



## Introduction

### What is DNA?

### Identifying DNA Evidence

### **Evidence Collection and Preservation**

### COMBINED DNA INDEX System—CODIS



## Evidence Collection and Preservation

Investigators and laboratory personnel should work together to determine the most probative pieces of evidence and to establish priorities. Although this brochure is not intended as a manual for DNA evidence collection, every officer should be aware of important issues involved in the identification, collection, transportation, and storage of DNA evidence.

These issues are as important for the first responding patrol officer as they are for the experienced detective and the crime scene specialist. Biological material may contain hazardous pathogens such as the human immunodeficiency virus (HIV) and the hepatitis B virus that can cause potentially lethal diseases. Given the sensitive nature of DNA evidence, officers should always contact their laboratory personnel or evidence collection technicians when collection questions arise.



### **Contamination**

Because extremely small samples of DNA can be used as evidence, greater attention to contamination issues is necessary when identifying, collecting, and preserving DNA evidence. DNA evidence can be contaminated when DNA from another source gets mixed with DNA relevant to the case. This can happen when someone sneezes or coughs over the evidence or touches his/her mouth, nose, or other part of the face and then touches the area that may contain the DNA to be tested. Because a new DNA technology called "PCR" replicates or copies DNA in the evidence sample, the introduction of contaminants or other unintended DNA to an evidence sample can be problematic. With such minute samples of DNA being copied, extra care must be taken to prevent contamination. If a sample of DNA is submitted for testing, the PCR process will copy whatever DNA is present in the sample; it cannot distinguish between a suspect's DNA and DNA from another source.

**To avoid contamination of evidence that may contain DNA, always take the following precautions:**

- Wear gloves. Change them often.
- Use disposable instruments or clean them thoroughly before and after handling each sample.
- Avoid touching the area where you believe DNA may exist.
- Avoid talking, sneezing, and coughing over evidence.
- Avoid touching your face, nose, and mouth when collecting and packaging evidence.
- Air-dry evidence thoroughly before packaging.
- Put evidence into new paper bags or envelopes, not into plastic bags. Do not use staples.

visited on 10/14/2014

### ***Transportation and storage***

When transporting and storing evidence that may contain DNA, it is important to keep the evidence dry and at room temperature. Once the evidence has been secured in paper bags or envelopes, it should be sealed, labeled, and transported in a way that ensures proper identification of where it was found and proper chain of custody. Never place evidence that may contain DNA in plastic bags because plastic bags will retain damaging moisture. Direct sunlight and warmer conditions also may be harmful to DNA, so avoid keeping evidence in places that may get hot, such as a room or police car without air conditioning. For long-term storage issues, contact your local laboratory.

### ***Elimination samples***

As with fingerprints, the effective use of DNA may require the collection and analysis of elimination samples. It often is necessary to use elimination samples to determine whether the evidence comes from the suspect or from someone else. An officer must think ahead to the time of trial and possible defenses while still at the crime scene. For example, in the case of a residential burglary where the suspect may have drunk a glass of water at the crime scene, an officer should identify appropriate people, such as household members, for future elimination sample testing. These samples may be needed for comparison with the saliva found on the glass to determine whether the saliva is valuable evidence. In homicide cases, be sure to collect the victim's DNA from the medical examiner at the autopsy, even if the body is badly decomposed. This may serve to identify an unknown victim or distinguish between the victim's DNA and other DNA found at the crime scene.

When investigating rape cases, it may be necessary to collect and analyze the DNA of the victim's recent consensual partners, if any, to eliminate them as potential contributors of DNA suspected to be from the perpetrator. If this is necessary, it is important to approach the victim with extreme sensitivity and provide a full explanation of why the request is being made. When possible, the help of a qualified victim advocate should be enlisted for assistance.

[Previous](#)

[Next](#)