

## Instructions for Isohelix DNA Isolation kit: DDK-50 / DDK-3

### Product Details

Isohelix Buccal DNA Isolation Kits have been specifically formulated to produce high DNA yield and purity from buccal swabs. The kits have been fully optimised at Cell Projects for use on buccal cell samples and offer reduced handling times, increased DNA yields and many other important technical benefits for their use in manual, 96-well or other high throughput formats.

### Key Benefits

- ✓ Optimised for buccal cells
- ✓ Fast handling times
- ✓ High purity and yield
- ✓ No solvent based chemicals
- ✓ Protocol integrated to swabs
- ✓ Manual or high throughput formats
- ✓ No columns or filtration
- ✓ Less consumables wastage

### Kit Contents

Isohelix DDK DNA Isolation Kits			
Catalogue No.	DDK-50	DDK-3	Storage temperature
Number of preps	50	3	
Solution LS (Lysis buffer)	25ml	1.5ml	Room temperature
Proteinase K	2 x 11mg*1	2.2mg*2	4°C after reconstitution
Solution CT (Capture buffer)	25ml	1.5ml	Room temperature
Solution TE (Re-hydration buffer)	15ml	1.0ml	Room temperature

\*1 Reconstitute each vial with 550µl sterile ddH<sub>2</sub>O before first use, store at 4°C after reconstitution.

\*2 Reconstitute vial with 110µl sterile ddH<sub>2</sub>O before first use, store at 4°C after reconstitution.

### Storage

Isohelix DDK DNA Isolation Kits are shipped at ambient temperature.

**Please note that on arrival the kit components should be stored according to the table above.**

The kits are stable up to the expiry date if stored as instructed. See box label for expiry date.

### Equipment and reagents to be supplied by user

- Water bath or heating block at 60°C
- Pipettes with disposable tips
- Microcentrifuge (with rotor for 2 ml tubes)
- 1.5ml microcentrifuge tubes
- Vortexer

### Before Starting

1. Prepare a waterbath at 60°C
2. If a precipitate has formed in solution LS, warm at 37°C for a few minutes
3. Reconstitute the Proteinase K by adding the appropriate amount of sterile ddH<sub>2</sub>O as shown above.

### Technical Assistance

If you have any questions regarding the use of this kit or other Isohelix products please contact us by email at [info@isohelix.com](mailto:info@isohelix.com) or for further information visit the website at [www.isohelix.com](http://www.isohelix.com)

### Safety and Use of the DDK DNA Isolation kits

The DDK kits are intended for use by qualified professionals trained in potential laboratory hazards and good laboratory practise. If direct information is not available on any of our compounds this should not be interpreted as an indication of product safety.

**This kit has been designed for research use only**

## **DNA Isolation Protocol for DDK-3/DDK-50**

### **Part A – DNA Stabilisation**

1. Add 500ul LS solution to the tube containing the buccal swab.
2. Add 20µl PK solution to the tube containing the buccal swab and LS solution. Vortex briefly.

**At this point the DNA is stabilised. You may continue with the DNA isolation or store the stabilised swab in a sealed tube at room temperature for at least 3 ½ years.**

### **Part B – DNA Isolation**

3. Place the tube containing the swab, LS solution and PK solution in a 60°C water bath for 1 hour. Vortex briefly.
4. Transfer the liquid in the tube (approx. 400µl) into a 1.5ml centrifuge tube using a sterile pipette tip.

5. Optional step to increase yield:

If using **SK-1 swabs**, tip the swab head into a sterile 1.5ml centrifuge tube so that the swab head is uppermost. Spin the tube briefly and using a sterile pipette tip add the recovered supernatant to the 400µl collected previously.

If using **SK-2 swabs**, spin the SK-2 tube containing the swab head briefly and using a sterile pipette tip add the recovered supernatant to the 400µl collected previously

6. Add 400µl CT solution to the tube, (**500µl if using the optional step 5**). Vortex briefly.
7. Place the tube in a microcentrifuge (*with hinge positioned outwards so the liquid can be removed from the opposite side*) and spin at maximum speed (13.4K rpm/12,000 x g) for 7 minutes to pellet the DNA. Note the pellet may not be visible.
8. Remove all the supernatant carefully with a pipette tip taking care not to disturb the DNA pellet.
9. Re-spin the tube briefly and remove any remaining liquid. Note it is important to remove all of the liquid.
10. Add 150µl TE solution to the tube. This volume may be decreased to as little as 30µl if a higher concentration of DNA is required.
11. Leave for at least 5 minutes at room temperature for the DNA to re-hydrate, longer if a reduced volume of TE has been used. Vortex briefly.
12. Re-spin the tube for 15 minutes at maximum speed (13.4K rpm/12,000 x g) to remove undissolved debris. Transfer the supernatant to a sterile 1.5ml tube, being careful not to disturb the pellet.

The DNA sample is now ready for use in downstream applications such as amplification.

**Store the DNA sample at 4°C for short term storage or -20°C for long term storage.**

**The expected yield from a buccal swab is on average 1 to 10µg DNA (5 to 70ng/µl) from an adult.**

Our **DQC-50 DNA Quality Check Kit** is designed specifically to confirm presence of and to test both the quality and quantity of your human DNA by a quick PCR test before you start downstream testing.

### **Other Isohelix Products**

#### **Isohelix GeneFix™ Saliva DNA & RNA Collectors:**

- Maximizes DNA/RNA Quality and Yields with Long Term Preservation.

#### **Isohelix DNA and RNA Buccal Swab Collectors**

- Latest Design Improves Collection, Yields, Stability and Integration for Processing.

#### **DNA Swab Stabilization**

- Physical or Chemical options to Preserve DNA Yields and Integrity over Extended Periods.

#### **DNA Isolation and Handling Kit Options**

- Specifically Optimized to Maximise DNA Performance for Isohelix Buccal Swabs and GeneFix Saliva Collectors.

#### **Cell Projects Products**

- **PCR Products** - A full range of high quality PCR plastic for 96 well format plates and cap strips
- **Electroporation** - The HiMaX cuvettes maximise electroporation efficiencies for most cells types.