DNAbioTech
Life Science

DNAbiotech
Biotechnology is our expertise

Magnetic Bead Blood Genomic DNA Extraction Kit

Catalog no.: DB4015

(64 rxn)

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Diba NoAvaran Azma Company

Customer and technical support

If you have any questions, do not hesitate to ask! DNAbiotech would be highly appreciated for any comment(s).

About this user manual

It is recommended for first-time users to read the detailed protocol sections of the user manual before using these products. Experienced users, however, may refer to the Protocol-at-a-glance instead. The Protocol-at-a-glance is designed to be used only as a supplemental tool for quick referencing while performing the purification procedure.

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General description

DNAbiotech's "**Magnetic Bead Blood Genomic DNA Extraction Kit"** is developed for DNA extraction from whole blood, cultured cells, serum, plasma, or other body fluids. Lysis is achieved by incubation of whole blood in a solution containing large amounts of chaotropic ions in the presence of Proteinase K and magnetic beads.

Kit specifications

- Magnetic Bead Blood Genomic DNA Extraction is designed for the rapid isolation of highly pure genomic DNA from whole blood, serum, plasma, or other body fluids.

- DNA can be purified successfully from blood samples treated with EDTA, citrate, or heparin. If leukocyte-rich materials like buffy coat are used, apply smaller volumes and dilute the samples with sterile **PBS** (DB0010).

-The kits allow purification of highly pure genomic DNA with a typical concentration of 30–50 ng per µL.

-The obtained DNA is ready-to-use for subsequent reactions like PCR, Southern blotting, or any kind of enzymatic reaction.

Warranty: if desired results do not obtain please contact us. The product is under DNAbiotech support**.**

Quality Control

In accordance with DNAbiotech Co. Management System, each part of the **kit** is tested against predetermined specifications to ensure consistent product quality**.**

Safety Notes

The buffers included in **the kit** contain irritant which is harmful when in contact with skin or eyes, or when inhaled or swallowed. Care should be taken during handling. Always wear gloves and eye protectors, and follow standard safety precautions.

Lysis buffer in columns 1 and 7 contains chaotropic agents. It can form highly reactive compounds when combined with bleach. Do NOT add bleach or acidic solutions directly to the sample-preparation waste**.**

Storage of blood samples

For the extraction of genomic DNA from blood treated with anticoagulants (heparin, citrate, or EDTA) using a DNAbiotech Genomic Blood kit the blood samples can be stored at +4 °C for 2 days. Blood samples stored at +4 °C for up to 5 days, will still allow DNA isolation. However, DNA yield and quality will slowly decrease due to the prolonged storage of blood samples under these conditions. Blood stored frozen for years is well suited for DNA isolation for up to 4 months. However, the highest yields and quality of DNA are obtained from fresh blood. So use fresh blood.

Kit Components

No.	Name	cat #: DB9822-50rxn
1	*Handbook protocol*	1
2	Prefilled plates and the rod cover	8 set of 8 rxn
3	Proteinase K* (Lyophilized)	As needed
4	Proteinase K buffer*	As needed

* Proteinase K buffer should be mixed with lyophilized proteinase K and then stored at – 20° C for up to 12 months.

Storage condition:

Shipping: RT

Storage: The reconstituted proteinase K should be stored at – 20° C. All other kit components can be stored at room temperature (18–25 °C) and are stable for up to one year.

Protocols of Genomic DNA purification

Before experiment notes:

* Check if Proteinase K is prepared according to the procedure.
*Preheat Elution Buffer BE to RT.

1. hold the plate with one hand and pool off the aluminum foil with the other hand.
2. add 20 ul of proteinase k to lysis well. (column 1, from A to H)
3. mix the whole blood well and add 200 ul of it to lysis well
4. insert the rod cover into a device and run the following program:

Step No.	Well No.	Name	Wait (min)	Mix time	Vol.	Mix speed	Mag Time (s)	Temp
1	**2**	Bead	0	**1 min**	200	2 of 3	40	0
2	**1**	Lysis	0	**10 min**	500	2 of 3	45	**56° C**
3	**3**	W 1	0	**2 min**	500	2 of 3	45	0
4	**4**	W 2	0	**40-50 Second**	500	2 of 3	45	0
5	**5**	W3	0	**40-50 Second**	500	2 of 3	45	0
6	**6**	Elution	**1**	**7 min**	60	**1 of 3**	120	**80° C**
7	**2**	Bead	0	**10 Second**	200	2 of 3	0	0

5. when the process is finished the eluted DNA is in columns 6 and 12. Transfer them carefully into RNase-free vials and store them at -20° C for the following uses.

Important NOTE 1: there are different types of such devices on market. Please contact us for getting the best results according to your extractor device.

NOTE 2: there would be some reaming magnetic beads in EB wells sometime. This point is not important in the following test, however,

remain the transferred DNA in the vial for 5 minutes. During this time the magnetic beads precipitated.

Troubleshooting

Problem	Possible cause	suggestions
	Low concentration of leukocytes in sample	Prepare buffy coat from the blood sample: Centrifuge whole blood at room temperature (4000 x *g*; 10 min). Three different layers will be visible after centrifugation. Leukocytes are concentrated in the intermediate layer (= buffy coat).
No or Low DNA yield Or the poor quality of DNA	*RNA in sample*	If RNA-free DNA is desired, add 20 µL RNase A solution (10 mg/mL) (cat #: DB9700) before the addition of lysis buffer.
	Old or clotted blood samples processed	Used fresh sample

Contact Information

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