

Nucleic Acid Isolation Device  
**QuickGene-Mini80**



# Personal nucleic acid extraction device, one

QuickGene-Mini80 is a compact system requiring no centrifugation in the extraction process, giving less strain to samples and enabling rapid nucleic acid extraction. DNA/RNA can be easily extracted from various samples including human/mouse/plants/cells/fungi and others. The QuickGene-Mini80 shares a common extraction mechanism and kits with our semi-automated nucleic acid extraction system, QuickGene-810. QuickGene-Mini80 offers high performance comparable to QuickGene-810 at a reasonable price.

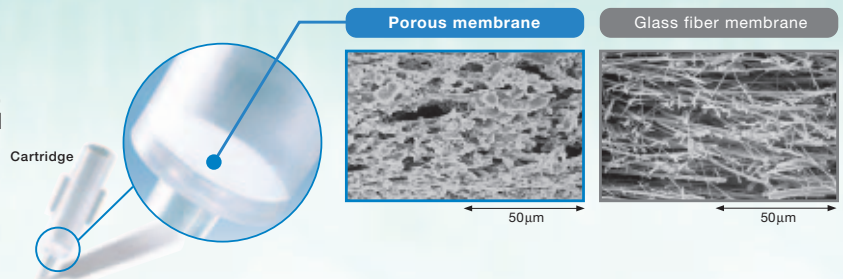
## Compact Design

- The small, lightweight QuickGene-Mini80 takes up minimal space on the lab bench and is easy to carry.
- QuickGene-Mini80 can be operated on the lab bench so, without moving around, the user can perform nucleic acid extraction.



## Revolutionary Porous Membrane

- The QuickGene-Mini80 uses FUJIFILM's patented porous membrane only 80µm thick.
- Because of the outstanding absorptive and desorptive performances of the membrane, high-purity nucleic acid can be easily obtained in high yield at low pressure.
- The ultra thin membrane enables nucleic acid extraction in shorter time than when compared to glass fiber membranes.

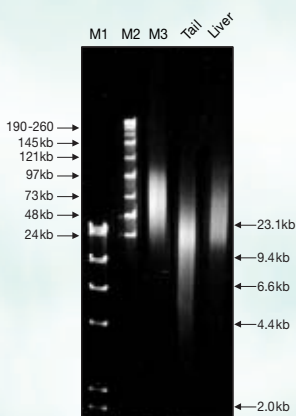


## High Purity, High Yield

- Highly reproducible QuickGene-Mini80 can stably extract nucleic acid in high yield.
- The extracted DNA/RNA contains few impurities and can be used directly in PCR and RT-PCR.

### Length of extracted DNA

QuickGene DNA tissue kit S



M1:  $\lambda$  Hind III digest  
M2: MidRange PFG Marker II  
M3: Mouse Genomic DNA(BD)

\*Balb/c mouse (female, 7week old)

### Extraction of plasmid DNA

QuickGene Plasmid kit S II



M :1kb PLUS DNA Ladder

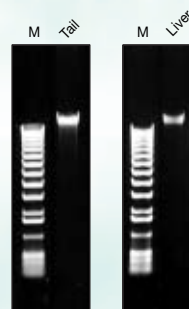
#### Yield and purity of plasmid DNA

	Average*
DNA yield(µg)	30.9
Purity(260/280)	2.00

\*Average of 4 samples

### Extraction of DNA from tissue

QuickGene DNA tissue kit S



M :1kb PLUS DNA Ladder

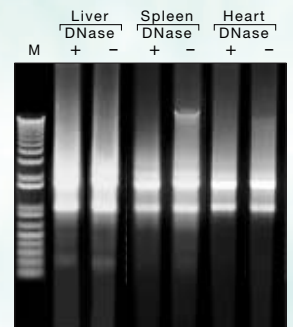
#### Yield and purity of genomic DNA

	Tail	Liver
DNA yield(µg)	4.0	3.6
Purity(260/280)	1.916	1.925
Purity(260/230)	2.117	1.942

\*Balb/c mouse (female, 7week old)  
\*Without RNase treatment

### Extraction of RNA from tissue

QuickGene RNA tissue kit S II



M :1kb PLUS DNA Ladder

#### Yield and purity of total RNA

	DNase treatment	Liver 32mg	Spleen 32mg	Heart 32mg
total RNA yield(µg)	+	155.4	71.8	21.2
	-	159.3	74.3	21.6
Purity(280/260)	+	2.1	2.1	2.2
	-	2.1	2.1	2.2
Purity(280/230)	+	2.3	2.1	2.0
	-	2.2	2.1	1.8

\*Balb/c mouse (female, 7week old)

# for each person

## Easy & Rapid Processing

- The operation is simple. Just set the sample and rotate the blue pressurizing Rotary Switch on both sides of the system.
- Centrifugation is not required for the extraction. The operation is simple, and saves valuable time.

### Easy and simple extraction operation

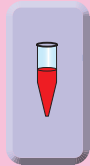


### Workflow of extraction using DNA whole blood kit

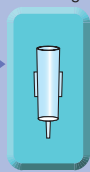
DNA can be extracted from human whole blood in only 6 min.\*  
\*Represents the actual time required to perform the operation according to our protocols.

#### Prepare lysate

Complete lysate



Apply whole lysate to cartridge



#### Extraction process

Pressurize

Pressurize

Pressurize

Pressurize

Pressurize

genomic DNA



Wash buffer 750µl

Wash buffer 750µl

Wash buffer 750µl

Transfer holder to Elution Position

Elution buffer 200µl

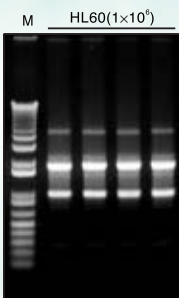


**pressurizing process**

- ① Set holder into system
- ② Rotate pressurizing switch toward the front side to start pressurizing
- ③ Make sure that there is no residual liquid in the cartridge and return the pressurizing switch to original position
- ④ Pull out holder from system

### Extraction of RNA from cultured cells

QuickGene RNA cultured cell kit S



M :1kbp PLUS DNA Ladder

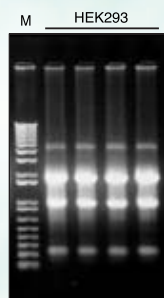
#### Yield and purity of total RNA

	DNase treatment	Average*
total RNA yield(µg)	+	12
	-	11.1
Purity(260/280)	+	2.14
	-	2.12
Purity(260/230)	+	2.17
	-	2.25

\*Average of 4 samples

### Extraction of RNA from cells cultured in 6 cm dish

QuickGene RNA cultured cell HC kit S



M :1kbp PLUS DNA Ladder

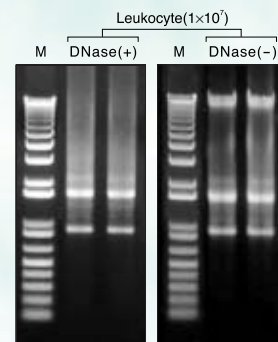
#### Yield and purity of total RNA

Cell type	HL60	HEK293*	HeLa	COS-7	NIH/3T3
Cell form	Pellet		6cm dish		
total RNA yield(µg)	45.6	110.5	46.9	43.0	34.4
Purity(260/280)	1.99	1.86	2.19	2.07	1.93
Purity(260/230)	2.01	1.98	1.98	1.96	1.91

\*HEK293 is the average of 4 samples.

### Extraction of RNA from blood cells

QuickGene RNA blood cell kit S



M :1kbp PLUS DNA Ladder

#### Yield and purity of total RNA

Leukocyte(1×10 <sup>7</sup> )	DNase treatment	Average*
total RNA yield(µg)	+	4.7
	-	5.9
Purity(260/280)	+	2.30
	-	2.10
Purity(260/230)	+	1.29
	-	0.68

\*Average of 2 samples

## Easy extraction from various samples

Appropriate kit selectable depending on sample.

Extraction example	Purpose	Corresponding kits
<b>Whole blood, buffy coat</b> Human/ Cow, etc.: Whole blood (EDTA blood, heparin blood)	genomic DNA extraction for genetic test, genotyping	<b>DNA whole blood kit</b>
<b>Tissue</b> Materials, manufactured goods Mouse/ Rat: Tail, Sperm, Liver Wheat/ Red bean/ Pleurotaceae/ Shimeji mushroom, etc.	DNA extraction for genome analysis of samples ranging from mouse/ rat to food	<b>DNA tissue kit</b>
<b>Plasmid</b> <i>E. coli</i>	Miniprep for plasmid	<b>Plasmid kit II</b>
<b>Tissue</b> Mouse/ Rat: Liver, Kidney, Brain, Spleen, Lung, Heart, Thymus	total RNA extraction for expression analysis such as real-time PCR and RT-PCR	<b>RNA tissue kit II</b>
<b>Cultured cell</b> <b>Tissue</b> Adherent/ Non-adherent (HeLa, HL60, etc.) Dicotyledonous plant (leaf)/ Tobacco (leaf), Plants	total RNA extraction for expression analysis such as real-time PCR and RT-PCR	<b>RNA cultured cell kit</b>
<b>Cultured cell</b> Cultured cell on 6cm/ 10cm dish	High-yield total RNA extraction for northern blotting and microarray	<b>RNA cultured cell HC kit</b>
<b>Blood cell</b> Leukocytes separated by ammonium chloride Erythrocytes of whole blood or Ficoll fraction	High-purity total RNA extraction for expression profiling or various applications	<b>RNA blood cell kit</b>

\*This chart shows extraction examples. Protocol may vary depending on samples and sample conditions.

## The specific set of extraction kits supports various samples

QuickGene extraction kits are optimized for the QuickGene system to extract DNA and RNA in the shortest time and with the highest quality. Appropriate kit selectable depending on sample.

Extraction kits	Extraction example
QuickGene DNA whole blood kit S [ for 96 samples ] Reference code DB-S	ca.5 $\mu$ g / Whole blood 200 $\mu$ l
QuickGene DNA tissue kit S [ for 96 samples ] Reference code DT-S	ca.4 $\mu$ g / 5mg Balb/c Mouse tail
QuickGene Plasmid kit SII [ for 96 samples ] Reference code PL-S2	ca.30.9 $\mu$ g / 1ml culture DH5 $\alpha$
QuickGene RNA tissue kit SII [ for 96 samples ] Reference code RT-S2	ca.100 $\mu$ g / 30mg Mouse liver
QuickGene RNA cultured cell kit S [ for 96 samples ] Reference code RC-S	ca.10 $\mu$ g / 1 $\times$ 10 <sup>6</sup> cell HL60 cell
QuickGene RNA cultured cell HC kit S [ for 96 samples ] Reference code RC-S2	90~150 $\mu$ g / 10cm dish cultured HEK293 cell
QuickGene RNA blood cell kit S [ for 96 samples ] Reference code RB-S	ca.4.5 $\mu$ g / 1 $\times$ 10 <sup>7</sup> cell Leukocytes

\*The extraction kits used in QuickGene-Mini80 are also used for QuickGene-810.

## Specifications

### Overview

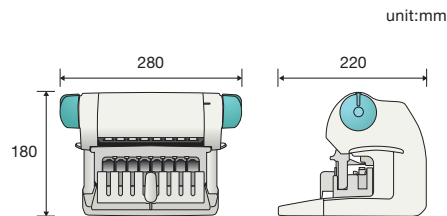
● Throughput : 1 to 8 samples per run

### Physical specifications

● Dimensions : 280(W) $\times$ 220(D) $\times$ 180(H)mm  
● Weight : Approx. 3 kg

### Operating conditions

● Supply voltage : AC~100~240V  
● Power supply frequency : 50 / 60Hz  
● Operating conditions : Temperature: 15~30°C  
Humidity: 30~80%(non-condensing)



Application Guides Available on our website. ▶ <http://lifescience.fujifilm.com>

# FUJIFILM

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