

Common Reasons for Samples to Fail DNA Testing



General Issues



1. Biological Contamination

- a. Cross contamination between samples/ animals
- b. Fecal matter and dirt in sample – any foreign material in the sample may interfere with genotyping



2. Chemical Contamination

- a. Dye/Pigment from animal markers
- b. Insect repellent
- c. Cleaning agents



3. Improper Storage

- a. Heat exposure including leaving samples in vehicle or in hot sun.
- b. Exposure to foreign material including mold



4. Insufficient sample

- c. Improper frozen storage - the freeze/ thaw cycle of a self-defrosting unit can degrade DNA
- d. Extended sample storage – DNA degrades over time



5. Improper shipping

Concerns Specific to Sample Type

Hair cards

- 1. Too few or no follicles (<30) – DNA only occurs in the ‘root’ of the hair. The actual strands do not contain DNA.
- 2. Small follicles taken from young calves - hair samples should not be taken from calves < 6 months of age.

Semen

- 1. Store any semen samples at room temperature or a refrigerator.
- 2. Semen straws can easily be damaged in shipping. Proper packaging is especially important – an empty ball point pen tube is recommended packaging

Blood cards

- 1. Insufficient blood spotted on card - ensure the circle is filled and the blood is visible on both sides of the paper.
- 2. When spotting cards from stored blood, make sure to invert the tubes 4-5 times before spotting – blood settles/separates over time.
- 3. Do NOT speed-dry the card using a hair-dryer as heat may damage the DNA.

Whole blood

- 1. Wrong type of blood tubes are used. Use only purple-top EDTA tubes, these prevent clotting.
- 2. Store the blood in a refrigerator until shipped.

AllFlex Tags, Typifix Tags, and Tissue samples

- 1. No sample in tag
- 2. Sample is trapped in cap/does not enter tube – sample will not be preserved
- 3. AllFlex tags and Typifix tags should be kept at room temperature to prevent DNA degradation.
- 4. Long term storage
 - a. AllFlex Tags are viable for 12 months after collection.
 - b. Tissue samples should be stored in the freezer.
- 5. Unpreserved tissue samples should be shipped next-day and never over a weekend or holiday.



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