Zygem One-Step Sperm Lysis of Sexual Assault Stains or Swabs

Approximately 1/4 of a swab or a 3x3mm cutting of a stain should be used. The Zygem One-Step Sperm Lysis method should only be used for cases involving a male assailant on a female victim. Do not use for male on male cases, female on female cases, nor female assailant on male victim cases.

1 Procedure

1.1 Retrieve the following reagents and allow to thaw before use:

Acrosolv
Orange + Buffer
forensicGEM™ enzyme
Ultrapure water

1.2 After the reagents have thawed, vortex briefly and spin down for a few seconds.

1.3 Create a master mix for n+1 samples (make sure to add two to the number of samples for the two extraction negatives) using the following ratio:

Acrosolv -	10 µL
Orange+ Buffer -	10 µL
forensicGEM™ enzyme -	2 µL
Ultrapure water-	78 µL

1.4 The total master mix added per sample is 100 µL. Record the lot numbers.

1.5 Retrieve the sample cuttings in 0.2mL tubes. Have a **witness** confirm that the tube labels are correct.

1.6 Ensure that all sample cuttings are lightly pushed to the bottom of the tubes (a new pipette tip for each sample can be used for this.)

1.7 Add 100 µL of master mix to each sample tube and extraction negative.

1.8 Place the tubes into the thermalcycler and close the lid.

1.9 Choose the following program on the thermal cycler to extract the samples: Zygem Sperm.

1.10 The Zygem Sperm program is as follows:

52°C for 5 minutes
75°C for 3 minutes
95°C for 3 minutes
4°C for 2 minutes

1.11 Briefly centrifuge the tubes to spin down any condensation.

1.12 The samples can then be aliquoted for Quantifiler Trio.

1.13 Store the extracts at 4°C.

1.14 Reagent Storage:

1.14.1 After tubes have been opened, the enzyme and the Acrosolv should be stored at -20°C.

1.14.2 The Orange Plus buffer can remain at 4°C for convenience.