CE IVDR

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AZUL SOIL RNA EXTRACTION KIT

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

PRODUCT BROCHURE

Cat No-RE105

ISO 13485 CERTIFIED

PRODUCT DESCRIPTION

AZUL Soil RNA Extraction Kit is an easy and efficient system for the isolation of total RNA from environmental samples like soil. This kit uses a silica-based spin column technology for isolating RNA from biological samples, thereby eliminating toxic phenol-chloroform extractions. The eluted RNA 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	250	125
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 RNA
Sample storage	Eluted RNA should be stored at ≤ -20°C
Yield	1-5 µg
Purity	A260/280 ≥ 2.0
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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RNA 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 4-5 glass beads (3.5 mm - 4 mm) 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 RNA at -20°C or -80°C until use.

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FLOW DIAGRAM OF RNA EXTRACTION PROTOCOL

Weigh 500 mg - 1g of soil

Add 1 mL Extraction Buffer

+

25 µL Lysis Buffer

Add 4-5 Glass 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 RNA

Store at -20°C or
-80°C until use

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSES	SUGGESTED SOLUTIONS
Low RNA 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 RNA yield.
	Incomplete Debris Removal or incomplete lysis	Increase the volume of Extraction Buffer to ensure complete homogenization. Be sure to centrifuge and pellet any cellular debris and transfer the supernatant while avoiding any pellet debris.
Low RNA 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.
DNA Contamination	Too much sample used	**To remove DNA:** Perform in-column DNase treatment or perform DNase treatment post-purification (not provided in the kit), then re-purify the treated sample.
RNA Degradation	Use of old samples not stored at appropriate conditions	**To prevent RNA degradation:** Immediately collect and lyse fresh samples into a Extraction Buffer. Collect and store the fresh tissues in RNA WRAPR Solution to ensure stability & integrity of RNA and process later.

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ORDERING INFO

CATALOG NO	PRODUCT	PREP
RE101	AZUL SARS- CoV-2 Kit RNA Extraction Kit	25/50 preps
RE102	AZUL Tissue RNA Extraction Kit	25/50 preps
RE103	AZUL Bacterial RNA Extraction Kit	25/50 preps
RE104	AZUL Plant RNA Extraction Kit	25/50 preps
RE105	AZUL Soil RNA Extraction Kit	25/50 preps
RE106	AZUL Animal Cell Culture RNA Extraction Kit	25/50 preps
RE107	AZUL Blood RNA Extraction Kit	25/50 preps
RE108	AZUL Stool RNA Extraction Kit	25/50 preps
RE109	AZUL Saliva RNA Extraction Kit	25/50 preps
RE113	AZUL Microbiome RNA Extraction Kit	25/50 preps
RE114	AZUL Fungal RNA Extraction Kit	25/50 preps
RE115	AZUL FFPE RNA 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:

CONTACT US

hello@azooka.life +91 8088747968 www.azooka.life

AZOOKALIFE AZOOKA.LABS AZOOKALIFESCIENCES AZOOKALIFE

RESEARCH CENTRE:
Society for Innovation and Development, Indian Institute of Science, Malleshwaram, Bengaluru, Karnataka, India- 560055

MANUFACTURED AT:
1A, Kushal Garden Arcade, 'C' Block, 5th Floor, Peenya Industrial Area, 2nd Phase, Bengaluru, Karnataka, India- 560058