

FORENSIC BIOLOGY PROTOCOLS FOR FORENSIC STR ANALYSIS

GENERAL GUIDELINES FOR FLUORESCENT STR ANALYSIS

DATE EFFECTIVE 06-20-2016	APPROVED BY NUCLEAR DNA TECHNICAL LEADER	PAGE 1 OF 2
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General Guidelines for Fluorescent STR Analysis

Batch processing

1. Exemplars and evidence samples must be handled separately at all times. These samples must never be together on the same sample tray.
2. For the ABI 3130xl, an exemplar and evidence plate may be in the same instrument. Two separate plates are the equivalent of two consecutive runs.
3. Samples from one amplification set should be processed together, so that the samples are accompanied by the appropriate controls.
4. Use the correct documentation for the specific sample type and make sure the sample preparation set-up is witnessed properly.
5. Controls must be run using the same instrument model and under the same, or more sensitive, injection conditions as the samples to ensure that no exogenous DNA is present. Therefore, samples that must be run at higher injection parameters must have an associated control run concurrently with the samples, or have previously passed under the same, or more sensitive, injection parameters. Controls do not have to be run at the same injection parameters as the samples if it previously passed at a higher injection parameter.

NOTE: Each run that is performed must have at least one correct positive control.

Sample handling

1. Prior to loading on the capillary, the amplified samples are stored at 4°C in the amplified DNA area. The tubes containing the amplified product must never leave the amplified DNA area.
2. Amplified samples that have been loaded on an instrument should be stored until the electrophoresis results are known. After it has been determined that the amplified samples do not require repeated testing, they may be discarded.

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DATE EFFECTIVE 06-20-2016	APPROVED BY NUCLEAR DNA TECHNICAL LEADER	PAGE 2 OF 2
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Instrument and computer maintenance

1. Be gentle with all instrument parts and instruments. Keep everything clean.
2. It is good practice to monitor initial instrument performance. This enables the user to detect problems such as leaks, air bubbles or calibration issues.
3. Hard disks maybe defragmented to improve system performance.
4. Data files and other non-essential files from the computer hard disk may be deleted to improve performance.
5. Notify the Quality Assurance Unit if any problems are noted.