

FORENSIC BIOLOGY PROTOCOLS FOR FORENSIC STR ANALYSIS

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|---|---|--------------------|
| Qiagen Casework GO! Y Screen of Sexual Assault Stains or Swabs | | |
| Status: Published | | Document ID: 99894 |
| DATE EFFECTIVE 03/04/2026 | APPROVED BY Nuclear DNA Technical Leader | PAGE 1 OF 2 |

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

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.

Follow all relevant processes in the [General Guidelines for Forensic Biology and DNA Casework procedure](#).

Follow all relevant processes in the [BEAST DNA Worksheet Setup Manual](#) for creating and adding to worksheets and [BEAST DNA Worksheet Processing Manual](#) for how to record all relevant information while processing the worksheets.

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 label on the tubes to the worksheet and confirm that you have the correct samples.

1.4 Take each sample into your custody.

1.5 Obtain one 1.5mL screw cap tube for your extraction negative and label it with the associated label.

1.6 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.

1.6.1 Pipette 5µL from the 1M DTT aliquot into a new 1.5mL tube.

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- 1.6.2 Add 495 μ L of Ultrapure Water to 5 μ L of DTT. Vortex thoroughly.
- 1.7 Consult the Mixture Information table for the exact amount of Casework GO! Lysis Buffer, Proteinase K, and diluted DTT needed to prepare Master Mix.

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

- 1.8 Vortex master mix thoroughly.
- 1.9 **Tube Setup WITNESS.** Have another analyst witness the tube setup.
- 1.9.1 Read the sample label for each extract.
- 1.9.2 Record the 'Tube Setup Witness'.
- 1.10 Add 200 μ L of master mix to each sample tube including the extraction negative.
- 1.11 Incubate all samples in a thermomixer set to 60 $^{\circ}$ C (+/- 3 $^{\circ}$ C) for 25 minutes with shaking at 900 rpm. Record the thermomixer and the temperature reading on the temperature probe.
- 1.11.1 Record each heating instrument separately, if more than one instrument is used.
- 1.12 Remove the sample tubes from the thermomixer, transfer to a thermostat set to 90 $^{\circ}$ C (+/- 3 $^{\circ}$ C), and incubate the samples for 5 minutes without shaking. Record the thermostat and the temperature reading on the temperature probe.
- 1.12.1 Record each heating instrument separately, if more than one instrument of each type is used.
- 1.13 Record the 'Extraction Run By' review task and 'response' dropdown for the 'Pass or Fail?' step.
- 1.14 Transfer custody of all extracts to a cryobox and store in a refrigerator or freezer.
- 1.15 Assign samples to next process step.