

# Isoheli

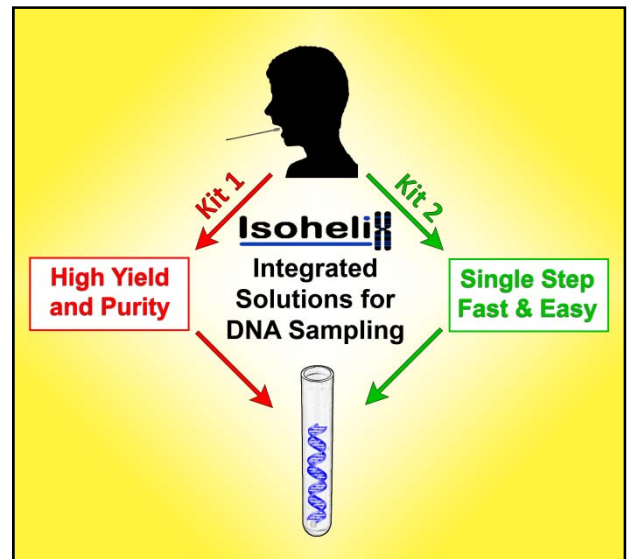
## Isohelix an Integrated DNA strategy.

Each Isohelix product has been specifically designed and optimised to improve all the DNA sampling steps from our original product the DNA buccal swabs right through to the DNA isolation and even if you wish checking the DNA's PCR integrity after extraction. We have taken an integrated approach by looking at each individual step to improve yields, reduce sample losses and at the same time improve the handling procedures, the result to maximise yield and quality of DNA.

## Smarter Collection using Isohelix DNA Buccal Swabs

The Isohelix range of Buccal Swabs have been uniquely developed to give increased yields of quality buccal cell and genomic DNA. These improved performance characteristics of Isohelix buccal swabs now mean that buccal sampling offers a viable alternative to blood collection. The Isohelix range of DNA Isolation and Stabilisation kits further enhance the yields of pure, intact DNA collected easily and quickly. Isohelix buccal swabs are suitable for both human and veterinary use and offer significant advantages over alternative swab designs for efficiency of cell collection, improved binding dynamics, and maximised yields of DNA all derived from the new matrix design.

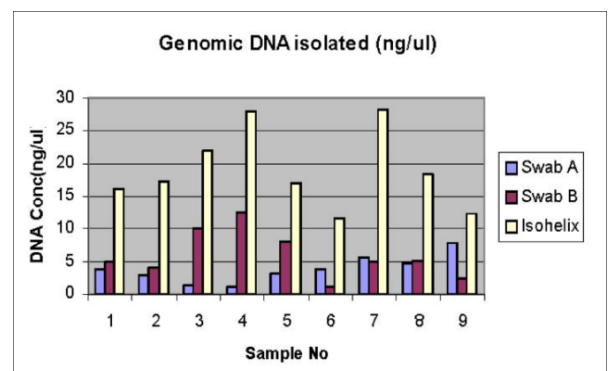
- ✓ **High yielding swabs for buccal cell DNA collection**
- ✓ **Unique swab matrix greatly improves DNA yields.**
- ✓ **Alternative to blood collection.**
- ✓ **Suitable for human and veterinary use.**
- ✓ **Easy to handle and quick to use.**



Isohelix swabs are used in:

- ✓ **Clinical Genotyping and Diagnostics**
- ✓ **Veterinary Genotyping and Diagnostics**
- ✓ **Paternity Testing**
- ✓ **Forensics and DNA Population Studies**

## DNA Uptake variations between different swabs



## Isohelix

### SK-1 Isohelix Swab (Cat. No: SK-1S)

The SK-1 swab uses the unique swab matrix design to efficiently collect buccal cell samples. Following sampling you simply snap the shaft just above the swab head and place into the tube provided, then seal for containment.

- ✓ *Swab matrix significantly improves DNA yields*
- ✓ *Various formats available with/without tubes*
- ✓ *Alternative to blood collection*



#### Instructions for Isohelix SK-1, SK-3 and SK-4 Buccal Swabs

<b>1</b>		Pull open the package from one end.
<b>2</b>		Remove one of the swabs from the tube.
<b>3</b>		Insert the swab into your mouth and rub firmly against the inside of your cheek or underneath lower or upper lip. For standard DNA collection rub for <b>1 minute</b> and in all cases rub for a minimum of 20 seconds. <b>Important – use reasonable, firm and solid pressure</b>
<b>4</b>		Place the swab back into the tube. Do not touch the brush with your fingers.
<b>5</b>		Place your thumbnail in the small groove set in the handle, then snap the handle in two by bending to one side. Let the swab head fall into the tube.
<b>6</b>		Seal the tube securely with one of the caps.

SK-3 and SK-4 swabs use the same unique swab matrix as SK-1 and SK-2 swabs but come packed without tubes, either singly (**SK-3S**) or packed 2 swabs per wrapper (**SK-4s**).

All Isohelix swabs are produced under cleanroom procedures and gamma irradiated.

### SK-2 Isohelix Swab (Cat. No: SK-2s)

The SK-2 has the same features as the SK-1 but in addition includes a unique cap design which allows you to simply push the entire swab head off the shaft into the collection tube after sampling. This format has the advantage of being easier to manipulate at the DNA isolation stage whether using manual or HT extraction methods.

#### Instructions for Isohelix SK-2 Buccal Swabs Stages 1 – 3 as for SK-1 swabs shown above

<b>4</b>		Slide the plastic cap over the swab handle with the flat side of the cap facing upwards and the swab facing downwards.
<b>5</b>		Insert the swab into the clear plastic tube and push the cap into place. Next, hold the cap while pulling the swab handle outwards to release the swab material into the tube.
<b>6</b>		Close the cap. The tube is now completely sealed.

#### SK-2 swab design showing special release cap and removal of swab head from shaft



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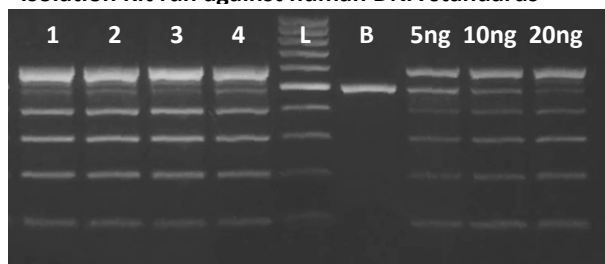
### DDK high yield & purity

#### DNA Isolation Kit (Cat. No: DDK-50)

The Isohelix DNA Isolation Kits have been specifically formulated to produce high DNA yield and purity from buccal swabs. The kits are fully optimised for use on buccal samples and offer reduced handling times, increased DNA yields together with many other important technical and practical benefits.

- ✓ **High Yields and Purity**
- ✓ **Optimised to Buccal Cell Swabs**
- ✓ **Fast handling times**
- ✓ **Manual or HT formats**
- ✓ **No solvents, columns or filtration**

DNA Isolated from buccal swabs with Isohelix DDK Isolation Kit run against human DNA standards



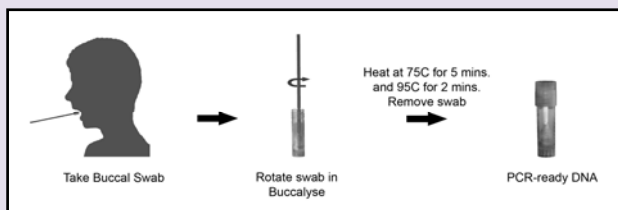
Comparison of Isohelix versus Spin Column methods

	Spin Column	✓ Isohelix
Ethanol	✓ YES	✓ NO
Incubation step @ >50°C	✓ YES	✓ YES
Number of columns	✓ 1	✓ 0
Number of solutions	✓ 6	✓ 4
Number of tubes	✓ 6	✓ 2
Number of liquid transfers	✓ 14	✓ 5
Expected Yields	0.5 to 3.5µg	✓ 4 to 10µg

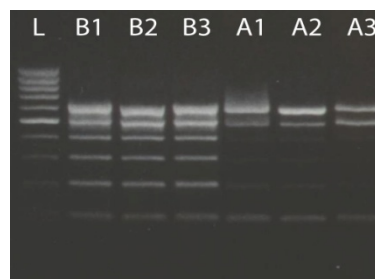
### BEK Single Step/Single Tube

#### DNA Extraction Kit (Cat. No: BEK-25/SK1)

The Isohelix Buccalyse DNA Extraction Kits produces a high DNA yield (2 to 4µg total yield) from buccal swabs and offer significant advantages for ease of handling, yet with rapid extraction of PCR-ready DNA using just a single tube method without a centrifugation step.



Comparison of Buccalyse to an alternative single tube



L = 100bp Ladder  
 B1 = Buccalyse sample 1  
 B2 = Buccalyse sample 2  
 B3 = Buccalyse sample 3  
 A1 = Alternative sample 1  
 A2 = Alternative sample 2  
 A3 = Alternative sample 3

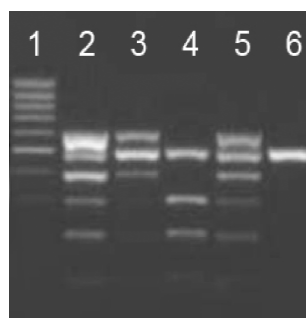
The gel shows good quality, intact DNA extracted from 3 Buccalyse samples, that outperforms another comparative single tube method both for the quality and quantity of the DNA, test performed using the Isohelix DQC Kit.

### DNA Quality Check Kit (Cat. No: DQC-50)

The Isohelix DQC Quality kit will immediately confirm the quality and integrity of your extracted DNA prior to you spending wasteful and costly time in your onward research if the DNA has for some reason lost its activity. The kit can be used for all types of extracted human DNA samples.

- ✓ **Analyse your DNA's quality**
- ✓ **Demonstrate the DNA's integrity for PCR**
- ✓ **Know the Quality of your DNA**

DQC Kit for checking quality of DNA



1 100bp ladder  
 2 Good Quality DNA: 6 bands present  
 3 Good Quality DNA: 6 bands present but lower yield so bands less intense  
 4 Poor Quality DNA: Some bands missing  
 5 Good Quality DNA: 6 bands present  
 6 Negative Control: 500bp internal control shows PCR worked

# Buccal DNA Stabilisation Kits

## Isohelix Dri-Capsules

### DNA Quality Check Kit

**cell projects**

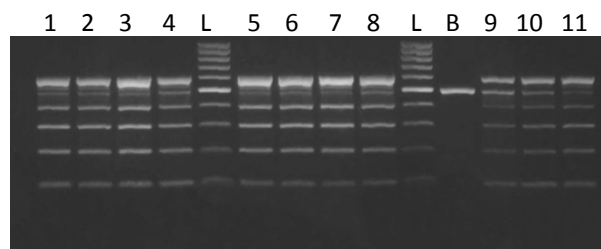
# Isohelix

## Stabilising and Lysis Kit (Cat. No: DSK-50)

The Isohelix Stabilising and Lysis Kits fully stabilise your DNA from enzymatic and microbial activity that occur naturally after buccal sampling. The kit is designed to store the samples at room temperature and shows no visible loss of stability for at least 2 years (tested to date). The DSK Kit fully lyses the cells, releasing additional DNA from the cells further enhancing yields, whilst the enzymatic inhibitor maintains the structural integrity of the DNA.

- ✓ **Stabilises your DNA Long Term**
- ✓ **Improves DNA Yield and Purity**
- ✓ **Room Temperature Storage**
- ✓ **Lyses the cells**

### DNA Stability comparison over 2 years using Isohelix DSK Stabilising and Lysis Kit



**Lanes 1-4:** Buccal swabs taken March 2007, DNA isolated in March 2007 using DDK Kit  
**Lanes 5-8:** Buccal swabs taken March 2007, stabilised with DSK Kit and stored at room temperature for 2 years. DNA isolated with DDK Kit March 2009  
**Lane 9:** 5ug Human DNA  
**Lane 10:** 10ug Human DNA  
**Lane 11:** 20ug Human DNA  
**L:** 100bp ladder  
**B:** Blank – no human DNA  
 100, 200, 300, 400, 600bp from human DNA, 500bp from Lambda

## Isohelix Dri-Capsules (Cat. No: SGC-50)

Designed for use with Isohelix SK-1 swabs, these moisture absorbent silica gel capsules offer an easy to use alternative to chemical stabilisation for long term stability of the buccal DNA on the swab head prior to isolation.

- ✓ **Long term stability at room temperature**
- ✓ **Liquid free alternative to DSK Kit**
- ✓ **Easy to handle by patients and professionals**
- ✓ **Designed for use with SK-1 swab kits**

### Isohelix Dri-Capsules with SK-1 Swab Kit



Cat. No.	DNA Buccal Swabs (all Gamma treated)	Cat. No.	DNA Sample Handling Kits
SK-1S	100 x1 swab with 5ml tube, individually wrapped	DSK-3	Cell Lysis and long term Stabilising Buffer for 3 reactions
SK-2S	100 x1 swab with 2 ml tube and special cap, individually wrapped	DSK-50	Cell Lysis and long term Stabilising Buffer for 50 reactions
SK-3S	250 x1 swab, individually wrapped	DDK-3	Swab optimised DNA isolation Kit for 3 reactions
SK-4S	500 swabs wrapped 2 per pack	DDK-50	Swab optimised DNA isolation Kit for 50 reactions
	<b>Silica Gel Capsules for use with SK-1 swabs</b>	DDK-3SK1	As DDK-3 with 3 xSK1 swabs
SGC-3	3 x Isohelix Dri-Capsules, individually foil wrapped	DDK-3SK2	As DDK-3 with 3 xSK2 swabs
SGC-50	50 x Isohelix Dri-Capsules, individually foil wrapped	DDK-50SK1	As DDK-50 with 50 xSK1 swabs
	<b>DNA Quality Check Kits</b>	DDK-50SK2	As DDK-50 with 50 xSK2 swabs
DQC-10	DNA Quality Check Kit for 10 reactions	BEK-3/SK1	Buccalyse DNA Extraction Kit for 3 reactions with 3 SK-1 swabs
DQC-50	DNA Quality Check Kit for 50 reactions	BEK-25/SK1	Buccalyse DNA Extraction Kit for 25 reactions with 25 SK-1 swabs

For Swab or DNA Kit information visit [www.isohelix.com](http://www.isohelix.com) Email: [info@isohelix.com](mailto:info@isohelix.com)

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