



2. Genomic DNA Extraction from Tissue of Animal

DA-b-1

Genomic DNA Extraction from Animal tissue (Rapid Method)

Protocol

2 ml micro tube



- ← Tissue 5~10 mg
(by scissors or hammer make it into small blocks)
- ← 4M TNES-UREA *1 : 200 µl
- ← EDT : 10 µl

Slowly shake until completely dissolved
(55°C × 2 hours use shaker)



- ← LDT : 180 µl

Vortex (maximum speed) : 15 sec

Flash spin down



Incubation at 70°C : 2 min



- ← >99% ethanol : 240 µl

Vortex (maximum speed) : 15 sec

Flash spin down



Lysate



Transfer all contents of the micro tube into the cartridge of QuickGene



Refer to the extraction protocol for each device written in the kit handbook.

(from the step after transferring the lysate into the cartridge)



Genomic DNA
(Elution volume : 200 µl)

*1 <4M TNES-UREA>
10mM Tris-HCl, pH7.5
125mM NaCl
10mM EDTA
1% SDS
4M Urea
If the sample is difficult to dissolve, use 8M.

Results

No Data

Common protocol is usable for the following

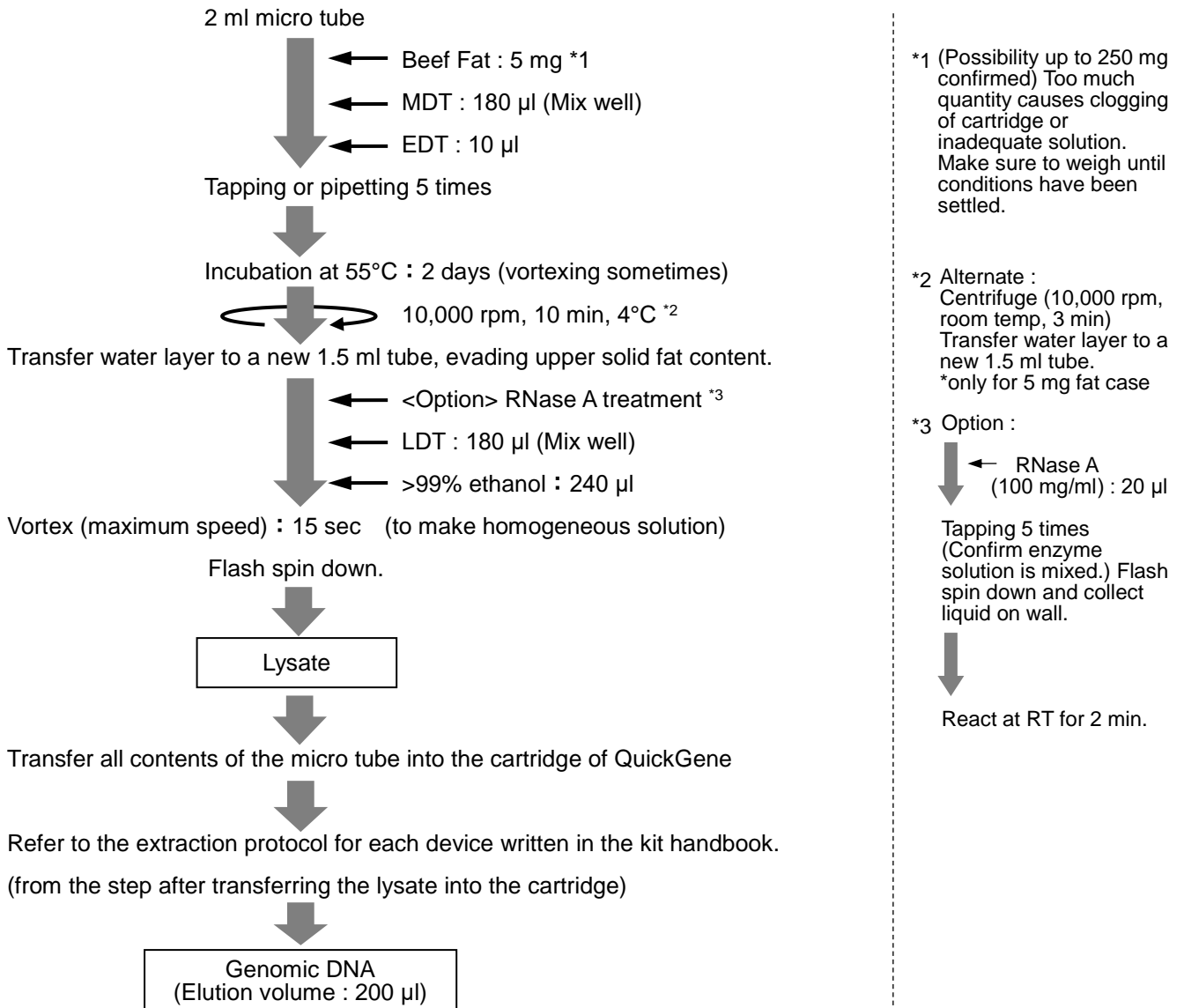
No Data

Depending on sample and storage conditions, nucleic acid may not be extractable.
Therefore, we cannot guarantee accurate data.
The extracted nucleic acid contains unintended acid (ex: when extracting DNA, RNA is also extracted).

DA-b-2

Genomic DNA Extraction from Beef Fat

Protocol



Results

The yield of genomic DNA

Starting tissue amount	Yield (µg)
250 mg	1.82
5 mg	0.47

Common protocol is usable for the following

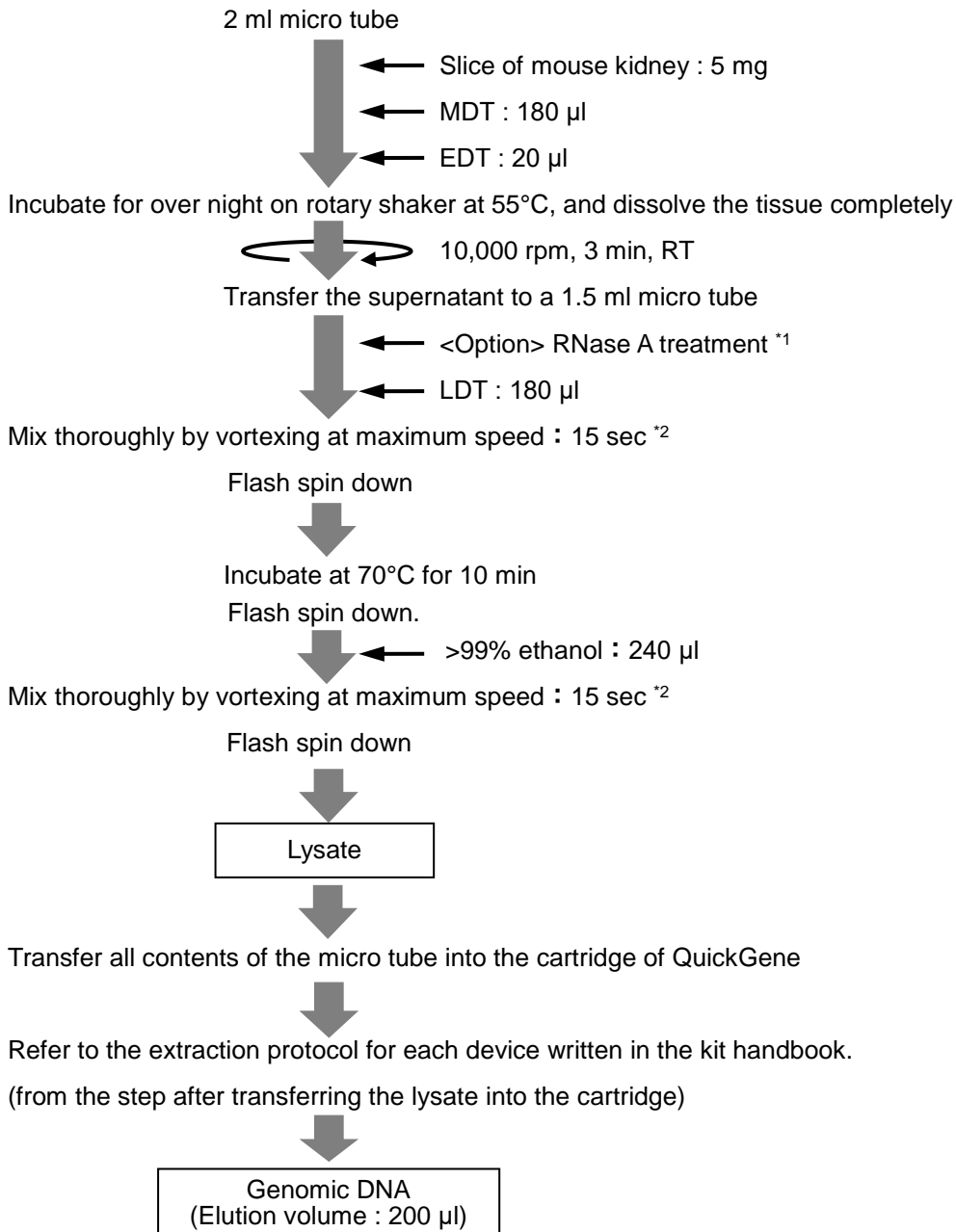
No Data

Depending on sample and storage conditions, nucleic acid may not be extractable.
Therefore, we cannot guarantee accurate data.
The extracted nucleic acid contains unintended acid (ex: when extracting DNA, RNA is also extracted).

DA-b-3

Genomic DNA Extraction from Kidney of Mouse

Protocol

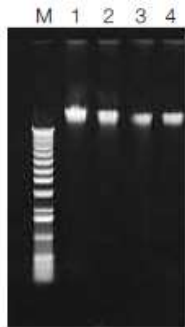


*1 Optioal steps
RNaseA : 20 µl
Tap the tube to mix the solution.
Flash spin down.
Set it down at room temperature for 2 min.

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

Results

AGE of extracted genomic DNA from Mouse Tissue

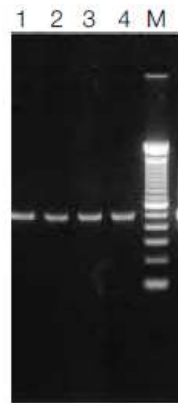


M : Size marker
1 : Lung tissue sample
2 : Kidney tissue sample
3 : Tail tissue sample
4 : Liver tissue sample

Other

• PCR

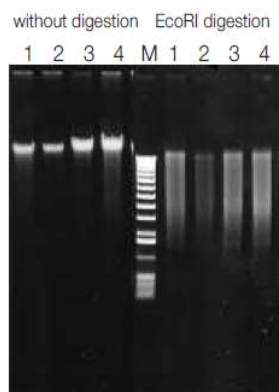
AGE of G3PDH PCR fragments amplified by genomic DNA extracted from mouse tissue using QuickGene isolation system and reagents



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

• Restriction Enzyme Digestion

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



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

Common protocol is usable for the following

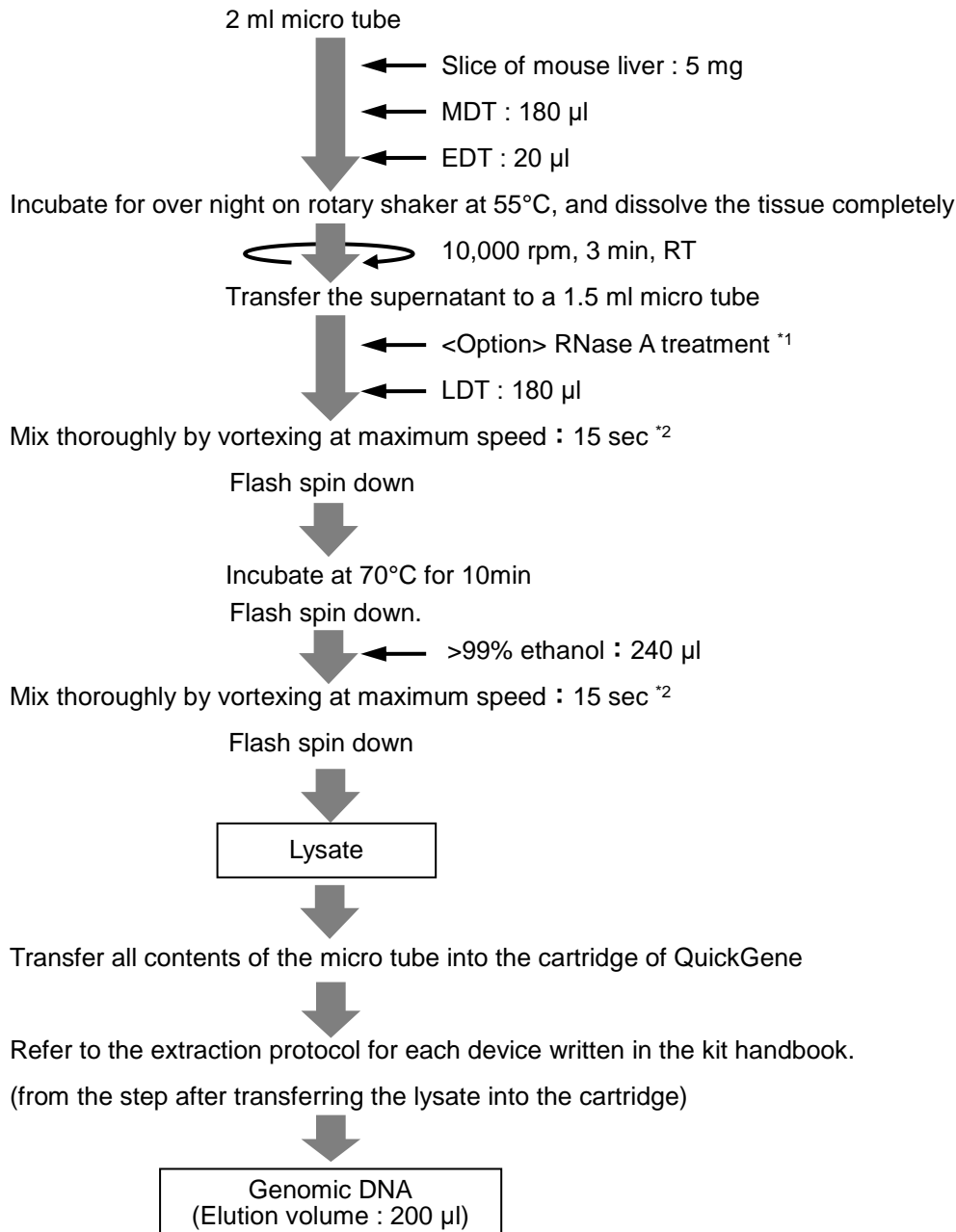
Mouse Lung, Mouse Liver

Depending on sample and storage conditions, nucleic acid may not be extractable.
Therefore, we cannot guarantee accurate data.
The extracted nucleic acid contains unintended acid (ex: when extracting DNA, RNA is also extracted).

DA-b-4

Genomic DNA Extraction from Liver of Mouse

Protocol

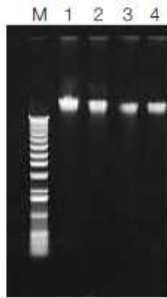


*1 Optioal steps
RNaseA : 20 µl
Tap the tube to mix the solution.
Flash spin down.
Set it down at room temperature for 2 min.

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

Results

AGE of extracted genomic DNA from Mouse Tissue

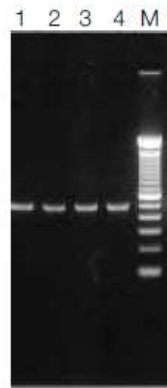


M : Size marker
1 : Lung tissue sample
2 : Kidney tissue sample
3 : Tail tissue sample
4 : Liver tissue sample

Other

• PCR

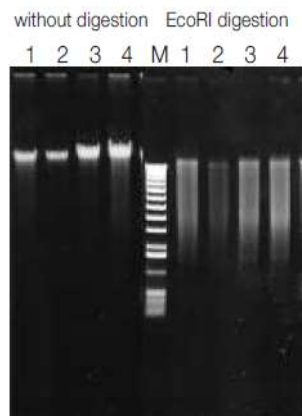
AGE of G3PDH PCR fragments amplified by genomic DNA extracted from mouse tissue using QuickGene isolation system and reagents



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

• Restriction Enzyme Digestion

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



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

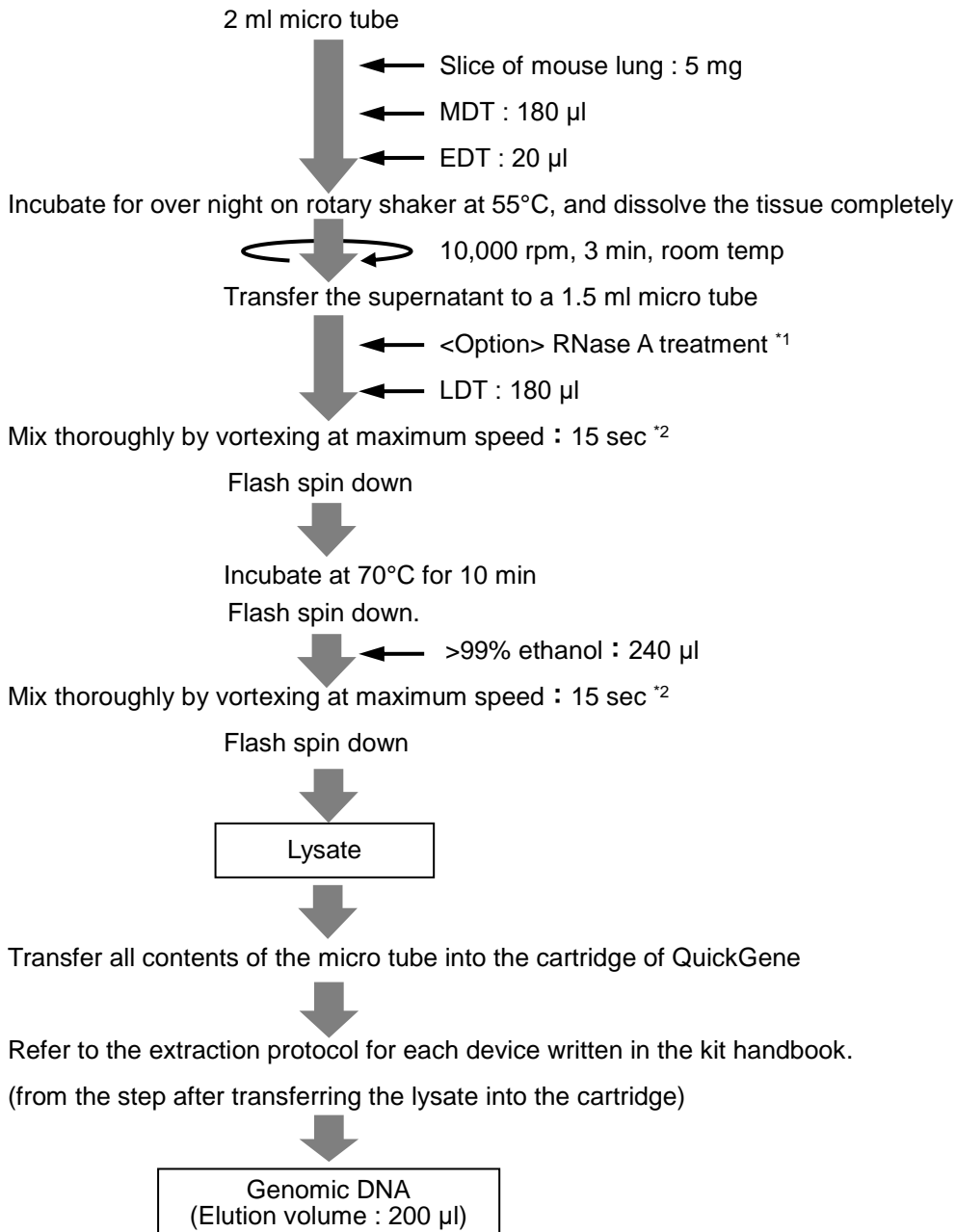
Common protocol is usable for the following

Mouse Lung, Mouse Kidney

DA-b-5

Genomic DNA Extraction from Lung of Mouse

Protocol

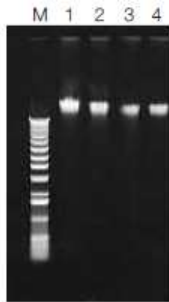


*1 Optioal steps
RNaseA : 20 µl
Tap the tube to mix the solution.
Flash spin down.
Set it down at room temperature for 2 min.

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

Results

AGE of extracted genomic DNA from Mouse Tissue

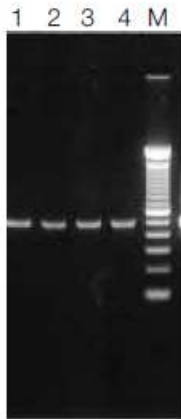


M : Size marker
1 : Lung tissue sample
2 : Kidney tissue sample
3 : Tail tissue sample
4 : Liver tissue sample

Other

• PCR

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

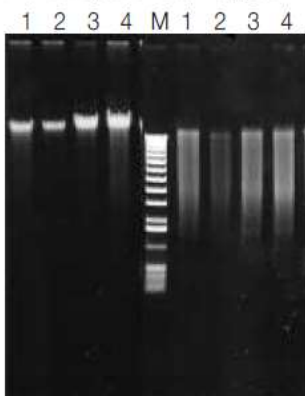


M : 100bp ladder marker
1 : Lung tissue sample
2 : Kidney tissue sample
3 : Tail tissue sample
4 : Liver tissue sample

• Restriction Enzyme Digestion

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

without digestion *EcoRI* digestion



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

Common protocol is usable for the following

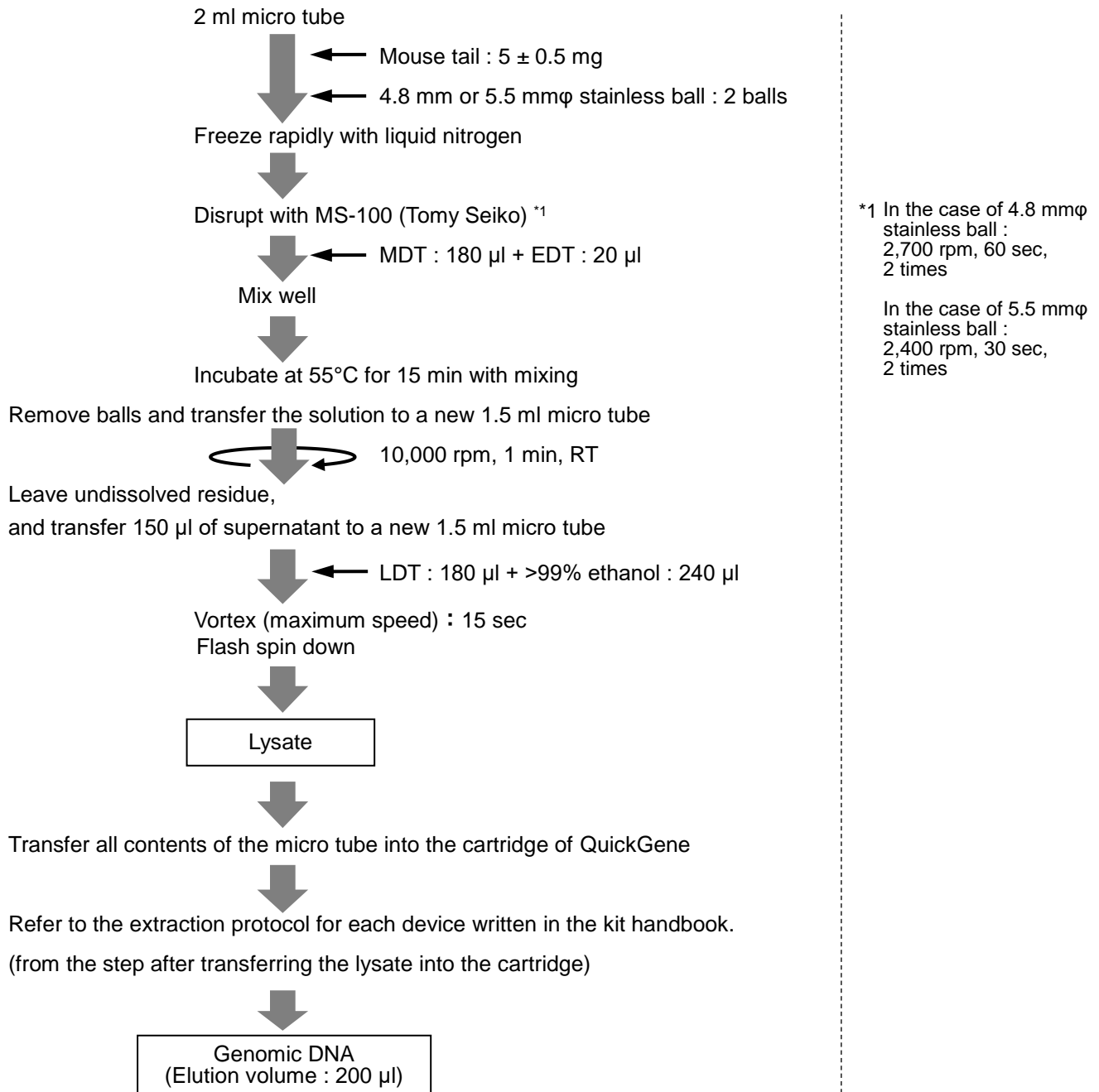
Mouse Kidney, Mouse Liver

Depending on sample and storage conditions, nucleic acid may not be extractable.
Therefore, we cannot guarantee accurate data.
The extracted nucleic acid contains unintended acid (ex: when extracting DNA, RNA is also extracted).

DA-b-6

Genomic DNA Extraction from Mouse Tail (Disruption Method)

Protocol



Results

No Data

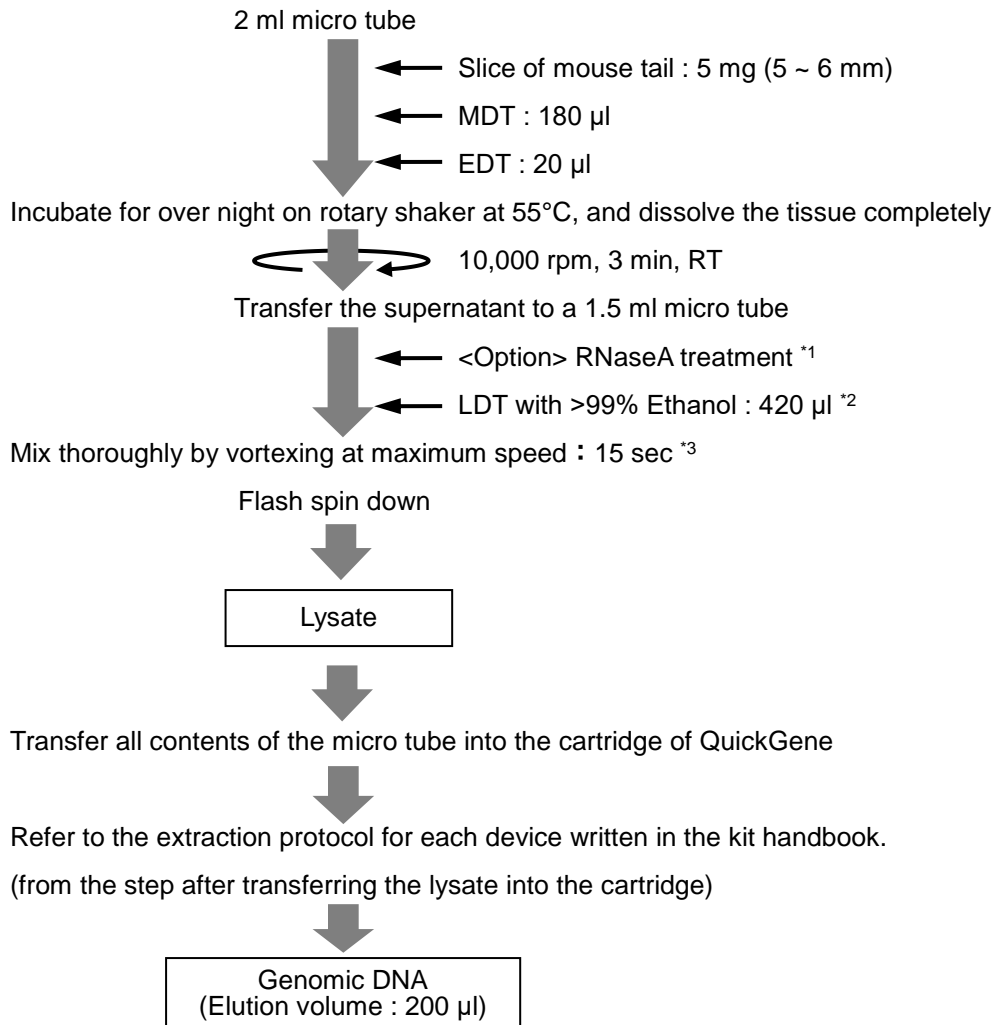
Common protocol is usable for the following

No Data

DA-b-7

Genomic DNA Extraction from slice of Mouse Tail

Protocol



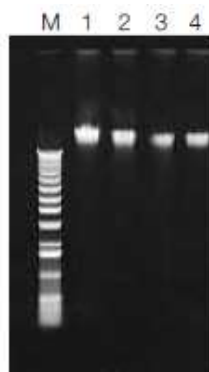
*1 Optional steps
RNaseA : 20 μ l
Tap the tube to mix the solution.
Flash spin down.
Set it down at room temperature for 2 min.

*2 Add 240 μ l of >99% Ethanol into 180 μ l of LDT and mix completely before using.

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

Results

AGE of extracted genomic DNA from Mouse Tissue



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

Depending on sample and storage conditions, nucleic acid may not be extractable.
Therefore, we cannot guarantee accurate data.
The extracted nucleic acid contains unintended acid (ex: when extracting DNA, RNA is also extracted).

The yield of genomic DNA (5 mg of mouse tail)

QuickGene isolation system and reagents	3.6 μ l
Comparison method using spin column	3.6 μ l

Protein contamination : A260/280

	#1	#2	#3	#4	#5	#6	#7	#8
QuickGene isolation system and reagents	1.95	1.94	1.95	1.94	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

Chaotropic salt contamination : A260/230

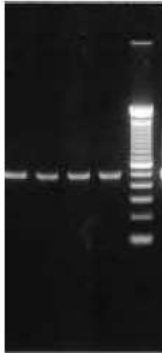
	#1	#2	#3	#4	#5	#6	#7	#8
QuickGene isolation system and reagents	2.03	2.05	2.12	1.84	1.90	1.88	1.90	1.91
Comparison method using spin column	1.57	1.71	2.03	1.77	2.21	2.31	1.94	1.96

Other

• PCR

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

1 2 3 4 M



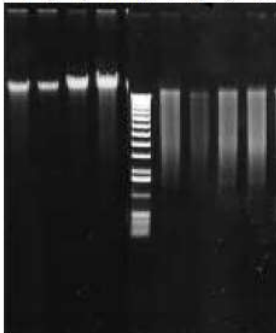
M : 100bp ladder marker
1 : Lung tissue sample
2 : Kidney tissue sample
3 : Tail tissue sample
4 : Liver tissue sample

• Restriction Enzyme Digestion

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

without digestion *EcoRI* digestion

1 2 3 4 M 1 2 3 4



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

Common protocol is usable for the following

No Data

Depending on sample and storage conditions, nucleic acid may not be extractable.
Therefore, we cannot guarantee accurate data.
The extracted nucleic acid contains unintended acid (ex: when extracting DNA, RNA is also extracted).