

iSWAB™ - Forensics

Next Generation Forensics Sample Collection Device

Collect - Concentrate - Stabilize - Record - Transport - Store - Analyze: All with one tube

The collection of biometric or crime scene samples is a key step in the investigation process. As critical as this step is, however, traditional collection tools such as swabs and FTA cards leave significant room for error or unusable samples. After collection, inadequate resources can often lead to a backlog of several weeks or months to process the samples therefore increasing the possibility of yielding invalid results. Factors which can negatively impact sample integrity include

- Improper storage and transport can lead to bacterial or mold growth
- DNases and RNases released by collected cells can degrade DNA rapidly
- Over drying of the sample can result in the irreversible binding of DNA

In addition, there is often not enough evidence to support multiple assays. Therefore it is clear that a collection method that offers stabilization at the point of collection and allows room temperature shipment and long-term storage is critical for maintaining the integrity of the samples.

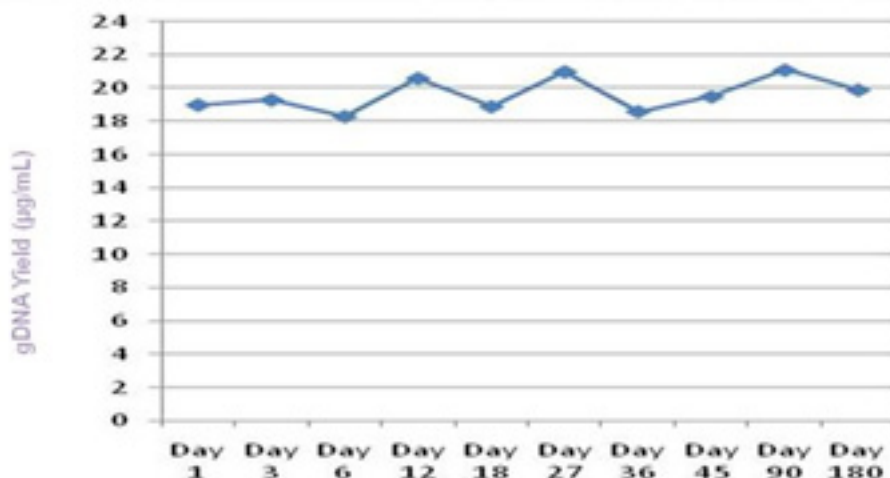


iSWAB™
Patent pending
sample concentration &
stabilization technology

The iSWAB - Forensics device represents a significant advancement in sample collection and stabilization technology. Our proprietary system overcomes the hurdles associated with current methods and offers the following advantages:

- Collect: Can be used for the collection of Touch DNA & Reference Samples (e.g. buccal cells, blood spots, sweat, semen, and any other body fluid)
- Concentrate and Stabilize: Complete release and stabilization of the sample from the swab into the iSWAB tube at the point of collection (no drying time required)
- Record: Pre-barcoded components to maintain chain of custody
- Transport and Store: Room temperature transport and long term storage
- Analyze: High DNA recovery allows for several runs of Direct PCR, Genotyping and DNA sequencing (Sanger & NGS)

iSWAB Collected Samples are Stable Over 5 Years at Room Temperature Storage



Accelerated Stability Testing Time Conversion Table

| 45°C* | Day 1 | Day 3 | Day 6 | Day 12 | Day 18 | Day 27 | Day 36 | Day 45 | Day 90 | Day 180 |
|-------|---------|---------|----------|----------|----------|----------|-----------|-----------|-----------|---------|
| RT | 10 Days | 1 Month | 2 Months | 4 Months | 6 Months | 9 Months | 12 Months | 15 Months | 2.5 Years | 5 Years |

*45°C 3 days is equivalent to 1 month stability at RT



reinventing non-invasive sampling™

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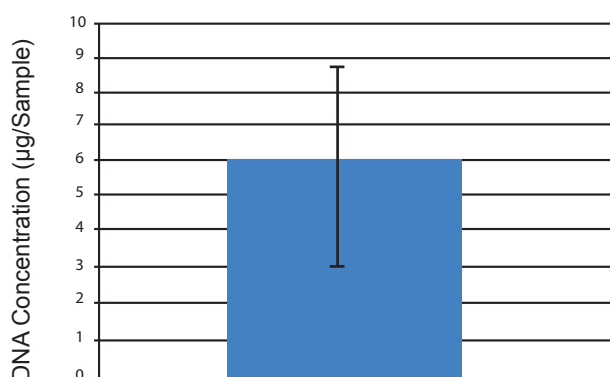
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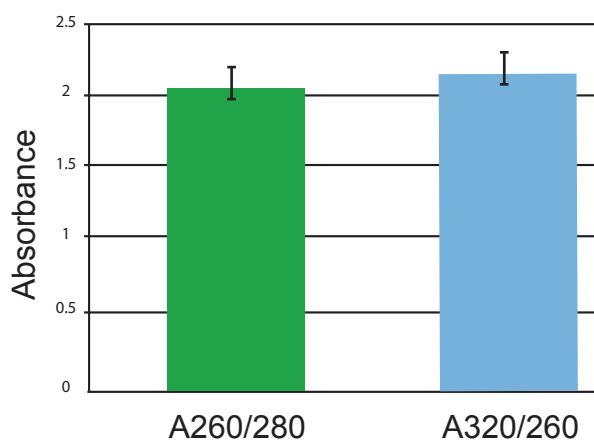
Next Generation Forensics Sample Collection Device

iSWAB is compatible with Blood Spot Collection and Stabilization

Average Yield from Blood Collected with iSWAB



DNA Quality from Blood Collected with iSWAB



DNA extraction was performed with QiaAMP Blood extraction kit (n=12): The yields are from a single iSWAB tube. Blood drops were collected using 2 cotton swabs. Blood from the swabs was released and suspended in the iSWAB tube. No measurable DNA concentration was obtainable from equivalent volume of blood collected with FTA cards. DNA yields were confirmed with 2 different methods: Nanodrop and picogreen assay



Agarose gel (0.8%) electrophoresis of gDNA samples isolated from 100 µL of human blood collected with iSWAB using QiaAMP Blood kit. 4 µL of 100 µL elute was used for electrophoresis. M: λDNA/Hind III+EcoR I

Direct PCR-STR Kits Compatible with iSWAB-Forensics

| | |
|--|---------------|
| AmpFLSTR® Identifiler® Direct PCR Amplification Kit* | Thermo Fisher |
| AmpFLSTR® Identifiler® Direct PCR Amplification Kit* | |
| PowerPlex® Fusion Systems* | Promega |
| PowerPlex® Y23 System* | |



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