, which is considered the gold standard of analysis within the field of forensic science. In some cases, forensic DNA laboratories may face significant backlogs or are unable to accept all submitted items of evidence for testing due to insufficient resources. In such instances, the efficient processing offered by Rapid DNA instruments may be viewed by law enforcement agencies as an alternative to the traditional DNA laboratory processing and analysis of crime scene evidence. Law enforcement officials understandably want speedy analysis of crime scene evidence, especially when addressing public safety concerns. However, there are challenges to the use of Rapid DNA technology for the processing of crime scene evidence samples that are not present with single source reference samples. Crime scene evidence samples vary widely, from the age, exposure and nature of the sample to the amount and quality of DNA it may contain. Most critically, such samples often contain mixtures of DNA from more than one individual.

Law enforcement agencies using Rapid DNA instruments should be expected to be held to the high standards of quality as accredited laboratories. As such, it is strongly recommended that agencies establishing Rapid DNA Programs consider the guidance provided in the Non-CODIS Rapid DNA Considerations and Best Practices for Law Enforcement Use document².

Whether DNA evidence is analyzed by a Rapid DNA program conducted within a forensic laboratory, in consultation with a forensic laboratory, or independently by a law enforcement agency in a non-laboratory environment, it is important to prepare for the eventual admissibility and courtroom presentation of Rapid DNA evidence. Law enforcement agencies will rely on their department counsel, government lawyers, or prosecuting attorneys in litigating the admissibility of Rapid DNA technology. It will be important to work as a team to ensure the Rapid DNA results are deemed admissible by the court. It is expected that the defense team will challenge every aspect of Rapid DNA technology. The court may be more likely to grant defense requests to compel expansive discovery and testimony about Rapid DNA technology, especially if there are no previous rulings relating to the admissibility of Rapid DNA technology in that jurisdiction. It is

¹ NDIS is the acronym for the “National DNA Index System” and is one part of CODIS – the national level – containing the DNA profiles contributed by federal, state, and local participating forensic laboratories.

² [fbi.gov/file-repository/non-codis-rapid-dna-best-practices-092419.pdf/view](https://www.fbi.gov/file-repository/non-codis-rapid-dna-best-practices-092419.pdf/view)

Rapid DNA Testing for non-CODIS uses: Considerations for Court

important for the prosecutor and the agency operating the Rapid DNA instrument to be prepared to carefully explain why crime scene Rapid DNA profiles are not authorized under federal law for submission and searching in CODIS yet should be admitted as evidence for trial. **Accordingly, the Task Group is providing guidance on specific issues for an agency performing Rapid DNA testing for non-CODIS use to consider.**

Discovery:

A prosecutor's discovery obligations are governed by statute, case law and office policy, and may vary not only from state to state but also from county to county within a state. Nationally, discovery is becoming more expansive and many prosecutor's offices have a policy that mandates full disclosure. When starting a Rapid DNA program, it is imperative to meet with the local prosecutor's office as early as possible to explain the Rapid DNA program, provide the overall program procedures, and discuss discovery obligations.

For discovery purposes, an agency should be prepared to turn over to the prosecutor all Rapid DNA information relating to the specific case being prosecuted, and also all documents relating to the agency's entire Rapid DNA program. An agency should be prepared to address requests for information that may be in the exclusive possession of the Rapid DNA instrument vendor (e.g., source code).

- It is not possible to list all the information that an agency may be requested to provide to the prosecutor, but the following are some common examples:
 - Procedures and policies regarding the overall program for
 - processing samples (e.g., collection, chain of custody, analysis, comparison, interpretation, documentation, quality control)
 - instrument maintenance, calibration and software upgrades
 - training, continuing education and proficiency tests
 - quality assurance
 - non-conforming events and discrepant results
 - All case and sample specific documentation
 - sample processing records may include handwritten notes, as well as electronic notes, Rapid DNA instrument run and data files, and Local DNA Database records
 - Operator training and proficiency test records

Rapid DNA Testing for non-CODIS uses: Considerations for Court

- Instrument calibration, repair, and maintenance records
- Instrument and database software upgrade records
- External and internal validation documents
- An agency that maintains a non-CODIS DNA database used for Rapid DNA searches can expect discovery requests regarding the procedures for operating the database, including but not limited to the following:
 - categories of DNA profiles in the database
 - acceptance criteria for entry of a DNA profile into the database
 - training records for personnel authorized to operate the database
 - privacy, access, and disclosure limitations regarding the release of information and expungement of DNA profiles in the database.
- Requests may extend to other DNA profiles that were returned as possible matches (even when later determined to be non-matching) or the release of the entire database so that other parties may conduct their own searches and investigations. These searches could include partial matches and searches for relatives.
- Non-legislatively authorized databases may be subjected to additional scrutiny.

Pre-trial Proceedings:

If the results of Rapid DNA testing of crime scene evidence are a contributing factor in establishing probable cause for a search warrant or other legal process, or if the results are used to investigate, arrest or charge a suspect, those results may be subject to pre-trial proceedings. The Rapid DNA operator may be expected to testify about their training, instrument operation and results, including any database comparisons, reliability of results, and operating procedures. An individual (the operator or another individual) knowledgeable about how the Rapid DNA instrument works should be available to testify as courts may not rely on written documentation to explain the “black box” DNA technology and database searching.

Admissibility Hearings:

The defense can be expected to challenge the reliability and general acceptance of Rapid DNA technology (e.g., *Frye* or *Daubert* hearing). Consequently, all aspects of the Rapid DNA instrument’s chemistry and software as well as the agency’s

Rapid DNA Testing for non-CODIS uses: Considerations for Court

database and the procedures for operating the instrument and the database will be scrutinized by the court.

- These challenges can include a demand for disclosure of the manufacturer's intellectual property in the form of software code and other design details.
- They can also include an exhaustive listing of discovery demands for every aspect of developmental and internal validations as well as other demands designed to explore how closely the agency has complied with best practices and procedures.
- The agency's authority to operate and maintain its local DNA database may be challenged.

Trial Testimony:

Rapid DNA operators for agencies performing Rapid DNA testing for non-CODIS uses may be called upon to testify to their results at trial and should be prepared to explain the following, at a minimum:

- Agency authority to establish its Rapid DNA program
- Agency training and continuing education requirements for Rapid DNA operators
- Instrument maintenance (including calibration and software upgrades)
- Quality Assurance program to include proficiency testing and quality control measures
- Basic understanding of how the instrument works
- Agency's Rapid DNA instrument internal validation
- Chain of custody
- Sample Collection
- Suitability requirements of sample for Rapid DNA Analysis
 - size of stain (amount of DNA)
 - source of stain (saliva, blood, semen)
 - sample quality (degradation)
 - single source vs mixture
- DNA Analysis Interpretation
- Comparisons (manual or database)
- Conclusions (match, possible match, no-match, inconclusive)
- Consumption of DNA samples during testing
- Discrepant results between A and B swabs

Rapid DNA Testing for non-CODIS uses: Considerations for Court

- the use of A swab/B swab procedures might result in situations where no result is produced from the forensic DNA laboratory swab, leaving the Rapid DNA instrument results as the only forensic evidence in a case. Be prepared for challenges to the Rapid DNA results.
- Rapid DNA instruments may use different chemistry/kits than the forensic DNA laboratories. This may yield concordant, partial and/or consistent results that are nonetheless different. Be prepared to provide testimony explaining any differences and the reasons for them. It may be helpful to consult with an accredited CODIS participating laboratory regarding this issue.
- Additional oversight or review requirements in the applicable jurisdiction
 - If approvals must be obtained from a State or Local Agency, State Commission on Forensic Science or other oversight body to operate a Rapid DNA instrument or non-CODIS DNA Database, law enforcement agencies must obtain the required approvals and should be prepared to discuss the approval process in court.
 - Rapid DNA Operators should be prepared to discuss how their Rapid DNA Program meets any additional requirements set by their State's Rapid DNA legislation.