

Application Guides

Application Guide is available through KURABO web site.  
Please visit <http://www.kurabo.co.jp/bio/English/> for more information.

For DNA Isolation

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|-----------------------|--------------------|--|
| 1. <b>*DA-a-4</b>     | Mammalian          | Genomic DNA Isolation from Human Whole Blood   |
| 2. <b>DA-c-7</b>      |                    | Genomic DNA Isolation from Nail  |
| 3. <b>DA-c-6</b>      |                    | Genomic DNA Isolation from Dental Pulp and Hard Tissue (Teeth and Bones)             |
| 4. <b>DA-c-8</b>      |                    | Genomic DNA Isolation from Paraffin-embedded Sample (Spin method)                    |
| 5. <b>DA-b</b>        |                    | Genomic DNA Isolation from Mammalians Tissue   |
| 6. <b>DA-c-10</b>     |                    | Genomic DNA Isolation from Sperm of Mouse  |
| 7. <b>DD-3</b>        | Fish and Shellfish | DNA Isolation from Corbicula Clam  |
| 8. <b>DD-2</b>        |                    | DNA Isolation from Chub Mackerel Blood Stored in TNES-6M Urea Buffer for a Long Time |
| 9. <b>DB-1</b>        | Plants             | Genomic DNA isolation from Plants  |
| 10. <b>DF-15</b>      | Plasmid            | Plasmid DNA Isolation from <i>E.coli</i>   |
| 11. <b>DH-5</b>       | Fungi / Virus      | Viral DNA Isolation from Simian Immunodeficiency Virus (SIV) Infected Cells          |
| 12. <b>DH-1</b>       |                    | Genomic DNA Isolation from Branchia of Koi Herpes Virus (HKV) Infected Fish          |
| 13. <b>DF-12</b>      |                    | Genomic DNA Isolation from Yeast   |
| 14. <b>DF-8</b>       |                    | Genomic DNA Isolation from Methicillin-resistant Staphylococcus Aureus (MRSA)        |
| 15. <b>DH-4</b>       |                    | Human Papiloma Virus (HPV) DNA Isolation from Human Cervical Carcinoma Cell Lines    |
| 16. <b>DF-5</b>       |                    | Genomic DNA Isolation from Gonococcal Bacteria ( <i>Neisseria gonorrhoeae</i> )      |
| 17. <b>DF-7</b>       |                    | Genomic DNA Isolation from <i>Helicobacter pylori</i>                                |
| 18. <b>DF-10</b>      |                    | Genomic DNA from <i>Pseudomonas aeruginosa</i>                                       |
| 19. <b>DF-1</b>       |                    | Bacterial Genomic DNA Isolation from Stool   |
| 20. <b>DH-2</b>       |                    | Genomic DNA Isolation from Herpes Simplex Virus-type 1 (HSV-1) Virus Solution        |
| 21. <b>DF-9</b>       |                    | Genomic DNA Isolation from Penicillin-resistant Streptococcus Pneumoniae (PRSP)      |
| 22. <b>DF-11</b>      |                    | Genomic DNA Isolation from Vancomycin-resistant <i>Enterococcus</i> (VRE)            |
| 23. <b>DG-1&amp;2</b> | Cell line          | Genomic DNA Isolation from Human Cultured Cell Line                                  |

For RNA Isolation

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|-----------------------------------|---------------|--|
| 24. <b>RA-a-1</b>                 | Mammalian     | Total RNA Isolation from Leukocyte   |
| 25. <b>RA-b-1,2,8 &amp; RG-16</b> |               | Total RNA Isolation from Canine or Feline Adipose Tissue, Cutis and Primary-cultured Adipose Cells     |
| 26. <b>RA-b</b>                   |               | Total RNA Isolation from Various Tissues of Mouse  |
| 27. <b>RB-2&amp;8</b>             | Plants        | Total RNA isolation from Plant Tissues (Barley and wheat leaf )  |
| 28. <b>RG-12~13,17~20</b>         | Cell line     | Total RNA isolation from Cultured Adherent Cells (Lysing directly in cultured dish)                    |
| 29. <b>RG-2,5,7,14,15</b>         |               | Total RNA Isolation from Cultured Cells / Total RNA Extraction from Cells Cultured in 6 cm, 10 cm Dish |
| 30. <b>RH-10</b>                  | Fungi / Virus | VNN (Viral Nervous Necrosis) RNA Isolation from Tilefish   |
| 31. <b>RH-5</b>                   |               | Total RNA Isolation from Measles Virus Solution  |
| 32. <b>RH-4</b>                   |               | Total RNA Isolation from Influenza Virus Solution  |
| 33. <b>RH-8</b>                   |               | Total RNA Isolation from SARS Coronavirus (SARS-CoV) infected Cells                                    |
| 34. <b>RH-7</b>                   |               | Total RNA Isolation from Respiratory Syncytial (RS) Virus Solution                                     |
| 35. <b>RH-9</b>                   |               | Viral RNA Isolation from Simian Immunodeficiency Virus (SIV) Inflected Cells                           |

\* The Reference Number of QuickGene Application Guide.  
The updated contents are now featured in other Application Guides.

Nucleic Acid Isolation System Selection Guide

For QuickGene Selection Guide



# QuickGene Series

## Covers a wide range of areas to realize your ideas.



The "QuickGene" series uses patented porous membrane to realize high purity and high yield in nucleic acid isolation. Versatile extraction kits support various samples to expand the application and possibility of DNA/RNA isolation, from basic research to medicine, food, agriculture and forensic criminal investigations.

### Isolation kits features

Quick and easy DNA/RNA isolation with QuickGene kits

#### All-in-one package

Sample preparation can be conducted with the reagents, enzyme and vessels include in a single package. Nucleic acid isolation can be conducted as soon as the kits arrive.

#### Store at room temperature

Store the reagents at 15°C~28 °C. No need for refrigerated storage.  
\*For enzyme reagents, refrigerated storage is recommended after use.

#### No hazardous organic solvents

The cartridges and solvents are all supplied without DNase and RNase to avoid contamination. Environmentally friendly isolation can be conducted without using hazardous organic solvents.

#### Compact size

To minimize space requirement, all necessary items are packaged in a single compact package. Kit S for QuickGene-Mini480, and kit L for QuickGene-Auto240L contains 48 samples.

One for each person

## QuickGene-Mini480



### Isolation kits (seven)

DNA	whole blood; tissue; plasmid II
RNA	blood cell ; tissue II; cultured cell; cultured cell HC

### Specifications

#### Overview

•Throughput: 1 to 48 samples

#### Physical specifications

•Dimensions: 280(W) × 260(D) × 300(H) mm  
•Weight: Approx. 3.3 kg

#### Operating conditions

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

### Features

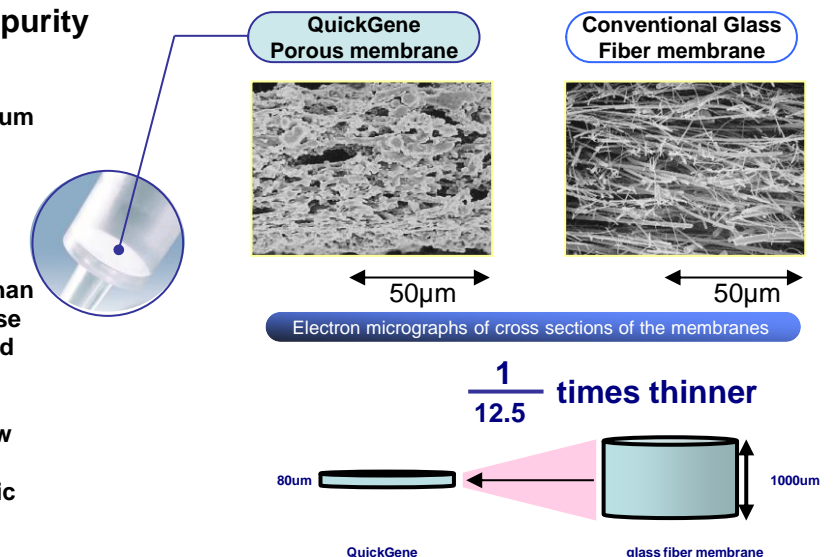
Compact system enabling DNA or RNA isolation through simple operation; just set the sample and rotate the pressurizing switch. No need to move from the lab bench throughout the isolation. Enhance usability by multichannel pipettes.

### Advantages

Compact High-throughput

### Core technology for high-purity and high-yield isolation

The nucleic acid adsorptive medium used in QuickGene series is a porous membrane developed through application of advanced polymer membrane production technology. It is only 80µm thick, making it incomparably thinner than conventional glass fibers. Because of the outstanding adsorptive and desorptive performances of the membrane, nucleic acid can be rapidly and reliably isolated at low pressure without being damage, which realizes high-quality nucleic acid isolation.



Large isolation scale for whole blood

## QuickGene-Auto240L



### Features

A stable high-purity high-yield isolation system, completely automated the DNA process from primary tube to final DNA storage tube, enabling automated isolation of approx. 50µg DNA from 2ml whole blood sample within 1 hour. Suitable for checking multiple parameters using limited amounts of blood in clinical research or livestock/ animal research.

### Consumables

DNA	whole blood L Kit	Auto240L Consumable Kit
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### Advantages

Automated Large-scale

### Specifications

#### Overview

•Automated stages:  
Sample transfer from primary tube, Making lysate, DNA Binding, DNA Washing and DNA Elution  
•Throughput: 1 to 24 samples per run  
•Barcode verification system (Both sample and DNA side)  
•UV lamp

#### Physical specifications

•Dimensions: 1280(W) × 720(D) × 990(H) mm  
•Weight: Approx. 300 kg

#### Operating conditions

•Supply voltage: AC 120/220/230/240 V  
•Power supply frequency: 50/60 Hz  
•Temperature: 15-30°C  
•Humidity: 30-80% (non-condensing)

# DNA Kit

**For QuickGene-Mini480**

**DNA tissue kit** For 96 samples  
Processing time: 13 min/ 8 samples  
Isolation example: ca.4 µg/ 5 mg Balb/c Mouse tail



- Pretreatment enzyme
- Tissue lysis buffer
- Lysis buffer
- Wash buffer
- Elution buffer
- Cartridges
- Caps
- Collection tubes
- Waste tubes

**Plasmid kit II** For 96 samples  
Processing time: 6 min/ 8 samples  
Isolation example: ca.12.5µg/ 1 ml culture/GAPDH/DH5α



- Pretreatment enzyme
- Lysis buffer
- Resuspension buffer
- Alkaline solution
- Neutralization buffer
- Wash buffer
- Elution buffer
- Cartridges
- Caps
- Collection tubes
- Waste tubes

**DNA whole blood kit S** For 96 samples  
Processing time: 6 min/ 8 samples  
Isolation example: ca.5µg/ Whole blood 200 µl



- Pretreatment enzyme
- Lysis buffer
- Wash buffer
- Elution buffer
- Cartridges
- Caps
- Collection tubes
- Waste tubes

**DNA whole blood kit L** For 48 samples  
Processing time: 60 min/ 24 samples  
Isolation example: ca.50µg/ Whole blood 2 ml



- Pretreatment enzyme
- Lysis buffer
- Wash buffer
- Elution buffer
- Cartridges
- Caps
- Collection tubes
- Waste tubes

## Mammalian (Human/Cow/Poultry/Dog/Cat)

- DNA isolation for genetic test
- Genotyping
- Identification and genotyping

Nail	2	Hair	-
Dental pulp and hair tissue (teeth & bones)	3	Lymphatic node, Liver, Kidney	-
Paraffin-embedded samples	4	Blood spot	-
Oral swab	-		

Whole blood	1
Whole blood	1
Buffy coat	-

Whole blood (2ml)	
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## Mouse / Rat

- DNA isolation for genetic test
- Genotyping

Tail, Lung, Kidney, Liver	5	Brain, Heart, Esophagus, Stomach, Small intestine, Large intestine, Spleen, Thymus, Lymphatic node	-
Sperm	6		
Tail, Lung, Kidney, Liver	5		

## Fish and Shellfish

- Identification of species and production region

Corbicula clam	7	Bastard halibut, Balloon fish, Ayu, Killifish, Shellfish, Loach, Eel	-
Chub mackerel blood	8		

## Insects

- Genome analysis

Silkworm, Butterflies (legs), Louse	-
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## Plants

- Identification of species and production region

Rice plant (leaf), Spinach (leaf)	9	Wheat	-
Carnation (leaf), Peony (leaf), Camellia (leaf)	-	Shimeji mushroom, Pleurotaceae	-
Cotton, Arabidopsis (leaf), Tobacco (leaf), Red bean	-	Seaweed	-
Rice kernel	-	Pufferfish (scales, muscle)	-

## Plasmid

- Amplification of target gene

<i>E.coli</i>	10
<i>E.coli</i>	-

## Fungi / Virus

- Functional analysis
- Viral DNA isolation for the identification of infector virus

SIV-infected cells	11	<i>Pseudomonas aeruginosa</i>	18
Branchia of KHV-infected fish	12	Stool	19
Yeast	13	Herpes simplex virus-type 1 (HSV-1) virus solution	20
Methicillin-resistant staphylococcus aureus (MRSA)	14	Penicillin-resistant streptococcus pneumoniae (PRSP)	21
HPV-infected cells	15	Vancomycin-resistant enterococcus (VRE)	22
<i>Neisseria gonorrhoeae</i>	16	HBV in blood serum	-
<i>Helicobacter pylori</i>	17		

## Cell line

- Genome analysis

HepG2, Huh6 etc.	23
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■ Numbers in the right column indicate the type of Application guide used.

- Blue-colored numbers indicate isolation methods using the QuickGene series.
- Pink-colored numbers indicate isolation methods using the Spin Cartridge method.
- Where no numbers are indicated, please consult with you local contact person

Whole blood	1
Whole blood	1
Buffy coat	-

# RNA Kit

For QuickGene-  
Mini480

**RNA tissue kit II** For 96 samples  
Processing time: 15 min/ 8 samples  
Isolation example: ca. 100 µg/ 30 mg Balb/c Mouse liver

Lysis buffer	Cartridges
Solubilization buffer	Caps
Wash buffer	Collection tubes
Elution buffer	Waste tubes

**RNA cultured cell kit** For 96 samples  
Processing time: 17 min/ 8 samples  
Isolation example: ca. 10 µg/ 1 × 10<sup>6</sup> cell HL60 cell

Lysis buffer	Cartridges
Wash buffer	Caps
Elution buffer	Collection tubes
	Waste tubes

**RNA cultured cell HC kit** For 96 samples  
Processing time: 11 min/ 8 samples  
Isolation example: ca. 90-150µg/ 10 cm dish culture HEK293 cell

Lysis buffer	Cartridges
Solubilization buffer	Caps
Wash buffer	Collection tubes
Elution buffer	Waste tubes

**RNA blood cell kit** For 96 samples  
Processing time: 20 min/ 8 samples  
Isolation example: ca. 4.5µg/ 1 × 10<sup>7</sup> cells leukocytes

Lysis buffer	Cartridges
Wash buffer	Caps
Elution buffer	Collection tubes
	Waste tubes

## Mammalian

(Human/Cow/Poultry/Dog/Cat)

• Expression analysis such as real-time PCR and RT-PCR

Canine or feline adipose tissue, Cutis and primary-cultured adipose cells	25
Lymphatic node, Liver, Kidney	-

Leukocyte	24
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## Mouse / Rat

• Expression analysis such as real-time PCR and RT-PCR

Liver, Brain, Lung, Kidney, Spleen, Thymus, Heart	26
Liver, Brain, Lung, Kidney, Spleen, Thymus, Heart	26
Small intestine, Esophagus, Lymphatic node, Large intestine, Stomach	-

## Insects

• Expression analysis such as real-time PCR and RT-PCR

Chironomid, Mosquito	-
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## Plants

• Expression analysis such as real-time PCR and RT-PCR

Wheat (leaf), Barley (leaf)	27
Arabidopsis (leaf)	-
Tomato (leaf)	-
Quinoa, Tobacco (leaf)	-
Petunia (bloom, leaf), Soybean (leaf)	-

## Cell line

• Expression analysis such as real-time PCR and RT-PCR  
• Northern blotting (cells cultured on 6 cm, 10 cm dish)  
• Microarray

Floating cell (HL60 etc.)	-
Adherent cell (COS-7, HeLa, HEK293, NIH/3T3)	28
HL60, COS-7, HeLa, HEK293, NIH/3T3	28

Cultured cell (6 cm, 10 cm dish)	29
Cultured cell (6 cm, 10 cm dish)	29

## Fungi / Virus

• The infected virus can be identified by real-time PCR and RT-PCR

VNN-infected fish	30	RS virus solution	34
Measles virus solution	31	<i>E.coli</i>	-
Influenza virus solution	32	Norovirus	-
SARS-CoV-infected cells	33		

SIV-infected cells	35
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Liver, Brain, Lung, Kidney, Spleen, Thymus, Heart	31
Liver, Brain, Lung, Kidney, Spleen, Thymus, Heart	31
Small intestine, Esophagus, Lymphatic node, Large intestine, Stomach	-