



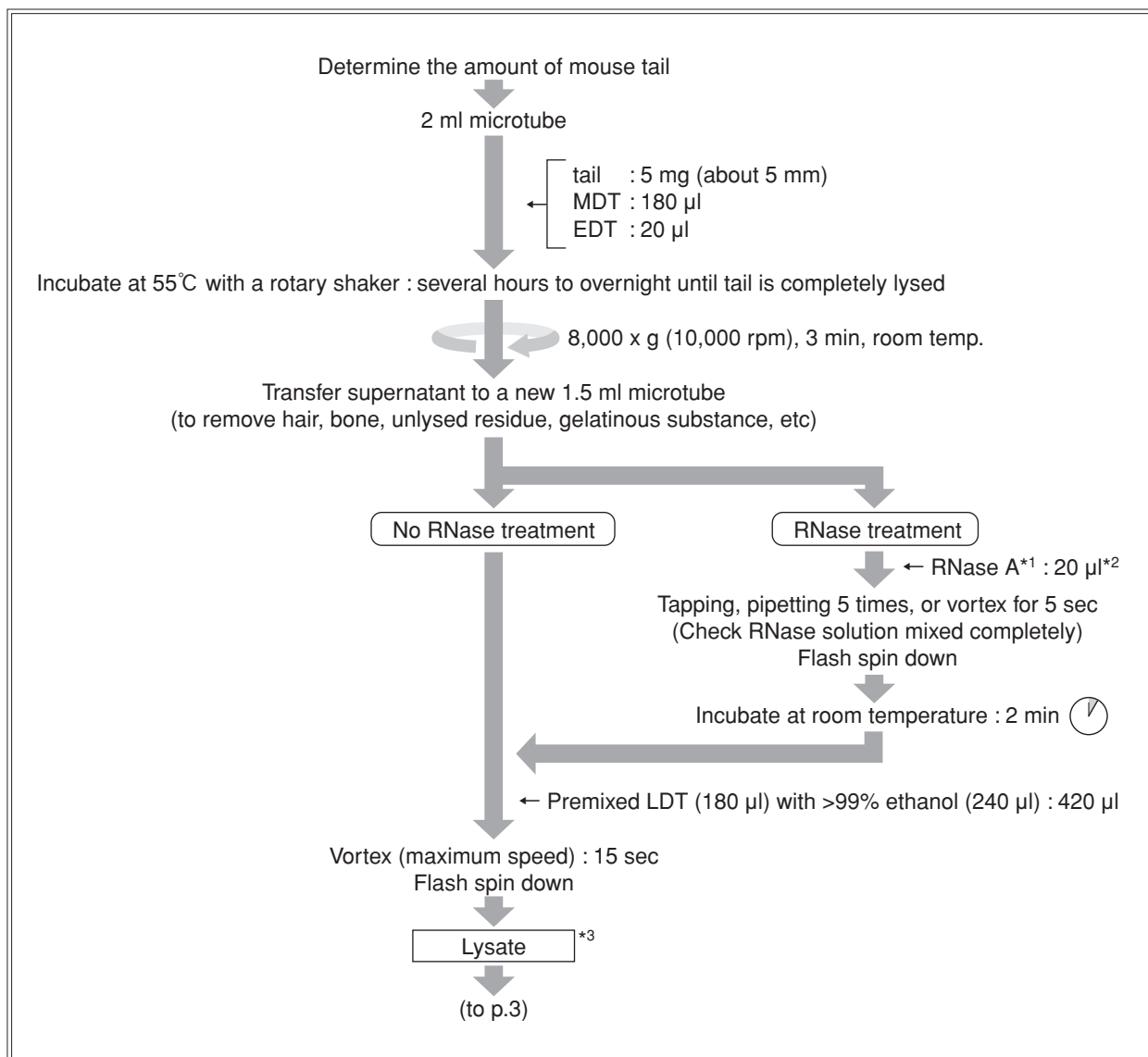
QuickGene Series Application Guide

Genomic DNA Extraction from Animal Tissue

Kit : QuickGene SP kit DNA tissue (Spin method)

Protocol

● Genomic DNA Extraction from a slice of Mouse Tail

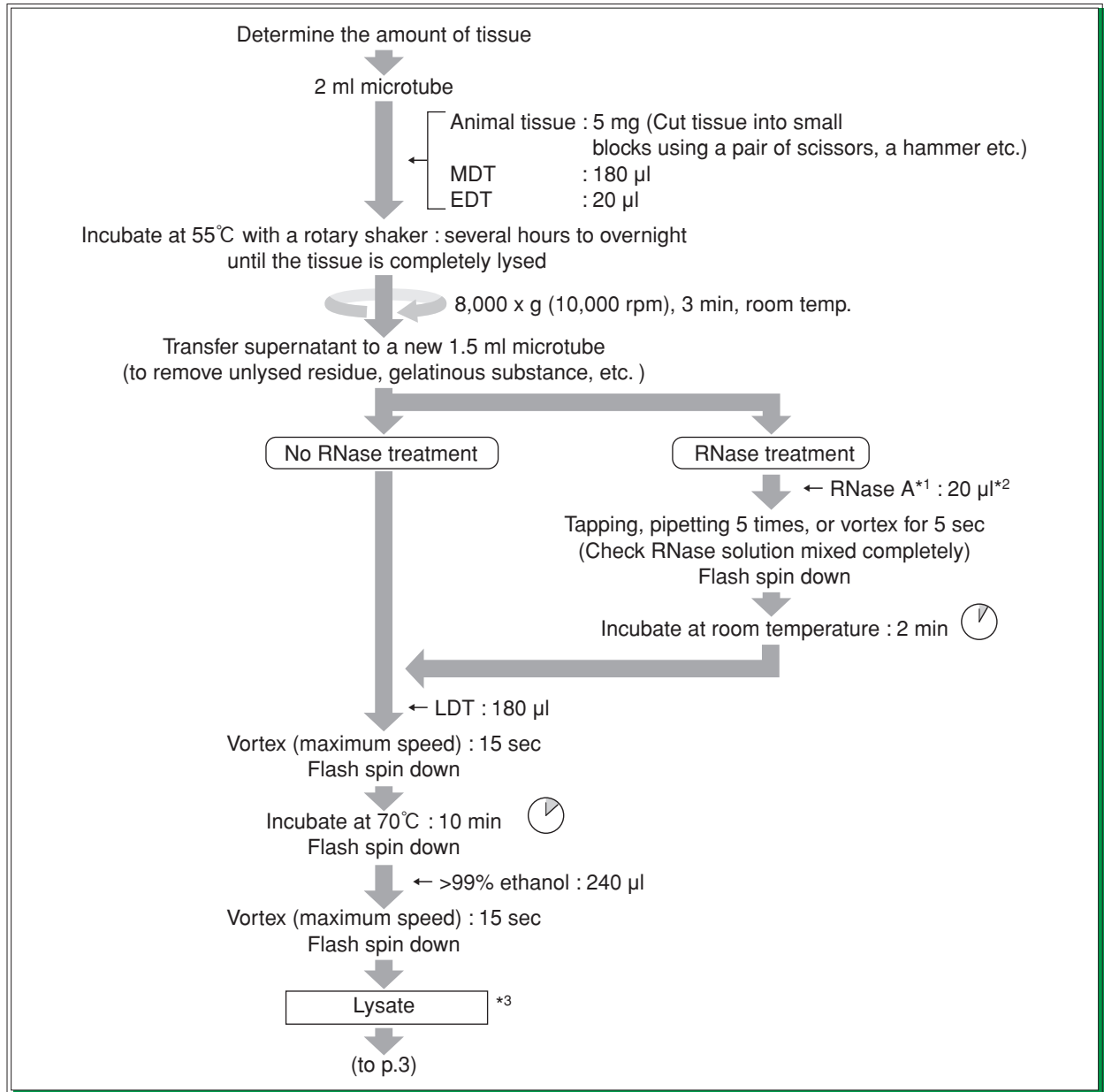


*1 : RNase A is not included in the kit. Please prepare recommended product (p.2).

*2 : If using RNase A (Invitrogen Cat. No. 12091), add 60 µl.

*3 : Perform the extraction operation quickly after completion of lysate. It is possible to leave it until 30 min after lysate if necessary.

● Genomic DNA Extraction from Animal Tissue (except for mouse tail sample)



*1 : RNase A is not included in the kit. Please prepare the following recommended product.

*2 : If using RNase A (Invitrogen Cat. No. 12091), add 60 μ l.

*3 : Perform the extraction operation quickly after completion of lysate. It is possible to leave it until 30 min after lysate if necessary.

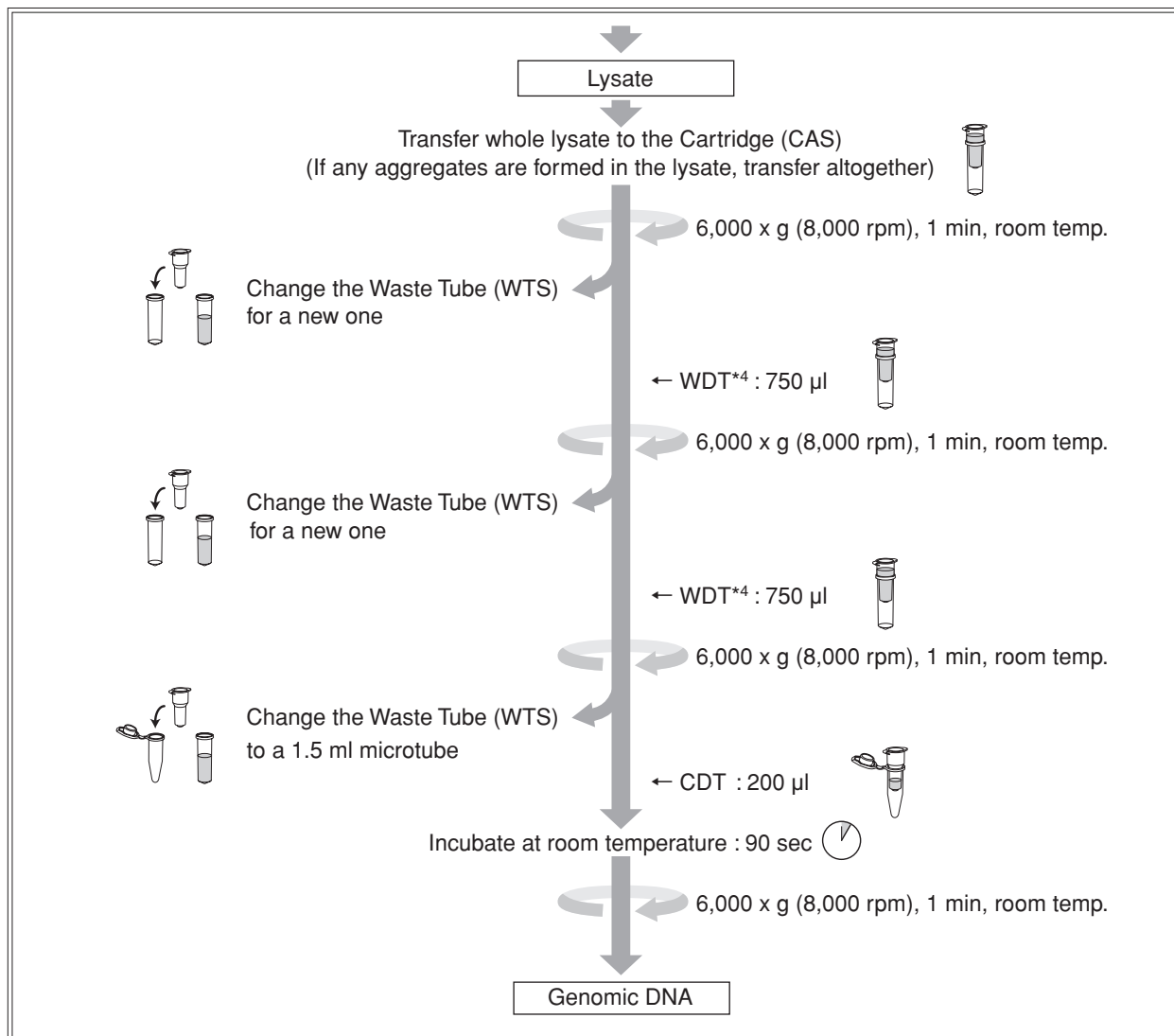
Recommended RNase

- Ribonuclease A (Sigma : Cat No. R5125*1,*2, R5500*1,*2, R6513*1, R4642)
- Ribonuclease A (MP Biomedicals Cat. No. 101076*1,*2)
- RNase A (AMRESCO Cat. No. 0675*1,*2)
- RNase A (QIAGEN Cat. No. 19101)
- RNase A (Invitrogen Cat. No. 12091)

*1 : Prepare 100 mg / ml solution with 10 mM Tris-HCl (pH 7.5) and 15 mM NaCl.

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

● Protocol 2



*4 : Add 125ml of >99% ethanol into the bottle and mix by gently inverting the bottle before use.

Results : Genomic DNA Extraction from Animal Tissue

Genomic DNA was extracted from both 5 mg of mouse tail and liver tissue with QuickGene SP kit DNA tissue and Spin column method (A Company) (with RNase treatment).

● The yield of Genomic DNA

Kit	Tail	Liver Tissue
QuickGene	3.5 µg	4.2 µg
Spin column method (A Company)	4.2 µg	2.8 µg

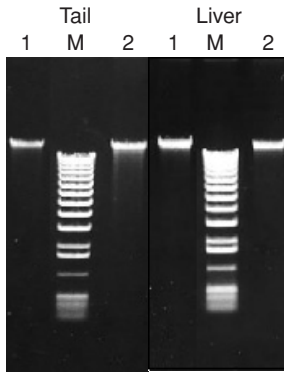
● The purity of Genomic DNA

Kit	A _{260/280}		A _{260/230}	
	Tail	Liver Tissue	Tail	Liver Tissue
QuickGene	1.93	1.92	2.16	1.44
Spin column method (A Company)	1.93	1.92	1.96	0.97

A_{260/280} : The ratio indicates the quality of nucleic acid from protein contamination (A_{260/280} >1.7).
(Protein contamination decreases the ratio.)

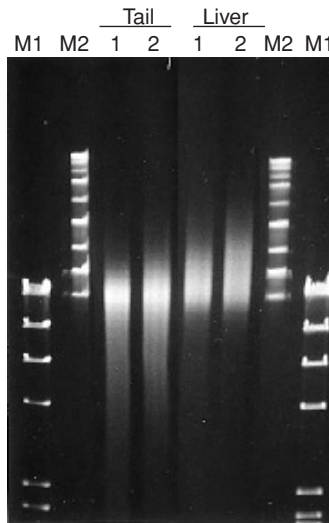
A_{260/230} : The ratio indicates the quality of nucleic acid from chaotropic salt (guanidium salt) contamination.
(Guanidium salt contamination decreases the ratio.)

● Electrophoresis of Genomic DNA



M : Marker
(1 kb DNA Ladder : Invitrogen)
1 : QuickGene
2 : Spin column method (A Company)

● The length of Genomic DNA recovered (pulse field electrophoresis)



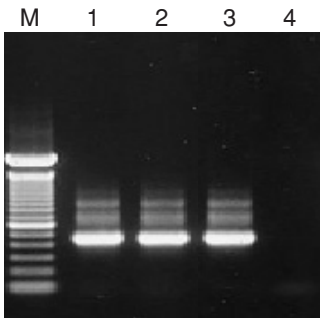
< Electrophoresis Conditions >
1% Agarose gel / 0.5 x TBE

M1 : Marker
(λ -Hind III digest)
M2 : Marker
(Midrange PFG Marker II : NEB)
1 : Spin column method
(A Company)
2 : QuickGene

From the result, it was shown that Genomic DNA extracted with QuickGene SP kit DNA tissue has a longer length less than 120 kb (mouse liver sample) and 75 kb (mouse tail sample).

● PCR

PCR was performed using 5 ng Genomic DNA extracted from mouse tail with QuickGene SP kit DNA tissue and Spin column method (A Company).



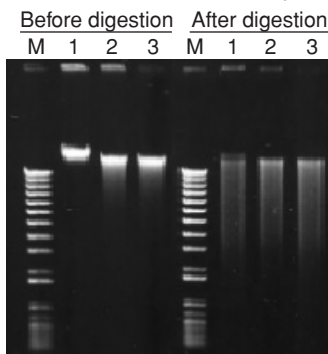
< PCR Condition >
Primer : G3PDH
Cycle : 30 Cycles

M : Marker (100 bp DNA Ladder : Invitrogen)
1 : QuickGene
2 : Spin column method (A Company)
3 : Positive control
4 : Negative control

PCR amplification performed using 5 ng genomic DNA was possible by detection of electrophoretic bands.

● Restriction Enzyme Digestion

Digestion with restriction enzyme (EcoR I) was performed using genomic DNA extracted from mouse tail with QuickGene SP kit DNA tissue and Spin column method (A Company).



< Electrophoresis Condition >
0.5% Agarose gel / 1 x TAE

M : Marker (1 kb PLUS DNA Ladder : Invitrogen)
1 : Positive control
2 : QuickGene
3 : Spin column method (A Company)

From this result, it was shown that each genomic DNA was digested with EcoR I successfully by detection of electrophoretic bands indicate decomposition.

* Trademark and exclusion item

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