



QuickGene Series Application Guide

Genomic DNA Isolation from Mammalians Tissue

QuickGene DNA Tissue Kit S

Enables easy and rapid isolation of high purity genomic DNA from Mammalians Tissue

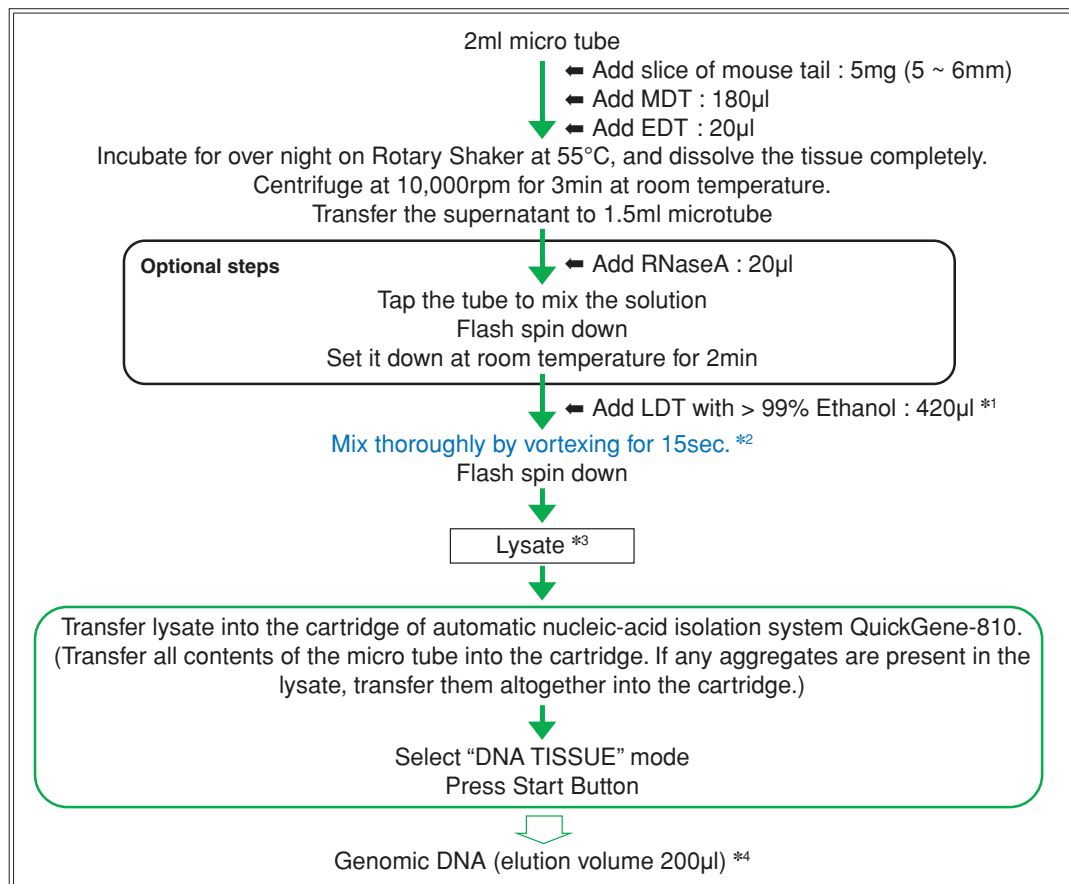
Features

- Simultaneously extracts genomic DNA from 8 sets of Lysate in only 13 minutes
- Sophisticate genomic DNA isolation system without using spin columns
- Safety operation without using hazardous solvent such as phenol
- Isolated genomic DNA should be sufficient purity and yield for PCR, restriction enzyme digestion, Southern Blotting and other applications because of uncontaminated protein and chaotropic salt.

Application 1

● Genomic DNA Extraction from the slice of Mouse Tail

Protocol



*1 : Add 240µl of > 99% Ethanol into 180µl of LDT and mix completely before using.

*2 : Mix completely by vortexing at the maximum speed.
If the mixing is not enough by vortexing, use the tapping, pipetting or inverting.

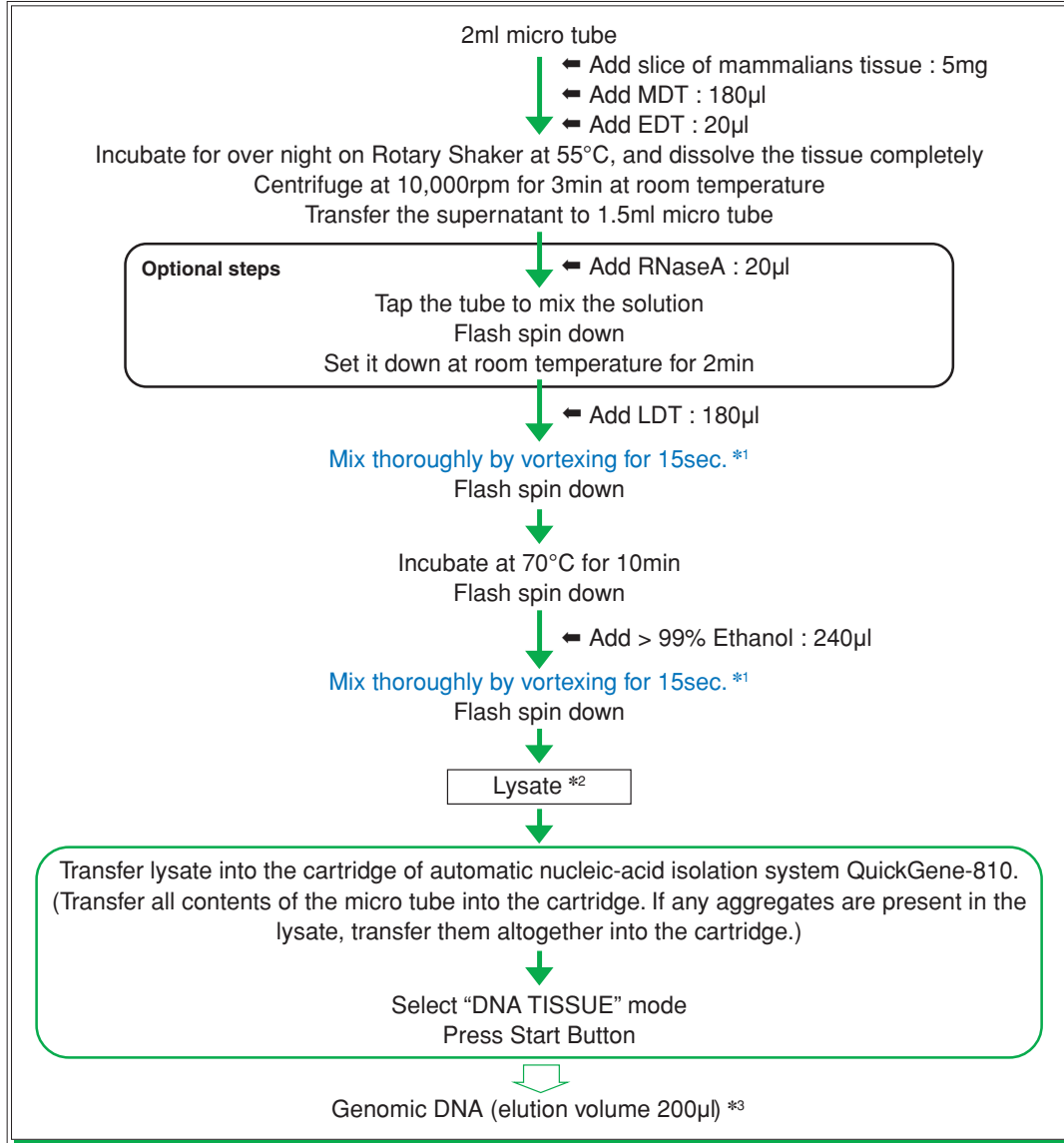
*3 : Transfer the lysate into the cartridge within 30min.

*4 : This elution volume is initial value of "DNA TISSUE" mode.

Application 2

● Genomic DNA Extraction from Mammalians Tissue

Protocol



*1 : Mix completely by vortexing at the maximum speed.

If the mixing is not enough by vortexing, use the tapping, pipetting or inverting.

*2 : Transfer the lysate into the cartridge within 30min.

*3 : This elution volume is initial value of "DNA TISSUE" mode.

Recommended RNaseA

Product Name	Manufacture	Cat. No.	Preparation
RibonucleaseA	Sigma	R5125	*1, *2
RibonucleaseA	Sigma	R5500	*1, *2
RibonucleaseA	Sigma	R6513	*1
RibonucleaseA	Sigma	R4642	
RNaseA	QIAGEN	19101	

*1 : Prepare 100mg/ml solution with 10mMTris-HCl (pH7.5) and 15mMNaCl

*2 : Incubate at 100°C for 15min to inactivate DNase

Components of the Kit

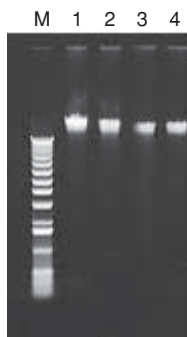
- ProteinaseK (EDT)
- Tissue Lysis buffer (MDT)
- Lysis buffer (LDT)
- Wash buffer (WDT)
- Collection buffer (CDT)
- Cartridges (CA)
- Collection tubes (CT)
- Caps (CAP)
- Waste tubes (WT)

Preparation of reagents

- Wash buffer (WDT)
Add 160ml of > 99% Ethanol into the bottle and mix with inversion the bottle gently before using.

Results and discussion

1) AGE of isolated genomic DNA from Mouse Tissue



M : Size marker
1 : Lung tissue sample
2 : Kidney tissue sample
3 : Tail tissue sample
4 : Liver tissue sample

5mg tissue sample was used to extract genomic DNA with the automatic nucleic-acid isolation system QuickGene-810 and QuickGene DNA tissue kit S.

By using QuickGene isolation system and reagents, genomic DNA was isolated from mammalian tissue with high purity and high yield.

2) Isolated genomic DNA from mouse tail

● The yield of genomic DNA (5mg of tissue)

QuickGene isolation system and reagents	3.6µg
Comparison method using spin column	3.6µg

● The purity of genomic DNA (determination of protein contamination) : $A_{260/280}$

	#1	#2	#3	#4	#5	#6	#7	#8
QuickGene isolation system and reagents	1.95	1.94	1.95	1.93	1.95	1.97	1.96	1.96
Comparison method using spin column	1.96	1.94	1.97	2.01	1.95	1.99	2.00	1.99

$A_{260/280}$: Protein contamination lowers the absorbance ratio.

● **The purity of genomic DNA (determination of chaotropic salt contamination) : $A_{260/230}$**

	#1	#2	#3	#4	#5	#6	#7	#8
QuickGene isolation system and reagents	2.03	2.05	2.12	1.84	1.90	1.88	1.90	1.91
Comparison method using spin column	1.57	1.71	2.03	1.77	2.21	2.31	1.94	1.96

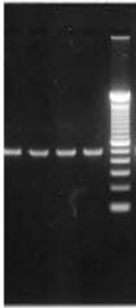
$A_{260/230}$: Chaotropic salt contamination lowers the absorbance ratio.

By using QuickGene isolation system and reagents, genomic DNA was isolated from the slice of mouse tail with high purity and high yield. The isolated samples would be used for PCR amplification, restriction enzyme digestion and other experiments because of uncontaminated protein and chaotropic salt.

3) PCR

AGE of G3PDH PCR fragments amplified by genomic DNA extracted from mammals tissue using QuickGene isolation system and reagents

1 2 3 4 M



5mg tissue sample was used to extract genomic DNA with the automatic nucleic-acid isolation system QuickGene-810 and QuickGene DNA tissue kit S, and each 30pg of genomic DNA was used for PCR template to amplify G3PDH gene.

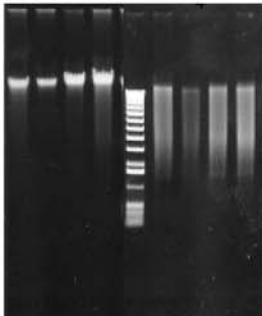
G3PDH fragment was amplified with each template DNA successfully.

M : 100bp ladder marker
 1 : Lung tissue sample
 2 : Kidney tissue sample
 3 : Tail tissue sample
 4 : Liver tissue sample

4) Restriction Enzyme Digestion

AGE of EcoRI restriction enzyme digestion fragments with genomic DNA extracted from mammals tissue using QuickGene isolation system and reagents

without digestion EcoRI digestion
 1 2 3 4 M 1 2 3 4



5mg tissue sample was used to extract genomic DNA with the automatic nucleic-acid isolation system QuickGene-810 and QuickGene DNA tissue kit S, and each 17µl of genomic DNA was used for EcoRI restriction enzyme digestion.

Each genomic DNA was digested with EcoRI successfully.

M : Size marker
 1 : Tail tissue sample
 2 : Liver tissue sample
 3 : Lung tissue sample
 4 : Kidney tissue sample