
NCSBI MOLECULAR GENETICS SECTION

Administrative Orders Manual

Order : 01-PRO-4 Effective Date: April 24, 2001

SUBJECT: MINIMIZING POTENTIAL SAMPLE MIX-UPS



DNA analysts will take the following steps to minimize the potential of sample mix-ups between cases:

MANDATORY STEPS:

- If an analyst elects to batch analysis of multiple cases, then that analyst will list cases batched on the DNA Evaluation form (an administrative document), and on the review comment sheet the case file numbers of the cases being analyzed at the same time. It is the responsibility of the reviewers to carefully check that there was no transfer of samples between cases. For that reason, the case analyst will submit the case files from all cases extracted simultaneously to the reviewers at the same time. If it is necessary to get one of these cases out due to rush status, or one case requires additional analysis, then the case analyst must present what results and notes are available (some genotype information must be present at minimum) so that the reviewer can assess that no case-to-case sample switch was present.
- If any case-to-case transfer of samples is suspected, the cases and/or samples involved will be re-tested **before** any report is issued.
- Analysts will label all sample tubes with the item number of the sample as well as the case file number. The amplification tubes are very tiny, so it is permissible if the entire case file number isn't present. However, sufficient case file information must be present to distinguish that sample from others being tested at the same time.
- Analysts must have only a single tube containing evidentiary material in it open at any one time. It is permissible to have multiple tubes containing only loading buffer/dye and awaiting sample addition open; but once the evidentiary sample is added, the tubes must be closed. Another exception to this requirement is that sample tubes that are prepared for DNA quantitation need not be capped, since the DNA will be bound to a membrane and discarded after analysis.

SUGGESTED STEPS:

- Analysts who chose to batch multiple cases for analysis at the same time should

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consider taking one or more of the following steps. They are strongly:

- encouraged to color code tubes for each case. For example, red markings can be used for one case, blue for a second, and black for a third.
- encouraged to keep samples from different cases in a separate tube rack as well. Questioned samples and known samples are currently being kept apart until after the extraction is complete by use of multiple tube racks.
- encouraged to move sample tubes in the tube rack as they complete each manipulation so that they can keep track of each manipulation; ie. to move samples from the front row to the back as they complete the pipetting step.
- All personnel should be careful not to disturb analysts pipetting samples or manipulating samples. It is important that one maintain their concentration while working so that errors are minimized.