Policy on the Submission of Evidence for Biological Analysis

The purpose of this document is to provide law enforcement and criminal justice officials with guidance regarding the submission of biological evidence for examination by the Kern Regional Crime Laboratory.

The Kern Regional Crime Laboratory offers forensic DNA testing for deoxyribonucleic acid (DNA) recovered from items of evidence. These tests are conducted by comparing the DNA profiles developed from evidence (questioned) samples to the DNA profiles developed from reference (known) samples to determine if individuals can or cannot be excluded as potential contributors. It is, therefore, imperative that ALL samples (both known and questioned items) be submitted for analysis together within the same submission.

DNA typing results obtained by the Kern Regional Crime Laboratory are uploaded and searched in the local DNA database and, when appropriate, to the COmbined DNA Index System (CODIS).

Services offered in Portal

Discipline	Service Type
DNA Analysis Unit (DAU)	Biological Screening
	DNA Analysis v2016
	Kinship Analysis

Explanation of Services

Service Type	Evidence Item	Testing
Biological Screening	Blood, semen, saliva or other biological fluid-stained item (e.g. swabs, clothing or bedding)	Screen for the presence of body fluids (blood, semen, saliva, urine); locate stains for DNA analysis
	Hair	Determine if root is suitable for DNA analysis
DNA Analysis	Reference from a known individual:	Obtain DNA profile for comparison

	Buccal swab / FTA card Liquid blood / FTA card Bone or human remains Alternate known reference sample	
	Question (unknown) items: Items stained with blood, semen, saliva or other biological fluids Chewing gum, drinking container, cigarette butt Bone or human remains Touch items or swabs of touch items Human hair with root tissue	Obtain DNA profile for comparison
Kinship Analysis	Reference from a known individual: Buccal swab / FTA card Liquid blood / FTA card Bone or human remains Alternate known reference sample	Obtain DNA profile to determine kinship relationship

Agency Responsibilities

In order to submit biological evidence to the Kern Regional Crime Laboratory for biological screening and DNA analysis, submitting agencies should:

1. Send requests for DNA Analysis approval to KRCLDNA@KernDA.org. Requests should include at a minimum, a brief synopsis of the case along with the specific evidence items and item numbers relating to the request, list of the individuals involved and a brief description of the offense. Requests will be reviewed by the DNA Technical Lead, Laboratory Director and/or the Assistant D.A.

Note: The laboratory will strive for five (5) of the most probative items of evidence per request, whenever possible. (A sexual assault kit is considered one item);

2. If the potential DNA profile is to be uploaded to the CODIS database, please submit proper documentation demonstrating that the

profile is eligible for CODIS upload. This documentation must describe details of the crime including location of the evidence, how it relates to the crime, and how it is believed to be attributed to the perpetrator. Examples of proper documentation include, but are not limited to, police reports, photographs and documented communications. Giving a brief description of the item such as “sweatshirt from bedroom” or “from crime scene and perpetrator” without further details, or simply writing “CODIS eligible” next to the item description will not be accepted as sufficient documentation;

3. Enter the case information, list of evidence item(s) and analysis request into Portal;

4. Submit approved evidence to the laboratory accompanied by a copy of the approval email. At a minimum, submit known references from the victim(s), consensual partner(s), elimination individual(s) and the subject(s) with the evidence. The only exception to this requirement is in a case where the subject is unknown or when the reference samples are unable to be obtained. All forensic evidence that is brought to the laboratory without appropriate known/elimination samples shall be refused or returned unanalyzed. Note: DNA profiles contained in the COmbined DNA Index System (CODIS) cannot be used as references;

5. Track the progress and final report completion in Portal;

6. For specialty requests such as:

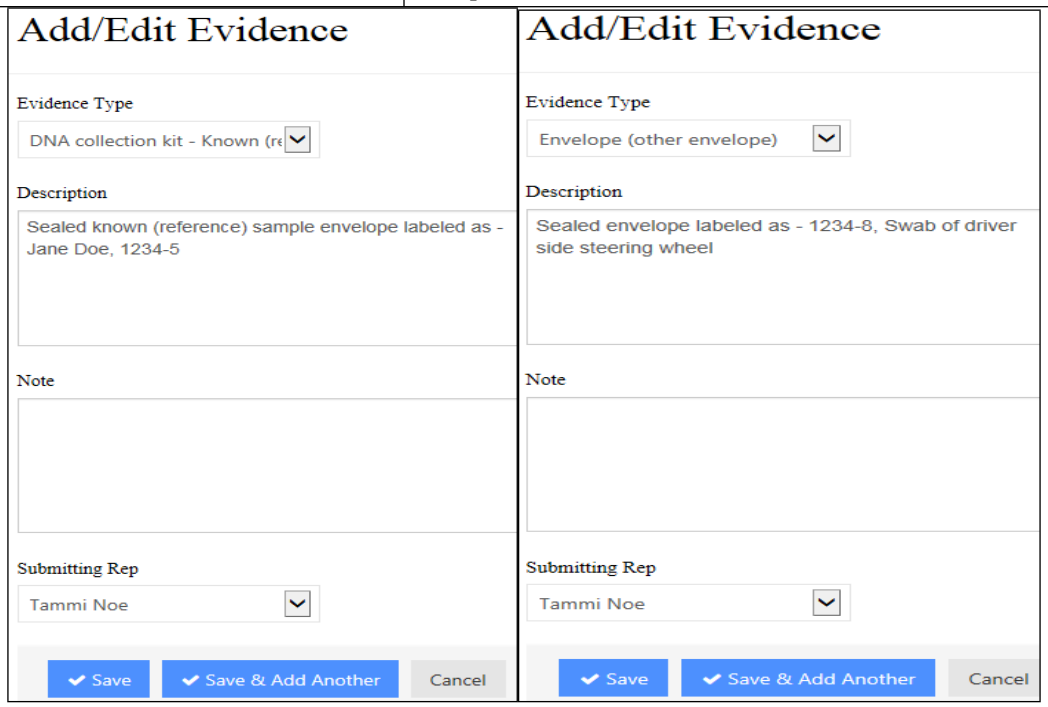
- Evaluating cold cases for best evidence;
- Re-evaluation of DNA testing completed prior to 2017 (known as legacy data); and
- Familial searches in our local DNA database;

Please email KRCLDNA@kernda.org to request a case meeting. Note that with samples of limited quantity, the lab would need permission to consume.

Using Portal

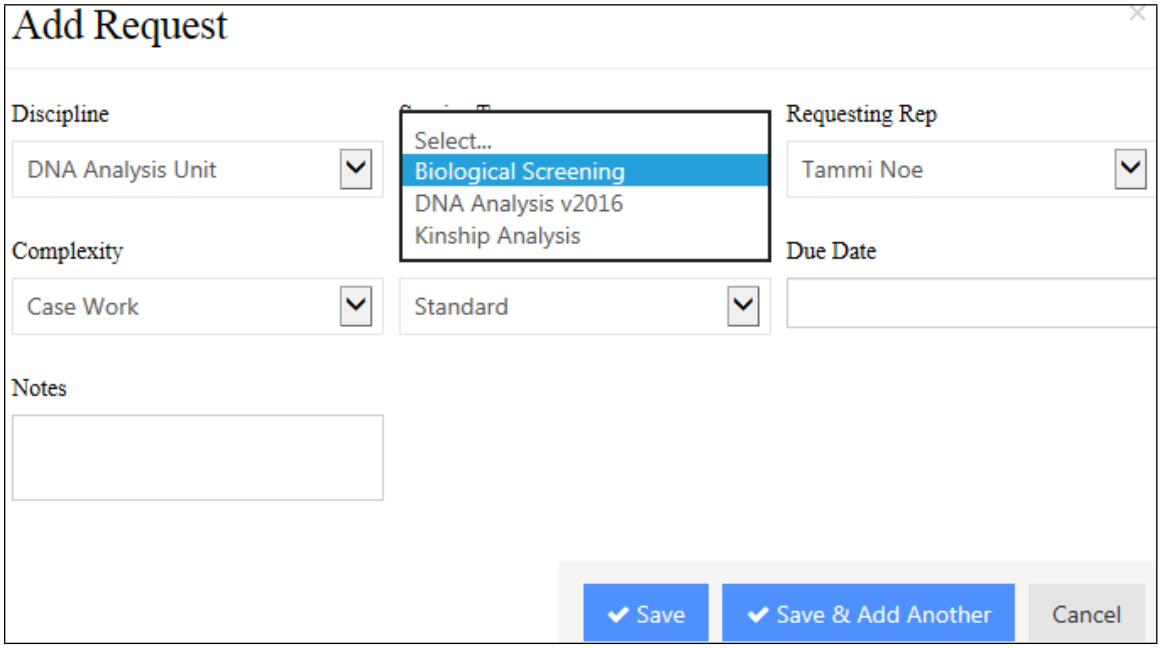
To log into Portal, visit the laboratory’s website at kerncounty.com/government/departments/kern-regional-crime-laboratory. Under the Evidence Submission tab, you will find written instructions as well as an instructional video.
Use the following evidence descriptions when entering evidence item(s) for biological screening and/or DNA analysis:

Evidence Type	Evidence Description
DNA collection kit – Known (reference) sample	Sealed known (reference) sample envelope labeled as - [Name], [Agency property # or item #]
DNA collection kit – Questioned (unknown) sample	Sealed questioned (unknown) sample envelope labeled as - [Name], [Agency property # or item #]
DNA – Sexual assault kit (victim)	Sealed sexual assault evidence kit Victim labeled as – [Name], [Agency property # or item #]
DNA – Sexual assault kit (subject)	Sealed sexual assault evidence kit Subject labeled as – [Name], [Agency property # or item #]
Envelope (other envelope)	Sealed envelope labeled as – [Agency property # or item #], [Exact description as on label or evidence envelope]
Bag	Sealed bag labeled as – [Agency property # or item #], [Exact description as on label or evidence bag]
Box (gun box)	Sealed gun box labeled as – [Agency property # or item #], [Exact description as on label or evidence box]
Box (other box)	Sealed box labeled as – [Agency property # or item #], [Exact description as on label or evidence box]



Submitting Request(s) in Portal

Select the *Discipline(s)* and *Service Type(s)* for your Portal request. (See page one of this document for options.)



Please print the Evidence List and submit along with your evidence to the Evidence Control Unit of the Laboratory. Evidence submitted without a printout may not be accepted.

Laboratory Responsibilities

In order to accept evidence from law enforcement officials a member of the Kern Regional Crime Laboratory's Evidence Control Unit (ECU) shall:

1. Ensure that the following information is included in the Portal request or is provided by some other means (e.g. email, evidence item, or courier):
    a. Incident date;
    b. Subject and/or victim names (first and last);
    c. Offense(s);
    d. List of items submitted; and
    e. Requested analysis.
2. Ensure that the information on the evidence item(s) is properly completed. The following information, at a minimum, is **required** for acceptance:
    a. Agency name;

   b. Agency case number;
   c. Requesting officer; and
   d. Subject and/or victim names (first and last), if the item was taken directly from a person (e.g. known reference samples, sexual assault kits, toxicology samples, seized drugs);

3. Ensure that an email is included with the request from the DNA Technical Lead or the Laboratory Director approving biological screening analysis or DNA analysis, including an inventory of items being submitted;
4. Accept evidence that was approved for analysis or up to five (5) of the most probative items per case submission;
5. Ensure that all known reference blood or buccal samples from all named persons of interest (including but not limited to the victim, subject(s), or persons to be eliminated) are present. Exceptions to this policy can only be made by the DNA Technical Lead or Laboratory Director;
6. Ensure that the requested analysis matches the evidence received for analysis;
7. Ensure that the outer packaging of the evidence is properly sealed; and
8. Record the date, time, and received from and by in the Laboratory Information Management System (LIMS).

Restrictions

The laboratory will not pick up evidence samples to be analyzed. Agencies are responsible for transporting evidence to and from the laboratory.

Biological screening and DNA analysis requires written permission from the DNA Technical Lead or the Laboratory Director using email address KRCLDNA@kernDA.org.

Best efforts will be made to limit analysis to five items of evidence. (Known references are not counted in this total and a sexual assault kit is only considered one item). Evidence items will be evaluated and those expected to yield the most DNA information will be given priority when approving agency requests (i.e touch DNA would be a lower testing priority if items with blood were available).

The laboratory will not accept submission of a case without all known references (victim, subject, consenting partner, etc.) submitted at the same time as the evidence items.

Requests for DNA testing of fired cartridges cases will not be approved if other evidence items in the case are better suited for DNA testing and/or known reference samples from all possible subjects are not submitted for direct comparison.

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The best testing strategy from the order of previous processing will be evaluated on a case-by-case basis. For example, if an older evidence item was handled, collected or preserved contrary to current testing techniques, DNA testing could result in an increased likelihood of contamination.

General Guidelines for Biological Evidence

Biological evidence containing potential DNA must be properly documented, collected, packaged, and preserved. Proper collection techniques prevent potential contamination of evidence (e.g., wearing gloves and face masks) and ensure evidence preservation. Biological evidence should be allowed to air dry; do not package if wet or damp. Package biological evidence in paper packaging only, do not use plastic. Ensure that packaged evidence is sealed properly.

Biological stains on large fixed, immovable objects can be removed by either sampling with a clean swab or removing a portion with a clean, sharp instrument, packaged into a clean paper bag or an envelope and placed under proper seal. Suspected biologically-stained items shall be packaged in such a way as to prevent stain removal by abrasive action during transport.

For your agency's convenience, the laboratory provides evidence collection kits for known or unknown DNA samples and victim or suspect sexual assault. These kits can be picked up Monday - Friday, 8 AM to 5 PM. The laboratory does not provide EDTA collection tubes or blood stain cards.

Blood from a Known Individual

The laboratory prefers to receive dried bloodstain cards rather than tubes of liquid blood. If this is not possible, liquid blood tubes shall be packaged individually in sturdy containers with absorbent packing material surrounding them. Only qualified medical personnel should collect blood samples. At least two (2) 5 mL tubes of blood in purple-top collection tubes (tubes containing EDTA as a preservative) should be collected. If toxicological analysis is also needed, then those blood samples should be collected in gray-top tubes (tubes containing sodium fluoride and potassium oxalate as a preservative). Each tube should be labeled with the date and time of collection, the individual's name and the case identifying information. Liquid blood should be refrigerated and never frozen (if using ice, then use cold packs and not dry ice). Whether blood samples are dry or liquid, samples from different individuals must be packaged separately. An evidence item packaged with liquid blood samples needs to be identified as such so that it is stored properly. Liquid blood samples will not be returned to the submitting agency.

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Buccal (Oral) Swabs from a Known Individual

"DNA Collection Kit Known (reference) Sample" kits provided by the laboratory contain instructions for use. Only clean swabs shall be used to collect buccal (oral) samples and, in each case, the inside surface of the cheek shall be rubbed vigorously to obtain the best possible sample. The swabs shall be pressed onto indicating FTA cards. The swabs and the indicating cards shall be air-dried and placed within their original packaging. This original packaging shall then be placed under proper seal and identified with the date and time the sample was collected, the individual's name, the collector's name, and any other case identifying information that may be necessary. Buccal samples from different individuals shall be packaged separately. Buccal samples do not need to be refrigerated.

Alternate Known Reference Sample

An alternate known reference sample is one that can be used to establish a DNA profile from a person when a buccal, blood or bone/human remains sample is unavailable or unsuitable for testing. Alternate known reference samples should be an item that had direct and prolonged contact with the individual in question (e.g., toothbrush, hairbrush, used razor, cigarette butt or unwashed clothing). Alternate known reference samples should be submitted only as a last resort and the laboratory shall be provided with information regarding the nature of the sample being submitted explicitly stating how the sample is associated to the individual in question. Known reference samples should also be submitted for other individuals that could have also been in direct and/or prolonged contact with the alternate known reference sample submitted for elimination purposes. A known reference sample shall be collected from the individual in question if/when one becomes available.

Blood or Other Biological Source on a Surface

"DNA Collection Kit Questioned (unknown) Sample" kits are provided by the laboratory with instructions for use. Wet suspected blood should be absorbed onto a clean swab. If the blood is dry, then the swab can be moistened with a minimal volume of sterile water. Collect as much sample as possible from each individual stain and concentrate onto one area rather than spread over the entire swab head.

Bloodstains or Other Biological Source

Large suspected bloodstains should be removed from fixed or immovable objects (e.g. carpet, furniture, or mattress) either by swabbing a sample of the stain or removing a portion with a clean, sharp instrument. Samples should be packaged in a way that prevents stain removal by abrasion during transport. Dry bloodstained clothing or linens shall be wrapped in clean paper and placed in a

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paper bag. Care should be taken to package bloodstained materials to preserve bloodstain patterns. Wet samples may be collected on swabs as described above.

Bone/Human Remains

The Kern Regional Crime Laboratory does not conduct anthropological analyses of human remains. For determination of whether a bone is human or non-human, contact the Kern County Sheriff-Coroner. The laboratory can analyze bones or human remains for DNA to aid in identification of the remains by comparison to the DNA known references of immediate family. Bones should be wrapped in protective material (e.g., bubble wrap or paper), with as little accompanying soil as possible, and packed in paper bags or boxes. Tissue samples shall not be packaged in preservative but shall be kept frozen. If tissue is present on skeletal material, then it shall be kept frozen.

Hair

Hair evidence should be carefully collected with clean forceps to prevent damage – especially to any root tissue. If mixed with body fluids, the hair should be air-dried and packaged accordingly. Each grouping of hair should be packaged separately into clean a paper bag or an envelope and placed under proper seal. Plastic containers shall not be used.

The laboratory will conduct a biological screening to determine if there is root material suitable for nuclear DNA testing. If so, the hair will be analyzed for DNA.

Semen Stains

Suspected semen should be sampled onto a clean swab, air-dried, packaged into a clean paper bag, box or an envelope and placed under proper seal. If the semen-stained item is collected, it shall be packaged in such a way as to prevent stain removal by abrasive action during transport. Note: Semen reference samples should not be collected. Rather, blood or buccal swabs are submitted as known reference samples.

Sexual Assault Evidence

Individuals involved in a sexual assault should be medically examined in a hospital employing a SART nurse using a standard sexual assault evidence kit (or similar) provided by the laboratory. The laboratory provides sexual assault kits for the SART personnel to use.

A DNA known reference from any consensual sex partners listed on the CAL-OES report should be collected and submitted to the Laboratory at the time of sexual assault kit collection.

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AB1517 sexual assault kits (as required by California law, effective January, 2016) consist of duplicates of the most probative samples from the SART examination and the victim's known reference, and a completed CAL-OES form (or similar report). These samples are collected in addition to the standard sexual assault evidence kit and are submitted directly to the laboratory by the SART team. These samples are consumed in testing and therefore not returned to the law enforcement agency.

Sexual assault evidence should be kept frozen or room temperature and submitted to the laboratory as soon as possible.

Saliva, Urine, or Other Biological Fluid-stained Evidence

Suspected saliva or urine should be sampled with a clean swab, air-dried, packaged into a clean paper bag or an envelope and placed under proper seal.

Evidence items with biological stains of interest, such as cigarette butts (no ashes), chewing gum, drinking container (with contents poured out), etc., should be collected with proper collection techniques and submitted to the laboratory. Alternatively, suspected biological stains may be sampled onto a clean swab, air-dried, packaged into a clean paper bag, box or envelope and placed under proper seal.

Touch DNA Evidence

Touch DNA refers to the presence of low-level DNA on questioned items that is not directly related to the presence of a biological fluid.

When analysis is requested for spent cartridge casings from firearms, the analytical strategy is to swab the cartridge casings before the firearms analysis. If associations to a single firearm are made by a firearms examiner, the associated swabs can then be combined. Swabs from spent cartridge cases may also be combined based on the location of their recovery and/or other relevant case information.

If an evidence item requires both DNA analysis and Firearms Database, best practice is for the submitting agency to swab the fired cartridge cases and/or firearm ***FIRST,*** before submitting the evidence to the laboratory. This practice will preserve potential DNA evidence for subsequent or future testing and allow the evidence to be processed by FTU within their targeted turnaround time.

Latent Fingerprint Processing and DNA Analysis

Generally latent fingerprints are not visible on an evidence item without some form of enhancement/processing. Similarly, the presence of possible DNA on an item cannot be visualized. If an evidence item could possibly have latent fingerprint evidence and DNA evidence, often it is the decision of the LEA which

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evidence to test for. If both processes are of interest, it is best practice to swab any textured surfaces of the item for possible DNA and process the smooth surfaces for latent fingerprints. If there are no textured surfaces, then the LEA should process the item for latent fingerprints and then swab the remaining areas for DNA evidence.

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