Frozen Aliquotting Increases Sample Utilization

“Our customers want to check sample integrity. Can we perform QC without compromising the sample?”

“Several researchers are interested in the same samples. Can I dispense small volumes without thawing?”

“We have a rare sample collection. Can we access and preserve precious samples?”

You can with Frozen Aliquotting.

Sample Distribution in Biobanking

As institutions struggle to justify growing costs, more biobanks are focusing on sample utilization. User-friendly sample databases, assays and algorithms for evaluating sample quality and detecting pre-analytical events, and enhanced documentation for sample handling all increase usage of banked samples.

With frozen aliquotting, users can perform sample QC on a frozen aliquot without compromising the parent sample. Frozen aliquots allow a single parent sample to be distributed to multiple researchers and enable access to rare samples for critical studies.
RNA Integrity and DNA Fingerprinting

Researchers at Erasmus Medical Center in The Netherlands routinely test ~2% of incoming tissue samples for RNA quality. In addition, archived tissue collections have been sampled to establish “fit-for-purpose” quality groups based on RIN scores. Samples with scores between 5 and 6 were approved for RT-qPCR, between 6 and 8 for gene array analysis, and >8 for all downstream applications.

At the Integrated Biobank of Luxembourg (IBBL), researchers have employed DNA fingerprinting for sample traceability, ensuring that downstream results are linked to the correct patient ID. With frozen aliquotting, researchers can perform sample QC (via RNA or metabolomic analysis) or DNA fingerprinting on a single frozen aliquot, preserving the parent sample.


Analyze DNA from Whole Blood

In a study conducted at the Cincinnati Biobank Core Facility and the Cincinnati Children’s Hospital Medical Center, frozen aliquotting of whole blood was observed to be a viable operational enhancement for genomic DNA workflows and applications. Frozen cores (aliquots), remainders (remaining sample following extraction of frozen cores), and fresh whole blood samples were compared. The quality of genomic DNA isolated from frozen whole blood cores and remainders showed equivalent functional integrity to that of fresh whole blood.

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