FORENSIC BIOLOGY PROTOCOLS FOR FORENSIC STR ANALYSIS

Qiagen Casework GO! Y Screen of Sexual Assault Stains or Swabs				
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Qiagen Casework GO! Y Screen of Sexual Assault Stains or Swabs

Approximately 1/4 of a swab or a 3x3mm cutting of a stain should be used. The Qiagen Casework GO! 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 record the lot numbers

Allow reagents to thaw before use:

Casework GO! Lysis Buffer Proteinase K 1M DTT aliquot Ultrapure water, 15mL

- 1.2 Turn on heating instruments. Set instruments with shaking to 60°C and instruments without shaking to 90°C.
 - 1.2.1 More than one heating instrument per temperature may be used depending on the number of samples.
- 1.3 Retrieve sample cuttings in 1.5mL screw cap tubes. Compare the tube tops to the input sample list in LIMS and confirm that you have the correct samples. The maximum number of samples per batch is 48 (47 samples + 1 extraction negative).
- 1.4 Obtain one 1.5mL screw cap tube for your extraction negative and label the tube top.
- 1.5 Fill out the performed by tab for Incubation. This will add the date and time to the extraction negative for the batch.
- 1.6 Print your **output** labels and label your samples and extraction negative.
- 1.7 Dilute 1M DTT. **NOTE**: 1M DTT aliquot must **NOT** be re-frozen. After thawing, if the 1M DTT aliquot appears cloudy, do not use it. Notify the Laboratory Manager and QA Team for further instructions and thaw a new tube of 1M DTT for use in the extraction.
 - 1.7.1 Pipette 5µL from the 1M DTT aliquot into a new 1.5 mL tube.
 - 1.7.2 Add 495μ L of Ultrapure Water to 5μ L of DTT. Vortex thoroughly.

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1.8 Under the reagents tab, select all reagents and click "Calculate Amount". Use the volumes listed in the "Needed Amount" column to prepare the master mix.

Manual calculation: n samples + one extraction negative x 1.1 using the following ratio.

Reagent	Per reaction
Casework GO! Lysis Buffer	187 μL
Proteinase K	7 μL
DTT, diluted 1:100	6 μL
Total volume	200 μL

- 1.9 Vortex prepared master mix thoroughly.
- 1.10 Have a **witness** confirm the tube tops and **output** sample labels.
- 1.11 Add 200 µL of master mix to each sample tube including the extraction negative.
- 1.12 Incubate the sample tubes at 60°C for 25 minutes with shaking at 900 rpm. Record the incubation temperature and usage log for the instrument in LIMS.
 - 1.12.1 Record each heating instrument separately in LIMS, if more than one instrument is used.
- 1.13 Remove the sample tubes from the thermomixer, transfer to the thermomixer set to 90°C, and incubate the samples for 5 minutes without shaking. Record the incubation temperature and usage log for the instrument in LIMS.
 - 1.13.1 Record each heating instrument separately in LIMS, if more than one instrument is used.
- 1.14 Store the extracts at 4°C.