



**Recommended Protocols for Collection,
Preservation, Packaging and Forwarding of
Biological Evidences for DNA profiling**

**DNA Division
State Forensic Science Laboratory
Junga-171218**

Recommended Protocols for Collection, Preservation, Packaging and forwarding of Biological Evidences for DNA profiling

Sample	Condition	Location/Source	Collection & Preservation	Packing & Transportation	Precautions
Blood	Liquid	Live subject	Collect few drops on FTA cards or on a cotton gauge and air dry in shade before packing	Pack in prescribed envelopes provided with FTA cards or paper envelopes. Submit at the earliest	Use gloves and sterile equipment/cotton gauge. Never use polythene bags for packing.
	Liquid	Dead body	Collect in EDTA tubes (2-3ml through direct cardiac puncture alternatively FTA card or cotton gauge may be used	Try to submit within 24 hours.	Never collect liquid the blood without EDTA tubes.
	Liquid/wet clot	Crime scene	Absorb on cotton cloth or cotton wool and air dry in shade	Pack in paper envelope and submit at the earliest	Use gloves and make sure the sample is fully dry before packing
	Clotted dried blood	Crime scene/objects/weapon/stone/brick/vehicle etc	Collect the object itself (if small in size) or scrap the clot and collect in a paper envelope or glass/plastic bottle, or cut a portion of the object bearing the stain and air dry it before packing Collect a control sample also	Submit at the earliest	Use sterile equipment and gloves and make sure that the sample is dry. Do undertake adequate photo/videographic documentation prior to collection or removal of objects.
	Wet stains	On clothes of victim or suspect	Air dry the clothes thoroughly in shade	Pack in a paper bag and submit at the earliest	Use gloves and clean paper bags
Semen	Liquid	Victim	Collect the sample with sterile swab and air dry the swab at room temperature	Pack in a sterile glass/plastic vial and submit at the earliest	Use gloves and sterile equipment and make sure that the sample is fully dried before packing
	Liquid/dried stains	Crime scene/victims clothes	Collect the sample with sterile swab and air dry the swab at room temperature. The clothes bearing the stains should be dried and packed.	Pack in a sterile glass/plastic vial and submit at the earliest. Pack clothes bearing stains on paper envelope	
Vaginal/Anal/Oral Swabs		Victim	Request the Medical Officer to air dry the swabs thoroughly prior to packing	Pack in a paper bag or sterile glass/plastic vial	Make sure the sample is thoroughly dry before packing

Vomit/sp utum, faecal material and biological fluids	Crust/Spatter	Crime scene	Scrap with a sharp sterile scalpel/knife and air dry in shade	Pack in paper bag and submit at the earliest	Use sterile equipment and do through photo/videographic documentation prior to removing exhibits.
Tissue, organs, mutilated remains	Wet or semi dry	Dead body, mutilated remains at crime scene	Collect in normal saline available at medical stores. A small amount tissue 2-10 gm tissue may also be collected in glass/plastic vial filled with absolute ethanol	Submit within 24 hours and if not possible to do so refrigerate the samples	Never add Formalin
Foetus etc		Crime scene, exhumed body etc	Collect in normal saline available at medical stores. A small amount tissue 2-10 gm tissue may also be collected in glass/plastic vial filled with absolute ethanol	Submit within 24 hours and if not possible to do so refrigerate the samples	Never add Formalin
Bones, Teeth	Wet, semi dry or dry	Crime scene, dead body, exhumed body	Completely air dry and collect in paper bag.	Submit at the earliest	Never add Formalin Select long bones. Use the following preference 1. Femur 2. Tibia 3. Humerus 4. Molar teeth 5. Ribs Avoid collection of clavicle bone and charred bones
Hair with root	Dry or with blood or body fluids (semen, saliva etc)	Crime scene, weapon, victim, body and clothing of suspect	Collect with help of forceps If attached in dried blood then do not pull out the hair, rather collect along with the substratum and blood Collect reference samples from victim and suspect Collect 40-70 hairs	Collect in paper envelope & submit at the earliest	Never wash the hair Prefer collection of rooted hair only.

Notes:

1. For paternity testing collect the blood samples of the child, mother and alleged father(s) on FTA cards.
2. For identifying a deceased or unidentified body/remains, blood samples of nearest blood relatives like- mother, father, brother, sister, children are required.
3. In cases of sexual assaults always get the vaginal swabs air dried at room temperature prior to packing.
4. In sexual assault cases reference blood sample of victim and accused is required for DNA analysis.
5. In case blood sample is not available from a dead body, collect tissue from deep skeletal muscles or liver.

Do's:

1. Always use sterile disposable gloves and equipment for sample collection.
2. Always collect samples in duplicate.
3. Prefer collecting long bones like femur, tibia, humerus etc from skeletal remains.
4. Always pack the samples (stains, clothes, swabs, weapons, stone etc) after thoroughly drying at room temperature in shade.
5. Pack all the exhibits separately.
6. Use paper and cloth bags to pack exhibits to ensure circulation of air which will keep the sample dry and check putrefaction.
7. Prefer to send dried blood (absorbed on FTA card or cotton gauge) instead of liquid blood.

Don'ts:

1. Never use same gloves and equipment for handling artefacts supposed to of different origins.
2. Never prefer to collect Clavicle bone.
3. Never pack exhibits like stained clothes, weapons, swabs in wet condition.
4. Never make the lid of vial containing dried swabs etc fully airtight to avoid putrefaction.
5. Never send fully charred bones.
6. Never use polythene bags for packing evidence.
7. Most important: **Never ever use Formalin** or any other fixative to collect any biological sample (tissue, foetus, blood etc).

For any queries pertaining to sample collection for DNA profiling drop an email at the following address (response shall be sent within one working day):

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