CE IVDR

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AZUL SOIL DNA EXTRACTION KIT

DNA IN 60 MINS | GOOD YIELDS FOR USE IN PCR/SEQUENCING

PRODUCT BROCHURE

Cat No-DE106

ISO 13485 CERTIFIED

PRODUCT DESCRIPTION

AZUL Soil DNA Extraction Kit is an easy and efficient system for the isolation of total DNA from environmental samples like soil. This kit uses a silica-based spin column technology for isolating DNA from biological samples, thereby eliminating toxic phenol-chloroform extractions. The eluted DNA is suitable for all sensitive downstream applications such as qPCR and Next-Generation sequencing.

KIT COMPONENTS

Components	For 50 preps	For 25 preps
Extraction Buffer	50 mL	25 mL
Lysis Buffer (LB)	2 mL	1 mL
Proteinase K	1 mL	0.5 mL
Glass beads	50g	25g
Binding Buffer (BB)	30 mL	15 mL
Wash Buffer 1 (WB1)	30 mL	15 mL
Wash Buffer 2 (WB2)	25 mL	13 mL
Elution Buffer(EB)	4 mL	2 mL
Spin Column	50 (Pouch pack)	25 (Pouch pack)

SPECIFICATIONS

Format	Spin column
Sample type	Soil (from rhizosphere region)
Equipment	Microcentrifuge
Processing time	<60 mins
Sample amount	500 mg - 1 g
Type	Total DNA
Sample storage	Eluted DNA should be stored at ≤ -20°C
Yield	5-20 µg
Purity	A260/280 ≥ 1.8
Kit Storage	Room Temperature Proteinase K at -20°C
Kit Validity	Viable for 1 year if stored at appropriate conditions

NOTE: *Check the Extraction Buffer, Binding Buffer, and Lysis Buffer for any salt precipitation before every use. Re-dissolve any precipitate by warming the solution to 37°C, then cool it back to room temperature before use.*

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DNA EXTRACTION PROTOCOL

1. Collect soil sample (ensure soil sample is collected from the rhizospheric region of plant roots). Weigh 500 mg to 1 g of soil and transfer it to a clean microfuge tube.
2. Add 0.5 g of AZUL Bashing beads to the soil sample. Now add 700 µL- 1mL of Extraction Buffer, 25 µL of Lysis Buffer, and vortex thoroughly for 5-7 mins.
3. Add 20 µL of Proteinase K, invert and mix the tubes, and place the tube in a 56 °C water bath for 15-20 mins.
4. Centrifuge the contents at 15,000 rpm for 15 mins at RT. Transfer the clear supernatant to a new microfuge tube.
5. To this suspension, add 600 µL Binding Buffer (BB) and mix by inverting the tube briefly. Place the tube in -20 °C for 10 mins.
6. Transfer the lysate to a clean spin column. Centrifuge the spin column at 15,000 rpm for 2 min at RT.
7. Discard the flow-through and place the purification column back into the collection tube. Repeat this step until the entire lysate has been transferred into the column and centrifuged.
8. Wash the spin column with 600 µL Wash Buffer 1 (WB1) at 15,000 rpm for 1 min and discard the flow through.
9. Add 500 µL of Wash Buffer 2 (WB2) to the column and centrifuge at 15,000 rpm for 1 min to completely remove salts and impurities.
10. Keep the purification column in a clean, sterile 1.5 mL microfuge tube and add 30-50 µL of Elution Buffer or DNase/RNase-free water to the center of the column.
11. Centrifuge the column for 15,000 rpm for 2 min.
12. Discard the purification column and store the eluted DNA at -20°C or -80°C until use.

NOTE: *It is suggested to use morter and pestle to homoginize the soil samples when weighed ≥1 g.*

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DNA EXTRACTION PROTOCOL

1. Collect soil sample (ensure soil sample is collected from the rhizospheric region of plant roots). Weigh 500 mg to 1 g of soil and transfer it to a clean microfuge tube, add 1 mL Stabilization buffer, vortex briefly. Centrifuge at 10,000 rpm for 5 mins.
2. To the pellet, add 0.5 g of AZUL Bashing beads to the soil sample. Now add 700 µL- 1mL of Extraction Buffer, 25 µL of Lysis Buffer, and vortex thoroughly for 5-7 mins.
3. Add 20 µL of Proteinase K, invert and mix the tubes, and place the tube in a 56 °C water bath for 15-20 mins.
4. Centrifuge the contents at 15,000 rpm for 15 mins at RT. Transfer the clear supernatant to a new microfuge tube.
5. To this suspension, add 600 µL Binding Buffer (BB) and mix by inverting the tube briefly. Place the tube in -20 °C for 10 mins.
6. Transfer the lysate to a clean spin column. Centrifuge the spin column at 15,000 rpm for 2 min at RT.
7. Discard the flow-through and place the purification column back into the collection tube. Repeat this step until the entire lysate has been transferred into the column and centrifuged.
8. Wash the spin column with 600 µL Wash Buffer 1 (WB1) at 15,000 rpm for 1 min and discard the flow through.
9. Add 500 µL of Wash Buffer 2 (WB2) to the column and centrifuge at 15,000 rpm for 1 min to completely remove salts and impurities.
10. Keep the purification column in a clean, sterile 1.5 mL microfuge tube and add 30-50 µL of Elution Buffer or DNase/RNase-free water to the center of the column.
11. Centrifuge the column for 15,000 rpm for 2 min.
12. Discard the purification column and store the eluted DNA at -20°C or -80°C until use.

NOTE: *It is suggested to use morter and pestle to homoginize the soil samples when weighed ≥1 g.*

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FLOW DIAGRAM OF DNA EXTRACTION PROTOCOL

Weigh 500 mg - 1g of soil

Add 1 mL Extraction Buffer

+

25 µL Lysis Buffer

Add Bashing Beads and Homogenize thoroughly by vortexing for 5 mins

Add 20 µL Proteinase K
Incubate at 56°C for 15 mins

Centrifuge at 15,000 rpm for 15 mins

Transfer clear supernatant to new tube

Add 600 µL
Binding Buffer

Keep at -20°C for 15 mins

Mix well
Transfer lysate to Spin column

Centrifuge at 15,000 rpm for 2 mins

Add 600 µL wash buffer

Centrifuge at 15,000 rpm for 1 min

Repeat this step with Wash Buffer 2

Add 30-50 µL elution buffer

Centrifuge at 15,000 rpm for 2 mins

Eluted DNA

Store at -20°C or
-80°C until use

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSES	SUGGESTED SOLUTIONS
Low DNA Yield	**Sample input:** Too much input or significantly less sample used.	Use less input material or increase the volume of the Lysis Buffer and homogenize thoroughly. Use of ≥ 250 mg of soil samples are recommended for good DNA yield.
	Incomplete Debris Removal or incomplete lysis/homogenisation can cause cellular debris to clog or overload the column and leech salts into DNA eluate.	Increase the volume of Lysis Buffer to ensure complete lysis/ homogenisation. Be sure to centrifuge and pellet any cellular debris and transfer the supernatant while avoiding any pellet debris.
Low DNA Purity(A260/A280)	Improper sample handling results in ethanol or salt contamination.	Make sure lysate and wash buffers have passed entirely through the matrix of the column. This may require centrifuging at a higher speed or longer time.
RNA Contamination	Too much Sample used.	**To remove RNA:** Perform in-column RNase I treatment or perform RNase I treatment post-purification (not provided in the kit), then re-purify the treated sample.
DNA Degradation	Use of old samples not stored at appropriate conditions.	**To prevent DNA degradation:** Immediately collect and lyse fresh samples into a Extraction Buffer. Collect and store the fresh samples in RNA WRAPR Solution to ensure stability & integrity of DNA and process later.

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ORDERING INFO

CATALOG NO	PRODUCT	PREP
DE101	AZUL Tissue DNA Extraction Kit	25/50 preps
DE102	AZUL Animal Cell Culture DNA Extraction Kit	25/50 preps
DE103	AZUL Bacterial DNA Extraction Kit	25/50 preps
DE104	AZUL Plasmid DNA Extraction Kit	25/50 preps
DE105	AZUL Plant DNA Extraction Kit	25/50 preps
DE106	AZUL Soil DNA Extraction Kit	25/50 preps
DE107	AZUL Blood DNA Extraction Kit	25/50 preps
DE108	AZUL Cell-free DNA Extraction Kit	25/50 preps
DE109	AZUL DNA Extraction Kit- Difficult samples	25/50 preps
DE110	AZUL Saliva DNA Extraction Kit	25/50 preps
DE111	AZUL Stool DNA Extraction Kit	25/50 preps
DE112	Quick AZUL Bacterial/Fungal DNA Extraction Kit	25/50 preps
DE113	AZUL Microbiome DNA Extraction Kit	25/50 preps
DE114	AZUL Gel DNA Extraction Kit	25/50 preps
DE115	AZUL FFPE DNA Extraction Kit	25/50 preps
DE116	AZUL Chloroplast DNA Extraction Kit	25/50 preps
DE117	AZUL Mitochondrial DNA Extraction Kit	25/50 preps
DE118	AZUL Pollen DNA Extraction Kit	25/50 preps
DE119	AZUL Fungal DNA Extraction Kit	25/50 preps
DE120	AZUL Sperm DNA Extraction Kit	25/50 preps
DE121	AZUL Skin DNA Extraction Kit	25/50 preps

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FEEDBACK

How did this kit perform?

Did AZUL Extraction Kit fulfill expectations required for your research?
Let us know by filling out the feedback form here

Or scan the QR code:

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