

iSWAB™ - RNA v2

Ambient Temperature Collection, Concentration, and Stabilization of High Quality RNA



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Patented iSWAB sample concentration & stabilization technology

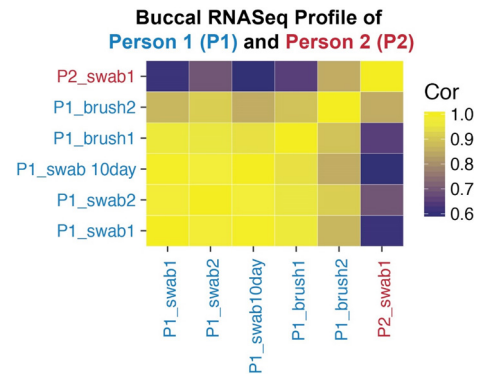
The iSWAB-RNAv2 device allows for the non-invasive collection, concentration, and stabilization of intact buccal cells and/or any mammalian cells collected with a swab or cytobrush allowing for real time ambient stabilization of total RNA from the point of collection to processing. Maintaining RNA stability and protecting it from degradation is a significant challenge, while current RNA stabilization methods such as PAXgene, Tempus, RNAgard or dry blood spots require invasive blood collection resulting in low compliance. The need to collect blood results in a very limited shelf life, forcing labs to invest in cold storage infrastructure or commit resources to immediate sample processing. Other options for non-invasive collection also suffer from short shelf life storage as well as low quality and unusable RNA.

Applications include:

- Real-time quantitative PCR • reverse transcription PCR • microarrays • Northern blot analysis • Nuclease protection assays • cDNA library construction • RNA-seq

Features & Benefits

- **Collect - Stabilize - Concentrate - Transport - Store: At ambient temperature**
- **Swab-free sample transport:** Decrease sample processing time without compromising sample integrity
- **Increase process efficiency:** Extended shelf life stability (up to 4 weeks at room temp, several years at -20 C and -80 C), reduced processing time, and minimal storage footprint
- **High quality RNA** for downstream applications such as RT-PCR, Microarray and RNA-seq for gene expression analysis
- **Room temperature stable:** Reduce sample storage and transport costs by eliminating cold chain requirements
- **Self collection or assisted collection in less than 2 minutes:** Suitable for all population segments including infants, toddlers, and elderly
- **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



Experiment: Comparison of Person 1 and Person 2, and repeated buccal cells collection with iSWAB-RNA v2 of Person 1 by flocked swabs, or cytobrushes one day and after 10 days post collection at room temperature storage.

RNA Extraction: Magbio HighPrep™ Total RNA Plus Kit (Cat. Nos. HPTOR-R50, HPTOR-R100, HPTOR-R100x4) .

Data Analysis: The figure is a correlation matrix of the FPKM read counts for every gene expressed in the RNASeq data, clustered by similarity (Pearson correlation).

RNASeq conditions: 60 million single end 50 base pair reads on an Illumina HiSeq using the Illumina TruSeq RiboZero stranded RNASeq kit

Summary:

- The quality of RNA obtained from iSWAB-RNA v2 is compatible with RNAseq based applications
- Expression profiles of different subjects can be detected with RNAseq from buccal cells collected non-invasively
- iSWAB-RNAv2 can efficiently stabilize buccal cells at room temperature for at least 10 days – No Cold Chain involvement

Part No.	Product	Collection Volume
ISWAB-RNA-v2	iSWAB-RNAv2 Collection Kit, 1.0ml	1.0ml/Tube
ISR2-T-1200-R	iSWAB RNA2 Collection Tube Rack 1.0ml x 50	1.0ml/Tube

