

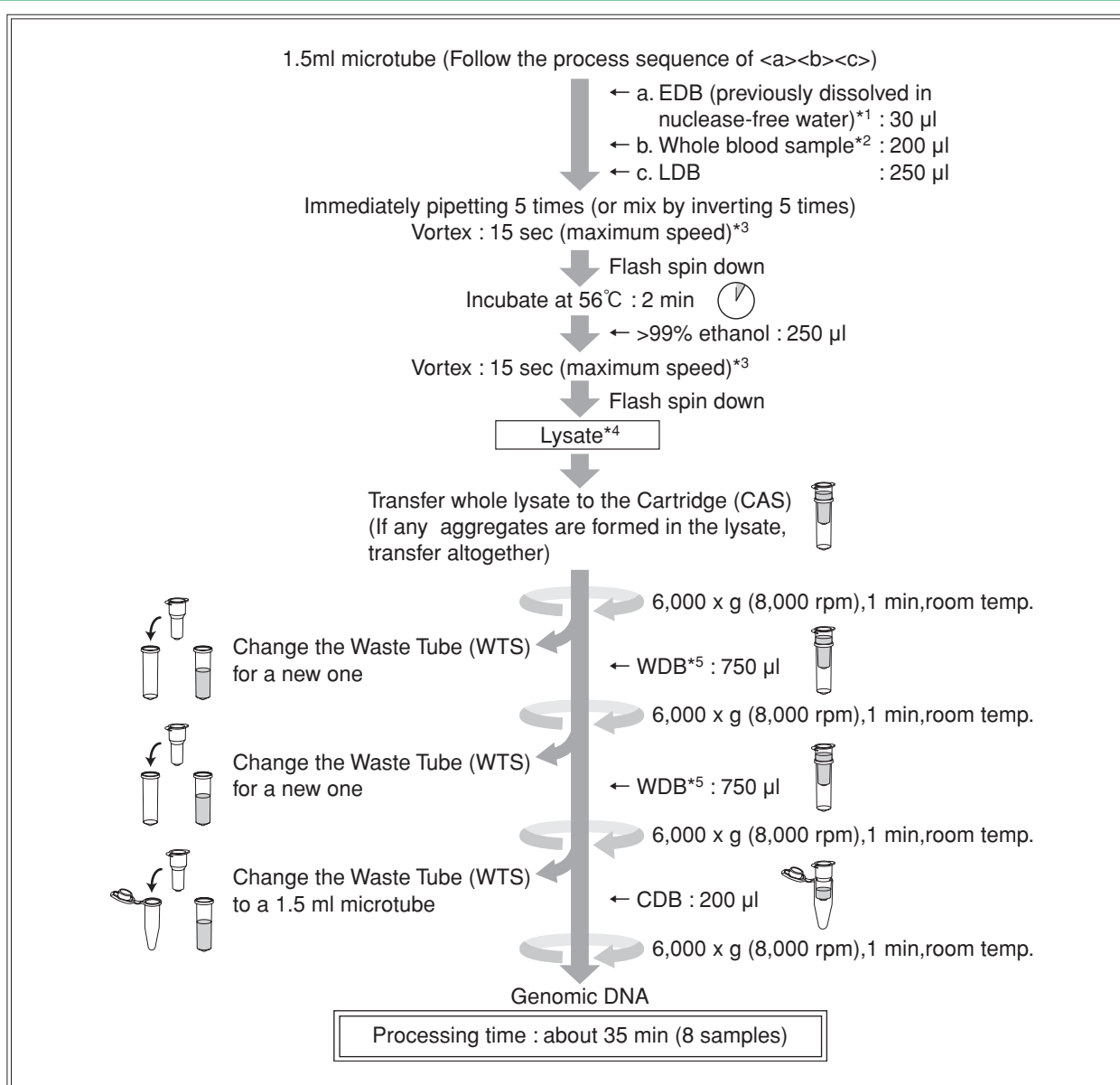


# QuickGene Series Application Guide

## Genomic DNA Extraction from Human Whole Blood

Kit : QuickGene SP kit DNA whole blood (Spin method)

### Protocol



\*1 : When using EDB, pipette 3.3 ml of nuclease-free water into the vial containing lyophilized Protease. Leave it for 30 min or more at room temperature with occasionally stirring it. Use it after confirming the powder is completely dissolved.

\*2 : Use a whole blood sample treated with EDTA-2Na, EDTA-2K, or heparin.

\*3 : Use a vortex mixer able to stir at 2,500 rpm or more.

If you do not have such a vortex mixer, pipette (or mix by inverting) completely.

\*4 : Perform the extraction operation quickly after completion of lysate. It is possible to leave it until 30 min if necessary.

\*5 : Add 125 ml of >99% ethanol into the bottle and mix by gently inverting the bottle before use.

## Examples of the Data with QuickGene SP kit DNA whole blood

We performed genomic DNA extraction from 200  $\mu$ l of a whole blood sample with this kit and Spin column method (A company).

### ● Yield and purity of genomic DNA extracted

kit	Yield	A <sub>260/280</sub>	A <sub>260/230</sub>	A <sub>400</sub>
QuickGene	6.4 $\mu$ g	1.97 $\mu$ g	1.93 $\mu$ g	0.02 $\mu$ g
Spin column method (A company)	5.1 $\mu$ g	1.89 $\mu$ g	1.53 $\mu$ g	0.03 $\mu$ g

A<sub>260/280</sub> : The ratio indicates the quality of nucleic acid from protein contamination (A<sub>260/280</sub> >1.7).  
(Protein contamination decreases the ratio.)

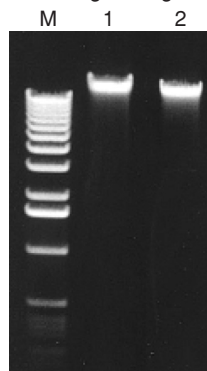
A<sub>260/230</sub> : The ratio indicates the quality of nucleic acid from chaotropic salt (guanidium salt) contamination.  
(Guanidium salt contamination decreases the ratio.)

A<sub>400</sub> : The ratio indicates the quality of nucleic acid from hemoglobin contamination.  
(hemoglobin contamination decreases the ratio.)

The use of QuickGene SP kit DNA whole blood enables the isolation of high-purity and -yield genomic DNA from human whole blood sample.

### ● Results of electrophoresis of genomic DNA extracted

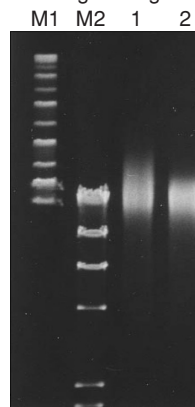
< Electrophoresis condition >  
0.5% Agarose gel / 1 x TAE



M : Marker  
(1 kb Plus DNA Ladder : Invitrogen)  
1 : QuickGene  
2 : Spin column method (A company)

### ● The length of genomic DNA extracted (Results of pulse field electrophoresis)

< Electrophoresis condition >  
1% Agarose gel / 0.5 x TBE



M1 : Marker  
(Midrange PFG Marker II : NEB)  
M2 : Marker ( $\lambda$ -Hind III digest)  
1 : QuickGene  
2 : Spin column method (A company)

From the result, genomic DNA extracted with QuickGene SP kit DNA whole blood has a length of less than 140 kb.

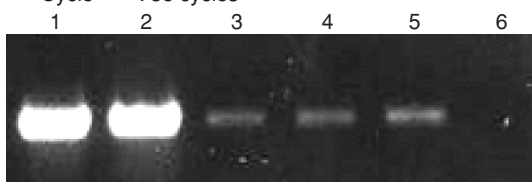
### ● PCR

PCR was performed with genomic DNA extracted from a whole blood sample with QuickGene SP kit DNA whole blood and Spin column method (A company)

< PCR condition >

Primer : G3PDH (T3)  
Reagent : Taq Hot Start Version (TaKaRa)  
Cycle : 35 cycles

< Electrophoresis condition >  
2% agarose gel / 1 x TAE



1 : QuickGene (extracted genomicDNA)  
2 : Spin column method (A company) (extracted genomic DNA)  
3 : QuickGene (genomic DNA 0.1 ng)  
4 : Spin column method (A company) (genomic DNA 0.1 ng)  
5 : Positive control  
6 : Negative control

For PCR performed in undiluted and 0.1  $\mu$ g genomic DNA, electrophoretic bands of amplification products were detected.

#### \* Trademark and exclusion item

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