COLLECTION FROM A MICROSCOPE SLIDE

Background

This protocol outlines the collection process for cells fixed/smeared on a slide(s).

Summary of the Procedure

When multiple spermatozoa have been visualized on a Christmas tree stained hospital slide(s), those cells may be collected for further testing. This procedure should only be used as a contingency plan where all other samples in the case are negative for the presence of semen (i.e. seminal fluid and/or spermatozoa) or it is the only available sample. Precautions should be taken not to consume the entire sample without proper permission.

It may be necessary to collect from more than one slide to increase the chance of developing a profile from the sperm identified. In this case care should be taken to ensure the slides are from the same area (e.g. Vaginal). For example, documenting the slide labels were the same and/or the slides were contained in the same slide holder.

Sample Handling

Note: Forensic samples may be in limited supply. Retain sufficient sample for replicate analysis.

Label all samples with complete identifying information.

All biological samples and DNA must be treated as potentially infectious. Appropriate sample handling and disposal techniques should be followed. See:

- ***Safety Manual***, *Universal Precautions*
- ***Quality Assurance Manual***, *General Sample Control, Forensic Sample Control, and Forensic Sample Preservation Policy*
- ***Analytical Procedures Manual***, *Forensic Evidence Handling*

Reagents and Materials

MBG Water
100% ethanol

Lab Coat
Kimwipes
Gloves
Protective Eyewear
Microcentrifuge tubes
Sterile cotton tipped swabs

Reagents and Materials – Storage and Handling

All reagents and materials are to be kept under sterile conditions. Store all reagents according to manufacturer's recommendations.

Do not use reagents beyond the listed expiration dates. Date and initial all reagents when put in use. Record in **Reagent Log.**

Quality Control

Use of the **Slide Collection Worksheet** in conjunction with the **Sexual Assault Kit Processing Per Case** or other appropriate worksheet is required for documentation. All information must be completed.

Procedure

Sample Collection

1. After Christmas Tree staining and microscopic examination, determine if there are enough spermatozoa to possibly yield a male profile. It is estimated that a human haploid cell contains 3 picograms of DNA and a human diploid cell contains 6.6 picograms of DNA.[1]

2. Thoroughly rinse slide(s) with ethanol and **CAREFULLY** blot dry with a kimwipe. Be careful not to disrupt the cells fixed on the slide.

3. Moisten a sterile cotton tipped applicator with MBG H_2O and scrub the stained area of the slide(s). More than one slide may be used, if necessary.

4. Swab a dry sterile cotton tipped applicator over the same area(s).

5. Cut a portion of each swab (wet and dry) and add cuttings to a labeled microcentrifuge tube.

6. Retain a portion of the MBG H_2O for a reagent blank.

7. Scan the slide to determine an estimate of the cellular material collected. Approximately 90% of the material on each slide should be collected. If needed, repeat steps 2-4 to collect enough material.

8. Place the remaining portion of the swabs into a labeled coin envelope and add to the SAE Kit.

Results and Conclusions

Report conclusions based on STR analysis.

Comments on Storage

Store the slide at room temperature in a suitable container. Store the sampled portion in a microcentrifuge tube at 4˚C.

References

Butler, J.M. (2012). Advanced Topics in Forensic DNA Typing: Methodology. Massachusetts: Academic Press