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2024 - 2025

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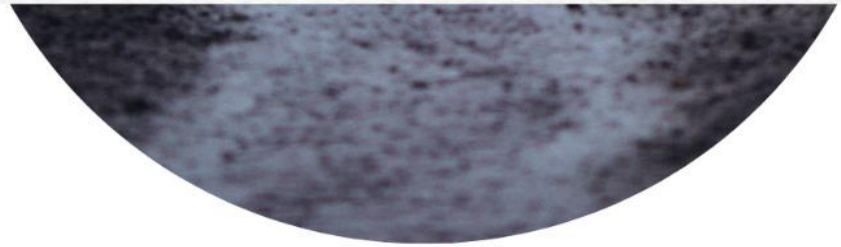
SN DNA CATCHER

Soil DNA Extraction Kit

(Magnetic Bead - Based)



STARTUP KARNATAKA

birac

INNOVATION SPEAKS

SN SOIL DNA EXTRACTION KIT

(Magnetic Bead-Based)

DESCRIPTION:

SN SOIL DNA Extraction Kit provides an accurate, easy to use & rapid method to isolate high quality DNA from various soil samples. The preparation is based on magnetic bead based technology for binding DNA in high-salt and elution in low-salt buffer. This kit provides a simple and efficient way to elute pure DNA in minimum steps.

CONTENTS OF KIT:

Sl. No	Components	Volume		
		5 Rxn	50 Rxn	100 Rxn
1	RS Buffer	1.5ml	15ml	30ml
2	LS Buffer	1.5ml	15ml	30ml
3	STB Buffer	2.5ml	25ml	50ml
4	W1 Buffer	2ml	20ml	40ml
5	Elution Buffer	250µl	2.5ml	5ml
6	SN Magnetic bead	250µl	2.5ml	5ml

NOTE: Preparation for first use after receiving the kit (Add 100% Ethanol to Wash Buffer) (5Rxn:500µl, 50Rxn: 5ml, and 100Rxn: 10ml) mix well and store the buffer at room temperature.

- If Proteinase K shipped in lyophilized form, upon receiving resuspend with Nuclease free water (5Rxn:100µl,50Rxn: 1ml, 100Rxn: 2ml) and store at -20°C.
- If RNase A and Lysozyme shipped in lyophilized form, upon receiving resuspend with Nuclease free water (5Rxn:50µl, 50Rxn:500µl, 100Rxn: 1ml) and store at -20°C.
- **Proteinase K/Lysozyme/RNase A are store at -20°C either in liquid form or Lyophilized form.**

REQUIRED MATERIALS NOT PROVIDED :

- ✓ 100% Ethanol
- ✓ Dry bath
- ✓ 1.5ml Centrifuge tubes
- ✓ micro centrifuge
- ✓ Vortex

STORAGE / SHIPPING:

- Shipped at: Ambient Temperature.
- Storage: All Buffers an be stored at Room temperature.

SPECIFICATIONS:

Principle	Spin Column
Recommended Input Amount: 200mg Soil Sample	
Elution Volume : 50µI Recommended	
Purity: A260/280 - 1.8±0.1	
Compatible Down8treem Application: PCR, qPCR, Sequencing	
Expected Yield : ~ 20µg	

PROCEDURE:

1) Take 200mg of soil sample and add 300µl of RS buffer to a provided glass Bead tube and vortex thoroughly for 15mins.
2) Centrifuge the mixture at 3,000rpm for 4 mins.
3) Transfer the supernatant to a fresh tube. Add 300µL of LS Buffer along with 20µL of Proteinase K , 10µl RNase A and 10µl of Lysozyme. Vortex for 30secs.
4) Incubate at 56°C for 15mins.
5) Add 500µl of 100% ethanol and keep the tube for 2 mins at room temperature.
6) Transfer the complete precipitate to a fresh centrifuge tube.
7) Then add 500µl of STB buffer along with 50µl of SN Magnetic bead, mix well by vortexing 30 secs then keep at room temperature for 10mins.
8) Place the tube upon the magnetic rack (let the bead attracts towards magnet). Then remove the supernatant without disturbing the bead.
9) Add 500µl of W1 buffer mix well by vortexing for 30secs then keep at room temperature for 10mins.

Note : (W1 buffer concentration per reaction: W1 buffer -400µl: 100% ETOH -100µl)

10) Repeat the step(8).
11) Incubate the tube at 56˚C for 10mins (with cap open).

NOTE: Elution should be pre-heated for 10mins before adding into the tube.

12) Add 50µl of pre-heated Elution to the above tube, then vortex for 10secs and incubate at 56˚C for 4mins (with close cap).
13) Vortex for 10secs and then Centrifuge the tube at 15,000rpm for 2mins to elute pure DNA.(store at -20°C)

FLOW CHART:

- Take 200mg of soil sample and add 300µl of RS buffer to a provided Bead tube and vortex thoroughly for 15mins.

- Centrifuge the mixture at 3,000rpm for 4 mins.
- Transfer the supernatant to a fresh tube. Add 300µL of LS Buffer along with 20µL of Proteinase K , 10µl RNase A and 10µl of Lysozyme. Vortex for 30secs.

- Incubate at 56°C for 15mins.
- Then add 500µl of ethanol and leave at room temperature for 2mins. the precipitate will form.
- Transfer the precipitate to a fresh centrifuge tube.

- Add 500µl of STB Buffer along with 50µl of SN magnetic bead.
- Mix well and vortex thoroughly for 30secs
- Allow to stand for 10 mins at room temperature.

- Place the centrifuge upon the magnetic rack, it attracts bead and separates.
- Discard the supernant with distrubing bead.

- Add 500µl W1 buffer and mix well by gentle pipetting few seconds .
- Allow to stand for 10mins at Room temperature

- Place the centrifuge upon the magnetic rack, it attracts bead and separates.
- Discard the supernant with distrubing bead.

- Incubate at 56˚C for 10mins for ethanol evaporation (with cap open)

- Add 50µl of pre-heated Elution Buffer to the tube vortex 10 secs (with close cap).
- Incubate at 56˚C for 4mins
- Vortex for 10 secs and centrifuge for 2mins at 15,000 rpm

- Pure DNA(Store at -20˚C)

TROUBLE SHOOTING:

Problems	Possible reasons	Solutions
Low or none recovery of DNA fragment	Weigh 200mg of soil sample	If product is more, then separate it into multiple tubes.
	Elution of DNA fragment is not efficient	Make sure the pH of Elution between 7.5-8.0.
		Make sure that the elution solution has been completely absorbed by the magnetic bead.
		Preheat the elution solution to 56°C before use.
Poor Performance in the downstream application s	Salt residue remains in eluted DNA	
	Ethanol residue remains in eluted DNA	Do washing with W1 Buffer

IMPORTANT NOTES:

a) Ensure that the ethanol has been added in the wash buffer.
b) Buffer provided in this kit contains irritants. Wear gloves and lab coat when handling these buffers.
c) Check stabilization buffer for salt precipitation before use. Re-dissolve the precipitated salt by warming it in 37°C.
d) Fresh TAE electrophoresis buffer is recommended on electrophoresis for experiments requiring high purity.
e) Centrifugation steps are done by a micro centrifuge capable of the speed at 15,000 rpm