

Nucleic Acid Isolation System Selection Guide

For QuickGene Selection Guide



QuickGene Series

Covers a wide range of areas to

The "QuickGene" series uses a porous membrane developed through the application of to realize high purity and high yield in nucleic acid extraction. Versatile extraction kits possibility of DNA / RNA extraction, from basic research to medicine, food, agriculture

Extraction kits features

Quick and easy DNA / RNA extraction with QuickGene kits

All-In-One Package

Sample preparation can be conducted with the reagents, enzymes and vessels included in a single package. Nucleic acid extraction can be conducted as soon as the kits arrive.

No hazardous organic solvents

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

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.

Compact size

To minimize space requirements, all necessary items are packaged in a single compact package. Kit S for QuickGene-810 / Mini80, SP kit contains 96 samples, and kit L for QuickGene-610 contains 48 samples.

One for each person

QuickGene-Mini80



Features

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

Features

compact reasonably priced

Extraction 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

Operating conditions

- Supply voltage: AC100-240V
- Power supply frequency: 50/60 Hz
- Temperature: 15-30°C
- Humidity: 30-80 % (non-condensing)

Physical specifications

- Dimensions: 280(W)×220(D)×180(H) mm
- Weight: Approx. 3 kg

Desktop multifunction model

QuickGene-810



Features

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

Features

automated multifunctional

Extraction 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)

Operating conditions

- Supply voltage: AC100-240V
- Power supply frequency: 50/60 Hz
- Temperature: 15-30°C
- Humidity: 30-80 % (non-condensing)
- Power Consumption: 65 W

Physical specifications

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

Options

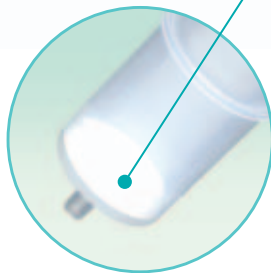
- Carriage sets
- Sample tube rack (sold in sets of 4)

realize your ideas.

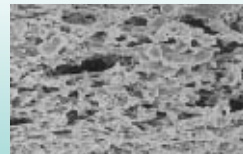
FUJIFILM's membrane production technology support various samples to expand the application and and forensic criminal investigations.

Core technology for high-purity and high-yield extraction

The nucleic acid adsorptive medium used in QuickGene series is a porous membrane developed through application of FUJIFILM's advanced polymer membrane production technology. It is only 80 μm 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 extracted at low pressure without being damaged, which realizes high-quality nucleic acid extraction.



Porous membrane



50μm

Glass fiber



50μm

Electron micrographs of cross sections of the membranes

1
12.5 times thinner



Series' largest extraction scale QuickGene-610L



Features

A stable high-purity high-yield extraction system, enabling automated extraction of approx. 50μg 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 extraction system QuickGene-610

Features

automated large-scale

Extraction kits (one)

DNA whole blood L

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
 - Weight: Approx. 24 kg
- *Bottle holder part included

Operating conditions

- Supply voltage: AC100-240V
- 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 extraction 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.

Features

Spin method

Extraction kits (six)

DNA whole blood (spin method); tissue (spin method); plasmid II (spin method)

RNA tissue (spin method); cultured cell (spin method); cultured cell HC (spin method)

DNA Kit

For QuickGene-810
/Mini80 /610L

DNA whole blood kit for 96 samples



Processing time: 6 min/ 8 samples
Extraction example: ca. 5 µg/ Whole blood 200 µl

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

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

Whole blood (EDTA blood, heparin blood, ACD blood)

Oral swab, Nail, Dental pulp, Bone, Hair, Tooth

Mouse / Rat

Tail, Sperm, Lung, Kidney, Liver

Fish and Shellfish

Common mackerel, Bastard halibut, Balloon Fish, Ayu, Killifish, Shellfish, Loach, Eel, Freshwater clam

Insects

Silkworm, Butterflies (legs), Louse

Plants

Arabidopsis (leaf), Tobacco (leaf), Petunia (leaf), Soybean (leaf), Seaweed, Rice kernel, Wheat, Red bean, Rice plant (leaf), Buckwheat (leaf), Peony (leaf), Camellia (leaf), Pleurotaceae, Shimeji mushroom, Cotton, Carnation (leaf)

Cell line

Adherent cell (HepG2, Huh6 etc.)

Fungi / Virus

SIV-infected cells, HBV in blood serum, Yeast, Koi herpes virus (KHV)-infected fish, *E.coli*

Plasmid

E.coli

DNA isolation for genetic test,
genotyping (whole blood, Buffy coat)

Application Guide **No.2**

For spin-cartridge
method extraction

DNA whole blood kit (spin method)



Extraction example: ca. 5 µg/ Whole blood 200 µl

Pretreatment enzyme	Lysis buffer	Wash buffer	Elution buffer
Cartridges	Waste tubes		

DNA tissue kit for 96 samples

Processing time: 13 min/ 8 samples
Extraction example: ca. 4 μ g/ 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
Extraction example: ca. 12.5 μ g/ 1 ml culture DH5 α

Pretreatment enzyme Lysis buffer Resuspension buffer Alkaline solution
Neutralization 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
Extraction example: ca. 50 μ g/ Whole blood 2 ml

Pretreatment enzyme Lysis buffer Wash buffer Elution buffer
Cartridges Waste tubes

DNA and mt DNA isolation for individual recognition, identification and genotyping (swab and tissue)

Application Guide **No.16 No.17**

Genomic DNA isolation for genome analysis of knockout mouse, and genotyping

Application Guide **No.4 No.6**

DNA isolation for identification of species and production region, and genome analysis of various species (tissue)

Application Guide **No.18 No.23**

DNA isolation for identification of species and production region, and genome analysis of various species (tissue)

DNA isolation for identification of species and production region, and genome analysis of various species (materials, manufactured goods)

DNA isolation for genome analysis of cultured cell

Application Guide **No.5**

Viral DNA isolation for the identification of infective virus, and basic research (cultured cells and tissue)

Application Guide **No.8 No.13**

DNA isolation for identification of species and production region, and genome analysis of various species (materials, manufactured goods)

Application Guide **No.20**

Miniprep for plasmid

Application Guide **No.10**

DNA isolation for Genetic test, genotyping (whole blood, Buffy coat)

*DNA extraction from a large sample amount

DNA tissue kit (spin method)

Extraction example: ca. 4 μ g / 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)

Extraction example: ca. 12.5 μ g/ 1 ml culture DH5 α

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

RNA Kit

For QuickGene-810
/Mini80/610L

RNA blood cell kit for 96 samples



Processing time: 20 min/ 8 samples
Extraction example: ca. 4.5µg/1×10⁶ cell leukocytes

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

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

Leukocyte

Lymphatic node, Liver, Kidney, Adipose cell, Skin

Mouse / Rat

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

Insects

Chironomid, Mosquito

Plants

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

Cell line

Floating cell (HL60 etc.), Adherent cell (HeLa etc.)

Cultured cell (6cm, 10cm dish)

Fungi / Virus

SIV-infected cells, VNN-infected fish

E.coli

Total RNA for RT-PCR can be isolated from leukocyte pellet that is separated by ammonium chloride haemolysis of whole blood or Ficoll fraction

Application Guide No.22

For spin-cartridge
method extraction

RNA tissue kit II

for 96 samples



Processing time: 15 min/ 8 samples
Extraction example: ca. 100 µg/ 30 mg Mouse liver

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

RNA cultured cell kit

for 96 samples



Processing time: 17 min/ 8 samples
Extraction example: ca. 10µg/ 1×10⁶ cell HL60 cell

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

RNA cultured cell HC kit

for 96 samples



Processing time: 11 min/ 8 samples
Extraction example: ca. 90-150µg/ 10 cm dish cultured HEK293 cell

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

Total RNA isolation for expression analysis such as real-time PCR and RT-PCR (tissue)

Application Guide No.24

Total RNA isolation for expression analysis such as real-time PCR and RT-PCR (tissue)

Application Guide No.25

Total RNA isolation for expression analysis such as real-time PCR and RT-PCR (tissue)

Total RNA isolation for expression analysis of plant and basic research (tissue)

Application Guide No.12

Total RNA isolation for expression analysis such as real-time PCR and RT-PCR (cultured cell)

Application Guide No.11 No.14

Total RNA isolation for expression analysis such as real-time PCR and RT-PCR (tissue)

Application Guide No.19

Viral RNA isolation from virus-infected cultured cell

Application Guide No.7

Total RNA isolation for expression analysis such as real-time PCR and RT-PCR (fungi)

Total RNA isolation from cells cultured on 6 cm, 10 cm dish (for northern blotting and microarray)

Application Guide No.21

RNA tissue kit (spin method)



Extraction example: ca. 137 µg/ 30 mg Mouse liver

Lysis buffer Solubilization buffer Wash buffer Elution buffer
Cartridges Waste tubes

RNA cultured cell kit (spin method)



Extraction example: ca. 10 µg/ 1×10⁶ cell HL60 cell

Lysis buffer Wash buffer Elution buffer
Cartridges Waste tubes

RNA cultured cell HC kit (spin method)



Extraction example: ca. 213 µg/ 10 cm dish cultured HEK293 cell

Lysis buffer Solubilization buffer Wash buffer Elution buffer
Cartridges Waste tubes

Application Guides

No.1	▶ *This Application Guide has been discontinued due to outdated protocol.
No.2	▶ Genomic DNA Isolation from Human Whole Blood
No.3	▶ *This Application Guide has been discontinued due to outdated protocol.
No.4	▶ Genomic DNA Isolation from Mammalians Tissue
No.5	▶ Genomic DNA Isolation from Human Cultured Cell Line
No.6	▶ Genomic DNA Isolation from Mouse Sperm
No.7	▶ Viral RNA Isolation from Simian Immunodeficiency Virus (SIV) Infected Cells
No.8	▶ Viral DNA Isolation from Simian Immunodeficiency Virus (SIV) Infected Cells
No.9	▶ Total RNA Isolation from Mouse Liver
No.10	▶ Plasmid DNA isolation from E.coli
No.11	▶ *This Application Guide is not available in English. This is the revised version of the Japanese Application Guide #1. The revised English version is included in the RNA cultured cell kit Handbook.
No.12	▶ Total RNA Isolation from Monocotyledon and Dicotyledonous Plant Tissues
No.13	▶ DNA Isolation from Branchia of Koi Herpes Virus (KHV) Infected Fish
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Application Guides Available on our website. ▶ <http://lifescience.fujifilm.com>

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