iSWAB™- DNA

Non-invasive device for collection and stabilization of long-fragment, double-stranded DNA

The iSWAB-DNA device allows for the collection and stabilization of DNA at the point of collection without the need for swab inclusion. Typical yields of between 10-30µg of DNA with <1% bacterial contamination can be achieved. The gentle collection and lysis chemistry of the alcohol-free iSWAB buffer allows for recovery of double-stranded, large fragment DNA similar to the genomic DNA generated from blood, making it suitable for complex genomics downstream arrays such as microarrays and Next Generation Sequencing. Other non-invasive collection methods often utilize alcohol and can produce short DNA fragments limiting their usability to basic genotyping applications.

Applications include:

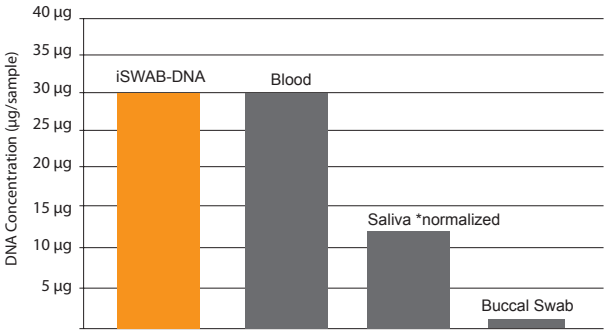
- Genetic Analysis: Epigenetics, Epidemiology, and Forensics.
- Veterinary Testing: Genotyping, Breeding, Speciation

Features & Benefits

- **Collect - Stabilize - Concentrate - Transport - Extract - Store: All in a Single Tube**
- **Swab-free sample transport:** Decrease sample processing time without compromising sample integrity
- **Up to 30µg of double stranded, long fragment DNA for downstream applications including microarray and NGS**
- **Achieve less than 1% bacterial genomic DNA contamination:** Low bacterial genomic DNA contamination in sample collection
- **Room temperature stable:** Reduce sample storage and transport costs by eliminating cold chain requirements
- **Self collection or assisted collection in less than 5 minutes:** Suitable for all population segments including infants, toddlers, and elderlies
- **Traceable and reliable chain of custody:** LIMS compatible unique barcodes included on each collection device for efficient traceability and storage purposes
- **Scalable and easy to process:** Manual and automation friendly sample processing
- **Human gDNA and PCR inhibitor free certified**

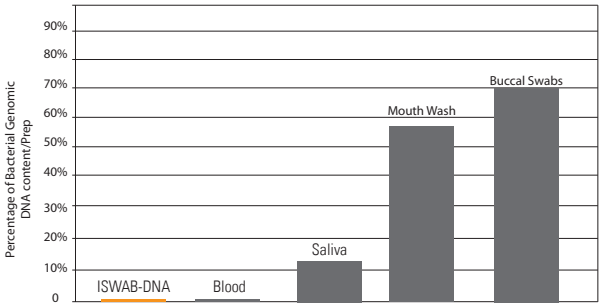
High Genomic DNA Yield

Comparison of Average gDNA Yields Isolated from Different Collection Methods



Low Bacterial Contamination (< 1%)

Comparison of Average Bacterial Genomic DNA Contamination Detected in Different Collection Methods



Primers specific for the 16S ribosomal RNA gene were used as a simple method to obtain relative quantiification of bacterial DNA.

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reinventing non-invasive sampling™

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www.mawidna.com

Version ISDDS-1.07

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Applications:

- Genetic Research
- Forensics Research
- Veterinary Research
- Epidemiology

Assays:

- PCR
- Sequencing
- Genotyping
- Gene Expression

iSWAB-DNA stacked against invasive and other non-invasive collection methds

Attributes	iSWAB-DNA	Blood	Saliva	Regular Swab	Mouth Wash
Sample volume	**1 mL**	1 mL	2 mL	Dry	2 mL
Swab needs to travel with sample	**No**	NA	NA	Yes	NA
Collection Time	**< 5 min**	5-10 min	20-30 min	1 min/swab	5 min
Median human DNA yield	**15-30 µg**	20-30 µg	10-30 µg	1-2 µg	10-30 µg
Molecular weight of DNA	**>23 kb**	>23 kb	>23 kb	<23 kb	>23 kb
Bacterial DNA Content	**< 1%**	< 1%	up to 40%	up to 90%	up to 60%
Storage and Transport	**RT**	Cold Storage	RT	RT	RT
Stability	**Months**	Months	Months	Days	Weeks
Capability to concentrate sample	**Yes**	NA	NA	No	NA
Suitable for all population segments	**Yes**	Yes	No	Yes	No
Automation friendly	**Yes**	Yes	Some what	No	No
Number of extraction steps	**5**	7-10	6	10	6
Liquid Sample	**Yes**	Yes	Yes	No	Yes
Barcoded	**Included**	Included	Custom	Custom	Custom
Return transport packaging provided	**Included**	No	No	No	No
Long term storage real estate	**Small**	Large	Medium	NA	Medium

Part No.	Product	Collection Volume
ISWAB-DNA-1200C	iSWAB-DNA collection device - 1 mL	1.0 mL
ISWAB-DNA-250C	iSWAB-DNA collection device - 0.4 mL	0.4 mL

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