

# WizPrep™ gDNA Mini Kit (Blood)

**IVD** *in vitro* Diagnostic Use Only

**REF** W71050

## DESCRIPTION

The WizPrep™ gDNA Mini Kit (Blood) provides a fast and simple method to isolate genomic DNA from various blood sample including fresh whole blood, frozen blood, blood dried spot, serum and plasma etc.

The WizPrep™ gDNA Mini Kit (Blood) uses silica-membrane technology to eliminate the cumbersome steps associated with loose resins or slurries. The kit is ready for use and can purify the genomic DNA from a wide variety of blood source samples, and the whole process is completed in less than 20 minutes.

Purified DNA is suitable for PCR, restriction endonuclease digestion and Southern Hybridization.

## KIT CONTENTS

Contents	100 prep	250 prep	Storage
GB Buffer	25 ml	65 ml	R/T
W1 Buffer (concentrate) <sup>(1)</sup>	30 ml	75 ml	R/T
W2 Buffer (concentrate) <sup>(1)</sup>	12 ml	30 ml	R/T
Elution Buffer	10 ml	25 ml	R/T
Proteinase K (lyophilized)*	22mg x 2	22mg X 5	4 °C
Spin Columns**	100 pcs	250 pcs	R/T
Instruction Manual	1 pcs	1 pcs	

1) : Add absolute ethanol to the W1 and W2 Buffer prior to initial use (see the bottle label for volume).

\* After receiving the Proteinase K, please store at 4 °C.

After dissolved in distilled water, store the Proteinase K solution at 4 °C for up to 3 months. For longer storage (up to 1 year), the Proteinase K solution should be divided into small aliquot and stored at -20 °C.

\*\* All Spin Columns are sterilized by electron beam.

## REAGENTS AND EQUIPMENT TO BE SUPPLIED BY USER

- 96-100% ethanol (to prepare W2 Buffer)
- 1.5ml microcentrifuge tubes
- Sterile RNase-free pipette tips and Manual pipettors
- Centrifuge for microcentrifuge tubes
- Equipment for sample disruption and homogenization
- Personal protection equipment (lab coat, gloves, goggles)

## KIT SPECIFICATIONS

Parameter	Characteristics
Format	Silica-membrane spin column
Sample materials	< 100 mg tissue
Fragment size	> 200 nt
Typical yield	3-12 µg from 200 µl whole blood 20-30 µg from 200 µl buffy coat 15-25 µg from 5 X 10 <sup>6</sup> cultured cells
A <sub>260/280</sub>	1.7 - 1.9
Elution volume	50 µl
Preparation time	< 20 minutes
Binding capacity	200 ug

## QUALITY CONTROL ANALYSIS

In accordance with Wizbiosolutions Inc. ISO 13485-certified Quality Management System, each lot WizPrep™ gDNA Mini Kit (Blood) is tested against predetermined specifications to ensure consistent product quality.

## PROTOCOL

### To check before start

- 1) Add absolute ethanol to the W1 and W2 Buffer prior to initial use (see the bottle label for volume).
- 2) Dissolve each vial of Proteinase K (22mg) in 1,100µl of D.W
- 3) If a precipitate has formed in GB Buffer, dissolve by incubating at 56°C before use.

### 1. Lysis

- Add **200µl of whole blood** to 1.5ml microcentrifuge tube. (Use up to 200 µl plasma, serum, buffy coat, body fluids, or up to 5 x 10<sup>6</sup> lymphocytes in 200µl of PBS).
- Add **200µl of GB Buffer** and **20µl of Proteinase K** and mix by vortexing.
- Incubate at 56 °C for 10 minutes. During incubation, invert the tube every 5 minutes.

### 2. Binding

- Add **200µl of 100% ethanol** to the sample lysates and mix by vortexing briefly.
- Connect Spin Column to 2.0ml Collection tube.
- Apply the mixture to the Spin Column and centrifuge for 1 min. at 13,000 rpm.
- Transfer the Spin Column to the new Collection tube (provided) and discard the flow-through with Spin Column.

### 3. Wash

- Add **500µl of W1 Buffer** to the Spin Column and centrifuge for 1 min. at 13,000 rpm.
- Discard the flow-through and re-connect with Spin Column.
- Add **500µl of W2 Buffer** (ethanol added) in the Spin Column and centrifuge for 1 min. at 13,000 rpm.
- Discard the flow-through and re-connect the Spin Column and centrifuge for 2 min. at 13,000 rpm.

### 4. Elution

- Connect the Spin Column and new 1.5 ml tube.
- Add **50-100µl of Elution Buffer** and incubate at R/T for 1 min.
- Centrifuge for 1 min. at 13,000 rpm.
- Discard the Spin Column and eluted purified DNA for use next step.

### 5. DNA Storage

- The purified DNA sample may be stored at -20°C for a few days. It is recommended that samples be placed at -70°C for long term storage.

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## TROUBLESHOOTING

Problem	Possibility	Suggestions
Column clogged	Sample overloading  Precipitate was formed at DNA Binding Step	<ul style="list-style-type: none"><li>• Reduce sample volume or separate into multiple tubes.</li><li>• Reduce the sample material.</li><li>• Before loading the column, break up precipitate in ethanol-added lysate</li></ul>
Low yield	Incorrect DNA Elution Step  Incomplete DNA Elution	<ul style="list-style-type: none"><li>• Ensure that Elution Buffer was added and absorbed to the center of the Column matrix.</li><li>• Elute twice to increase yield</li></ul>
Eluted DNA does not perform well in downstream applications	Residual ethanol contamination  RNA contamination  Genomic DNA was degraded	<ul style="list-style-type: none"><li>• Following the washing step, dry the Column with additional centrifugation at full speed for 3 minutes.</li><li>• Perform Optional RNA Degradation Step.</li><li>• Use fresh sample, long storage may result in fragmentation of genomic DNA.</li></ul>

## SYMBOL GLOSSARY

<b>REF</b>	Catalogue number		Manufacturer
<b>LOT</b>	Batch code	<b>IVD</b>	In-vitro diagnostic use only
	Temperature limit		Instructions for use
	Use-by date		

## ORDERING INFORMATION

Product	Cat No.	Package
WizPrep™ gDNA Mini Kit (Blood)	W71050-100	100 prep
	W71050-250	250 Prep



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