Canvax Reagents, S.L.U.
Luis de Mercado Street, 19
Boecillo Technological Park
47151, Boecillo
Valladolid, Spain.

Tlf: +34 983 54 85 63
info@canvaxbiotech.com

www.canvaxbiotech.com

DATA SHEET

Version: 03
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1. Identification

Product name **HigherPurity™ Swab DNA Extraction Mini Spin Kit**

Cat. No **AN0088 (50 reactions)**
Cat. No **AN0088-Plus (50 reactions; includes sterile swabs)**
Cat. No **AN0088-XL (250 reactions)**

2. Description

HigherPurity™ Swab DNA Extraction Mini Spin Kit is a simple and rapid method for purification of highquality DNA from human and animal mucosa membrane swabs (including buccal, nasal and vaginal swabs). The kit is based in DNA ability to bind silica in the presence of high concentrations of chaotropic salts.

3. Kit Components

Item	Quantity		
	AN0088 (50 rxn)	AN0088-Plus (50 rxn)	AN0088-XL (250 rxn)
Minispin columns	50	50	250
Collection tubes	100	100	500
Sterile swabs	-	100	-
1XPBS	100 ml	100 ml	3 x 100 ml
BLY Buffer	15 ml	15 ml	60 ml
Proteinase K*	30 mg	30 mg	4 x 30 mg
WB1 Buffer	30 ml	30 ml	130 ml
WB2 Buffer**	6 ml	6 ml	30 ml
EB Buffer	8 ml	8 ml	30

*Dissolve 30 mg of Proteinase K in water (1.5 ml) to obtain a 20 mg/mL stock solution. The Proteinase K solution can be stored for several days at 2–8 °C. For longer-term storage, the unused portion of the solution may be stored in aliquots at –20 °C until needed. This product as supplied is stable at room temperature.
Add the volume **ethanol (96%-100%) specified [Not included] to WB2 Buffer prior to initial use (see the label on the bottle for a volume indication). After ethanol has been added, mark the bottle to indicate that this step has been completed.

4. Kit Storage

Store the kit at room temperature. If any kit reagent forms a precipitate, warm at 55–65 °C until the precipitate dissolves and allow to cool to room temperature before use.

5. Features

- **Safe:** no phenol-chloroform extraction.
- **Efficient:** One buccal swab typically yields 0.5–3 µg of DNA in 100 µl of buffer (5–30 ng/µl), with A260/A280 ratios of 1.7–1.9. Note that average DNA yield will vary depending on the donor (for example, health status).
- **Ready to use** genomic DNA, for all molecular biology applications.

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6. Applications

gDNA purified with the kit is suitable for direct use in all common molecular biology applications: PCR, cloning, DNA sequencing, Southern blot analysis, etc.

7. Quality Certifications

HigherPurity™ Swab DNA Extraction Mini Spin Kit is tested on a lot-to-lot basis by isolating total DNA from human buccal swab. DNA purified is analysed by:
• Spectrophotometer: Ratio 260/ 280 (1.7-1.9)
• Agarose gel electrophoresis.

8. Further information

Product Use Limitations	This product is developed, designed, and sold exclusively only for research purposes use. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals.
Safety Information	When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate material safety data sheets (MSDS). These are available online in convenient and compact PDF format at www.canvaxbio.com where you can find, view, and print the MSDS for each CANVAX kit.

PROTOCOL: DNA Purification From buccal swab

This protocol is for purification of total DNA from buccal, nasal and vaginal swabs.

1. Transfer **1 mL** of cold **1XPBS** into a 2 ml microcentrifuge tube (not provided).

2. Buccal swab collection: To collect sample, scrape with a sterile swab firmly against the inside of each cheek. Place the cotton swab into a tube containing 1XPBS and rotate the swab a minimum of 5 times. Press the swab against the side of the tube and rotate while removing it from the tube to ensure most of the liquid remains in the tube. Do not touch the cotton swab with your fingers.

Ensure that person providing sample has not consumed any food or drink during the 30 minutes prior to sample collection.

3. Repeat step 2 with a new sterile swab, but rubbing underneath lower or upper lip, and use the same tube with **1XPBS.**

4. Centrifuge at full speed for 2 minutes and remove the supernatant.

5. Resuspend the pellet in **180 µl PBS**.

6. [Optional Step] RNA Degradation:

If RNA-free gDNA is required, add **4 µl** of **RNase A (100 mg/ml)** [not provided].

7. Add **20µL proteinase K** and **200 µL** of **buffer BLY** and mix immediately by vortexing (it is important to observe a homogeneous solution).

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8. Incubate in a water bath at 55 ˚C for 10 minutes.

9. Add **200 µl** of **éthanol** (96–100%) and mix by vortexing vigorously. (not provided).

10. Transfer the mix to the minispin column by pipetting and centrifuge at 8000rpm for 1 minute. Discard the flow-through solution.

11. Place the **minispin column** in a collection tube and add **500 µL** of **WB1 buffer.** Centrifuge at 8000 rpm for 1 minute. Discard the flow-through solution.

12. Place the minispin column in a collection tube and add **500 µL** of **WB2 buffer**. Centrifuge at 8000 rpm for 3 minutes. Discard the flow-through solution.

13. Centrifuge at full speed for 1 minute to dry the minispin column.

This step will avoid the residual liquid to inhibit subsequent enzymatic reactions.

14. Place the minispin column into a new, labelled, 1.5 microcentrifuge tube (not provided) and pipet **50-100µL EB Buffer** or **pre-warm water** directly into the membrane. Close the tube and incubate for 1 minute at room temperature.

15. Centrifuge at full speed for 1 minute to elute the DNA

16. [Optional] You can repeat previous steps (**14-15**) for maximum yield.

17. The purified genomic DNA can be stored at 2-8˚C for a few days. For longer term storage, -20˚C is recommended.

Extraction from samples preserved with our Buccal Swab Collection & Stabilization Kit:

1. Those samples that have been left upright for several days can be observed a white pellet containing buccal cells. Using a micropipette, resuspend the pellet completely and transfer all the solution to a new 2 ml microcentrifuge tube (not provided).

2. Add **1 ml** cold **1XPBS** to the sample and Mix well.

3. Centrifuge at full speed for 2 minutes to pellet the cells.

4. Carefully decant the supernatant and resuspend the pellet in **180 µl 1XPBS.**

Vortex vigorously until the cells are resuspended (10-15 sec). This process will help to optimize the cell lysis in the following step.

5. Continue with step 6 of **"Protocol: DNA Purification from buccal swab"**