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DNA Databank/State CODIS Unit - Familial Searching

What is Familial Searching?

In the laboratory, familial searching is a multistep process of statistical analyses and DNA comparisons, used to screen an offender database for the best candidates to be **potential biological relatives** of a target profile. A **target profile** is the unknown profile being searched and can be either a forensic or unidentified human remains DNA profile that is associated with a serious crime.

Information on the application process and requirements can be found on the NYS Division of Criminal Justice Services website: <https://www.criminaljustice.ny.gov/forensic/familialsearch.htm>

How do I know if familial searching is appropriate in my case?

Familial searching in New York State requires the interaction of multiple agencies, including the New York State Division of Criminal Justice Services, the New York State Police DNA Databank/State CODIS Unit, the respective District Attorney, Law Enforcement Agency, and the local DNA casework laboratory that performed the evidentiary testing. Case reviews and direct communication between investigators/detectives and the local laboratory are vital to a successful familial search process. Identification of evidence samples for familial searching requires intimate knowledge of case information and DNA testing results that is only available to these agencies.

How are potential associations currently generated in the DNA Databank/State CODIS Unit with familial searching?

The New York State DNA Databank/State CODIS Unit generates a list of potential candidates through statistical calculations between a target profile and offender DNA profiles from the New York State DNA Index System. The list is then filtered with additional DNA comparisons before any candidate will be released for a **lead as a potential biological relative**.

What type of information does the NYS DNA Databank/State CODIS Unit use to conduct a familial search?

The NYS DNA Databank/CODIS Unit has access to DNA profiles for the target and offenders. The NYS DNA Databank/CODIS Unit does not use sworn officers to investigate or have access to demographic information, geographical information, pedigrees, or public/private vital records.

If I am provided with a name in my familial search results, who is this person with respect to the target profile?

If you are provided an individual's name, this individual **IS NOT** the source of the target profile. However, this person **MAY** be a biological relative of the target profile. Your investigation and subsequent work in the local laboratory will help you determine if there is a biological relationship between the target profile and this individual. Constructing a pedigree tree of known relatives of this individual can significantly assist in identifying possible donors of the target profile.

If I receive an individual's name, are they definitively related to the target profile?

This cannot be determined with the genetic information and technology that is used to conduct a familial search in the New York State DNA Databank/State CODIS Unit. What can be said is that this individual is the best candidate to be a potential biological relative found in this particular search and is worth investigating further.

If the individual is truly related to the target profile, can the New York State Police DNA Databank/State CODIS Unit, determine what that relationship is to help narrow my avenues of investigation?

***NO.** Using the existing DNA data, there is no current method available to the laboratory to reliably pinpoint the most likely relationship type.* The only information that can be reliably gleaned from currently available offender DNA data and familial searching process is that the individual is most likely a father, son, or full-sibling of the target profile, if the individual is in fact related to the target profile. The only way to determine if they are truly related, or what that relationship type is, is through further investigation, identification of potential suspects and comparison of these suspects to the original target profile.

Is there a possibility that if the individual is related, they are a non-first order relative (i.e.; half-sibling, uncle, grandparent, grandchild, cousin or further)?

YES. Although highly unlikely, there is a chance that a non-first order relative can be returned from a familial search. However, if the individual identified as a potential biological relative is in fact a biological relative, the most likely relationship they have with the target profile is a parent-child or full sibling.

I have been given more than one name. What does that mean?

It means that you have multiple candidates to investigate that are potentially related to the target profile. It is possible that:

- One or more of the candidates are related to the target profile
- None of candidates are related to the target profile
- Some or all candidates are related to each other
- None of the candidates are related to each other

These are not questions that the lab results of familial searching can answer. Further investigation by the law enforcement agency and district attorney is required. Receiving multiple names simply tells you these are the best candidates to be a potential relative of the target profile, found in this particular search and they are worth exploring further. Constructing a pedigree tree for each of the candidates separately using known relatives can assist significantly in identifying possible donors of the target profile.

Can you provide me with any of the statistics between the known individual(s) and the target profile?

NO. Statistics calculated will not provide any more resolution than has already been given. A common misconception of statistics in general is that high or low values convey that any given position is absolute. The statistics used for familial searching only convey which are the best candidates in a particular search to be a potential relative of the target profile. They will not provide the resolution to reliably discern between multiple candidates, do not identify if a candidate is or is not a relative of the target profile, nor do they specify what that relationship may be. Further investigation by the law enforcement agency and district attorney is required to answer these questions.

Statistical calculations are provided in criminal casework. Why not in a familial search?

Statistics performed in a criminal casework are not used in the same manner as a familial search. The context of a criminal case is much more confined by prior evidence than a familial search. There are significantly more opportunities in a familial search to find higher statistical values by chance that would have otherwise not been observed by prior investigation in a criminal case. Thus, the statistics used for the database search will not provide any more assistance than has already been given.

I thought more leads would be generated for me to investigate. Why don't I have more?

With currently validated software and technology, the laboratory's procedure was designed to maximize the chances of finding a first order male relative (a full sibling or parent/child) in every search, if one exists in the database. At the same time, it was designed to minimize coincidental associations. This means that the parameters for conducting a search have been optimized to make every search as effective as possible.

Can a familial search miss a relative in the database?

YES. However, it is unlikely for a familial search to miss a first order relative.

My target profile is female or has no male results available. Why can't it be searched or why can't female offenders or offenders without male results be released at this time?

The current validated parameters require a secondary DNA comparison using the male-specific Y-STR analysis. Therefore, target profiles and candidates without Y-STR information will not result in the release of offender information.

Is familial searching the same as genealogical searching?

NO. Familial searching and genealogical searching are very similar in general but different in DNA technology used, data accessed, and scope of investigation. Genealogical searching requires DNA testing and access to public databases that are unavailable to the New York State DNA Databank/State CODIS unit, along with significant genealogical research. Both types of searches could be beneficial to your case. Consult with your local laboratory on how to proceed with either.

For familial search inquiries related to sample requirements, laboratory processes and testing, results, or questions about this fact sheet, please contact:

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State DNA CODIS Unit: NYSPCODIS-Databank@troopers.ny.gov

For inquiries related to the application process, please contact:

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