

Stability study on Isohelix buccal swabs stored in BuccalFix buffer over 24 months

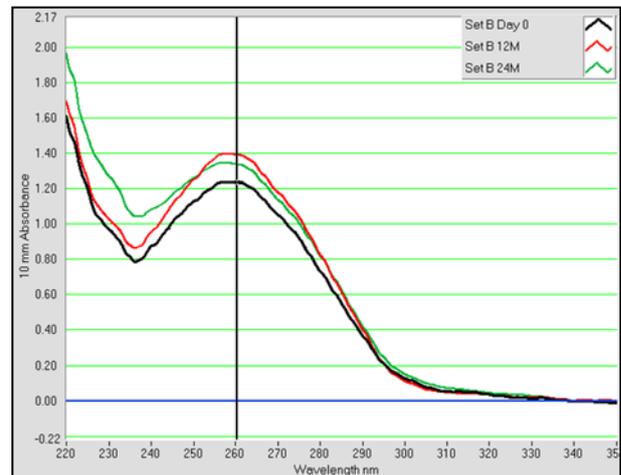
A stability study was performed using accelerated ageing at 37°C to demonstrate DNA stability on swabs stored in BuccalFix buffer over a period equivalent to 24 months at room temperature.

3 sets of swabs were taken by 3 people, using swabbing methods designed to minimise the variation in DNA yield captured by each individual swab. Each of the 9 swabs was placed in a 5ml tube with 0.5ml BuccalFix buffer and held at room temperature overnight. The next day, 1 swab from each set of 3 was isolated through the Isohelix BuccalFix DNA isolation kit to give a Day 0 sample. The remaining 2 swabs from each set were incubated in a 37°C water bath. After 115 days (equivalent to 12 months at room temperature) and 228 days (equivalent to 24 months at room temperature) 1 swab from each set was removed from the water bath and isolated through the Isohelix BuccalFix DNA isolation kit.

At the end of the study, all 9 swabs were analysed for DNA yield, purity and integrity using Qubit dsDNA BR assay, nanodrop and whole DNA agarose gel analysis.

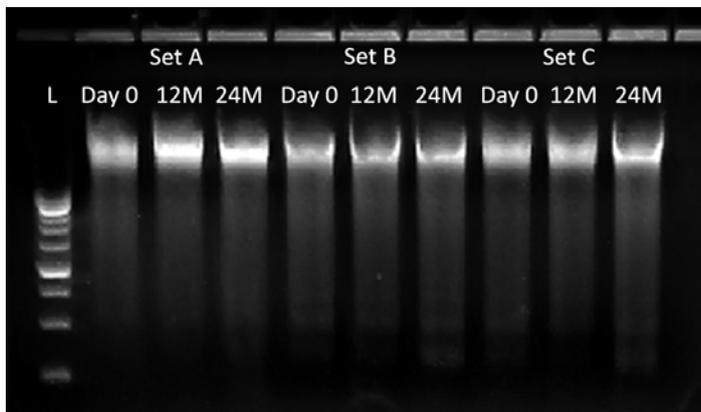
Results:

Quant-iT dsDNA BR	Sample Concentration		Total ug
Sample		ug/mL	
Set A Day 0	22.4	ug/mL	3.36
Set A 12M	35.1	ug/mL	5.27
Set A 24M	35.4	ug/mL	5.31
Set B Day 0	38.7	ug/mL	5.81
Set B 12M	43.1	ug/mL	6.47
Set B 24M	37.1	ug/mL	5.57
Set C Day 0	23.9	ug/mL	3.59
Set C 12M	23.9	ug/mL	3.59
Set C 24M	35.3	ug/mL	5.3



Qubit results from all 3 sets of swabs

Nanodrop scans for 1 set of swabs over 24M



Whole DNA run on 1.2% agarose FlashGel with 1Kb ladder

- Allowing for normal swab to swab variation, there is no loss of yield in the swabs stored for equivalent of 12 or 24 months over that of the swabs isolated at Day 0.
- The nanodrop scans and DNA purities remain fundamentally unchanged over the test period.
- The isolated DNA is of very high molecular weight, with no signs of any degradation over the time period equivalent to 24 months storage at room temperature.

The results demonstrate that both DNA yield and DNA integrity are maintained when the swabs are stored for a period equivalent to 24 months at room temperature in BuccalFix buffer. Based on equivalent studies with GeneFix stabilised saliva, which have been extended to 4 years by accelerated ageing at 50°C, it is likely that stability on swabs is maintained well beyond the 24 months tested to date.