Helix Biosciences
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α^+ Solution™
Blood Genomic DNA Extraction Mini Kit

Kit Contents:

Cat. No:	HBBGK 004 (4 preps_sample)	HBBGK 050 (50 preps)	HBBGK 100 (100 preps)	HBBGK 200 (200 preps)
BG Buffer	1.5 ml	15 ml	30 ml	60 ml
GW Buffer (concentrate)[a]	1.3 ml	22 ml	44 ml	88 ml
Wash Buffer (concentrate)[b]	1.0 ml	10 ml	20 ml	40 ml
Elution Buffer	1.0 ml	15 ml	30 ml	60 ml
Proteinase K[c]	1.0 mg	11 mg	11 mg x 2	11 mg x 4
BG Mini Column	4 pcs	50 pcs	100 pcs	200 pcs
Collection Tube	8 pcs	100 pcs	200 pcs	400 pcs
Elution Tube	4 pcs	50 pcs	100 pcs	200 pcs
User Manual	1	1	1	1
Preparation of GW Buffer, Wash Buffer and proteinase K solution for first use:				
GW Buffer (concentrate)[a]	0.5 ml	8 ml	16 ml	32 ml
Wash Buffer (concentrate)[b]	4 ml	40 ml	80 ml	160 ml
Proteinase K[c]	0.1 ml	1.1 ml		

Specification:

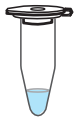
Principle:	mini spin column (silica matrix)
Sample size:	1. Up to 200 µl whole blood, serum, plasma, body fluids. 2. Up to 5 x 10^6 cultured cells.
Operation time:	30 ~ 60 minutes
Binding capacity:	up to 60 µg total DNA / column
Expected yield:	4 ~ 8 µg / prep
Column applicability:	centrifugation and vaccum
Minimum elution volume:	50 µl

Important Notes:

1. Buffers provided in this system contain irritants. Wear gloves and lab coat when handling these buffers.
2. **Add 1.1 ml sterile ddH_2O** to Proteinase K tube to make a 10 mg/ml stock solution. Make sure that Proteinase K has been completely dissolved. Store the stock solution at 4 ℃ .
3. **Add ethanol (96- 100 %) to GW Buffer** and Wash Buffer when first open.
4. Prepare dry baths or water baths before the operation. One to 60℃ for step 2. Lysis.

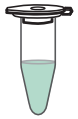
Brief procedure:

Sample Preparation



Transfer up to 200 µl sample.

Lysis



1. **Add 20 µl Proteinase K (10 mg/ml).**
2. **Add 200 µl BG Buffer.**
3. **Add 200 µl ethanol (96- 100 %)**

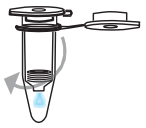
Binding

Centrifuge at 6,000 x g for 1 min.

Wash

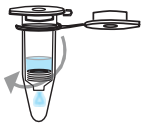
1. **Add 400 µl of GW Buffer.** Centrifuge at full speed (~18,000 x g) for 1 min.
2. **Add 750 µl of Wash Buffer.** Centrifuge at full speed (~18,000 x g) for 1 min.

Dry



Centrifuge at full speed (~18,000 x g) for an additional 3 min to dry the column.

Elution



Add 50~200 µl of preheated Elution Buffer or ddH_2O (pH 7.5-9.0) Centrifuge at full speed (~18,000 x g) for 2 min.

Pure RNA

General Protocol

Please Read Important Notes Before Starting Following Steps.

STEP	PROCEDURE
1 Sample preparation	Transfer up to 200 µl sample (whole blood, serum, plasma, body fluids, buffy coat) to a microcentrifuge tube (not provided). **Note :** If the sample volume is less than 200 µl , add the appropriate volume of PBS. **Optional :** If RNA-free genomic DNA is required, **add 4 µl of 100 mg/ml RNase A** to the sample and incubate for 2 min at roomtemperature.
2 Lysis	1. **Add 20 µl Proteinase K.** 2. **Add 200 µl BG Buffer.** Mix thoroughly by pulse-vortexing. 3. Incubate at 60 ℃ for 15 minutes to lyse the sample. During incubation, vortex the sample every 3-5 minutes. 4. Briefly spin the tube to remove drops from the inside of the lid.
3 Ethanol Dilution	**Add 200 µl ethanol (96-100%)** to the sample mixture. Mix immediately and thoroughly by vortexing to yield a homogeneous solution.
4 DNA Binding	1. Place a BG Mini Column to a Collection Tube. 2. Transfer the mixture (including any precipitate) carefully to the BG Mini Column. 3. Centrifuge at 6,000 x g for 1 min then place BG Mini Column to a new Collection Tube.
5.1 Wash	**Add 200 µl GW Buffer** to the BG Mini Column. Centrifuge at full speed for 1 min then discard flow-through.
5.2 Wash	**Add 750 µl Wash Buffer** to the BG Mini Column. Centrifuge at full speed for 1 min then discard flow-through.
6 Dry column	Centrifuge the BG Mini Column at full speed for an additional 3 min to dry the BG Mini Column.
7 DNA Elution	1. **Add 50 ~ 200 µl of preheated Elution Buffer** or ddH_2O (pH 7.5-9.0) to the membrane of the BG Mini Column. Stand the BG Mini Column for 3 min. 2. Centrifuge at full speed for 2 min to elute DNA.

Special Protocol:The sample preparation For Animal Cultured Cells

Additional requirement	1. RNase A (optional). 2. 96~100% ethanol. 3. trypsine or cell scraper (for monolayer cell). 4. PBS
Method	**Harvest cells** **1. For Cells grown in suspension** a. Transfer the appropriate number of cell (up to 5 x 10^6) to a microcentrifuge tube. b. Centrifuge at 300 x g for 5 min. Discard supernatant carefully and completely. **For Cells grown in monolayer** a. Detach cells from the dish or flask by trypsinization or using a cell scraper. Transfer the appropriate number of cell (up to 5 x 10^6) to a microcentrifuge tube. b. Centrifuge at 300 x g for 5 min. Discard supernatant carefully and completely. 2. Resuspend cell pellet in PBS to a final volume of 200 µl. 3. Follow the Animal Tissuel Protocol starting from step 2 Lysis.