

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. *DA-a-4 | Mammalian | Genomic DNA Isolation from Human Whole Blood |
| 2. DA-c-7 | | Genomic DNA Isolation from Nail |
| 3. DA-c-6 | | Genomic DNA Isolation from Dental Pulp and Hard Tissue (Teeth and Bones) |
| 4. DA-c-8 | | Genomic DNA Isolation from Paraffin-embedded Sample (Spin method) |
| 5. DA-b | | Genomic DNA Isolation from Mammalians Tissue |
| 6. DA-c-10 | | Genomic DNA Isolation from Sperm of Mouse |
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| 8. DD-2 | | DNA Isolation from Chub Mackerel Blood Stored in TNES-6M Urea Buffer for a Long Time |
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| 12. DH-1 | | Genomic DNA Isolation from Branchia of Koi Herpes Virus (HKV) Infected Fish |
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| 20. DH-2 | | Genomic DNA Isolation from Herpes Simplex Virus-type 1 (HSV-1) Virus Solution |
| 21. DF-9 | | Genomic DNA Isolation from Penicillin-resistant <i>Streptococcus Pneumoniae</i> (PRSP) |
| 22. DF-11 | | Genomic DNA Isolation from Vancomycin-resistant <i>Enterococcus</i> (VRE) |
| 23. DG-1&2 | | Cell line |

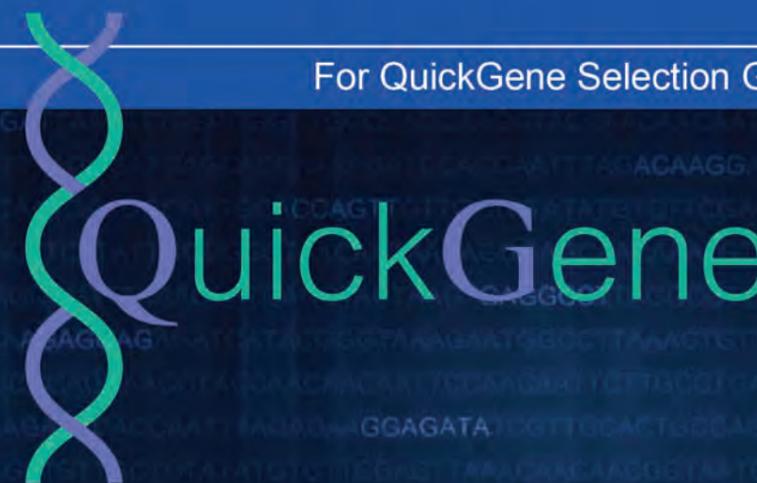
For RNA Isolation

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

and high yield in nucleic acid isolation. possibility of DNA/RNA isolation, from basic



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

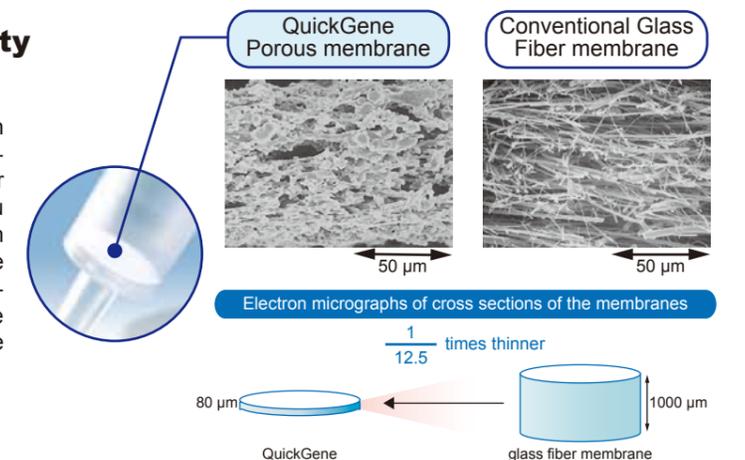
The cartridges and solvents are all supplied without DNase and RNase to avoid contamination. Environmentally friendly isolation can be conducted without using hazardous organic solvents.

Compact size

To minimize space requirement, all necessary items are packaged in a single compact package. Kit S for QuickGene 810/Mini 80, SP kit contains 96 samples and kit L for QuickGene-610L contains 48 samples.

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.



One for each person QuickGene-Mini80



Features

The series' smallest system enabling nucleic acid isolation through simple operation; just set the sample and rotate the pressurizing switch. No need to move from the lab bench throughout the isolation.

Advantages

Compact Affordable price

Isolation kits (seven)

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

Specifications

Overview

•Throughput: 1 to 8 samples per run

Physical specifications

•Dimensions: 280(W)×220(D)×180(H) mm
•Weight: Approx. 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)

Desktop multifunctional model QuickGene-810



Features

A multifunctional automated system realizing high-purity high-yield DNA/RNA isolation from varied samples (human, mouse, wheat, E.coli, cell, etc.).

Advantages

Automated Multifunctional

Isolation kits (seven)

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

Specifications

Overview

•Automated stages: sample binding, washing and elution
•Throughput: 1 to 8 samples per run
•Display: LCD (16 characters × 1 line)

Physical specifications

•Dimensions: 450(W)×330(D)×400(H) mm
•Weight: Approx. 21 kg

Operating conditions

•Supply voltage: AC 100-240 V
•Power supply frequency: 50/60 Hz
•Temperature: 15-30°C
•Humidity: 30-80% (non-condensing)
•Power Consumption: 65 W

Series' largest isolation scale QuickGene-610L



Features

A stable high-purity high-yield isolation system, enabling automated isolation of approx. 50 µg DNA from 2 ml whole blood sample*. Suitable for checking multiple parameters using limited amounts of blood in clinical research or livestock/ animal research.

*yields ten times more DNA compared to our automated isolation system Quick Gene-810

Advantages

Automated Large-scale

Isolation kits (one)

DNA	whole blood L
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Specifications

Overview

•Automated stages: sample binding, washing and elution
•Throughput: 1 to 6 samples per run
•Display: LCD (16 characters × 1 line)

Physical specifications

•Dimensions: 580(W)×330(D)×400(H) mm
•Bottle holder part included
•Weight: Approx. 24 kg

Operating conditions

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

Spin-cartridge multifunctional kit QuickGene SP kit



Features

Rapid and easy DNA/RNA isolation using equipment already available in your laboratory, such as centrifuges and microtubes. Because washing and recovery of nucleic acid can be performed in a tabletop compact centrifuge, work efficiency can be dramatically improved.

Advantages

Simple Time saving

Isolation kits (six)

DNA	whole blood; tissue; plasmid II (spin method)
RNA	tissue; cultured cell; cultured cell HC (spin method)

DNA Kit

For QuickGene-810 /mini80/610L

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.12.5 µg/ 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 For 96 samples
 Processing time: 6 min/ 8 samples
 Isolation example: ca.5 µg/ 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: 12 min/ 6 samples
 Isolation example: ca.5 µg/ Whole blood 2 ml



- Pretreatment enzyme
- Lysis buffer
- Wash buffer
- Elution buffer
- Cartridges
- Caps

For Spin-cartridge method isolation

DNA tissue kit (spin method) For 96 samples
 Isolation example: ca.4 µg/ 5 mg Balb/c Mouse tail



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

Plasmid kit II (spin method) For 96 samples
 Isolation example: ca.12.5 µg/ 1 ml culture/GAPDH/DH5α



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

DNA whole blood kit (spin method) For 96 samples
 Isolation example: ca.5 µg/ Whole blood 200 µl



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

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

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

Nail	2	Hair	-
Dentalpulpandhairtissue(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	-
Camation (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 infecter virus

SIV-infected cells	11	<i>Pseudomonas aeruginosa</i>	18
Branchia of KHV-infected fish	12	Stool	19
Yeast	13	Herpes simplex v irus-type 1 (HSV-1) v irus solution	20
Methicillin-resistant <i>staphylococcus aureus</i> (MRSA)	14	Penicillin-resistant <i>streptococcus pneumoniae</i> (PRSP)	21
HPV-infected cells	15	Vancomycin-resistant <i>enterococcus</i> (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-810 /mini80/610L

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



RNA cultured cell kit For 96 samples
Processing time: 17 min/ 8 samples
Isolation example: ca. 10 µg/1×10⁶ cell/HL60cell



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



RNA blood cell kit For 96 samples
Processing time: 20 min/ 8 samples
Isolation example: ca. 4.5µg/1×10⁷ cells/leukocytes



For Spin-cartridge method isolation

RNA tissue kit (spin method) For 96 samples
Isolation example: ca. 137 µg/ 30 mg Balb/c Mouse liver



RNA cultured cell kit (spin method) For 96 samples
Isolation example: ca. 10 µg/1×10⁶ cell HL60cell



RNA cultured cell HC kit (spin method) For 96 samples
Isolation example: ca. 213 µg/ 10 cm dish culture HEK293 cell



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

■ Numbers in the right column indicate the type of Application guide used.

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• Pink-colored numbers indicate isolation methods using the Spin Cartridge method.

• Where no numbers are indicated, please consult with you local contact person

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