NIPPON Genetics Co.,Ltd.

# Product name: Mixy Grinder Professional (NG010)

# Application: Improving RNA extraction from arterial tissue

The following data was kindly provided by Daniel Schick, University Medical Centre in Aachen, Germany.

## Introduction

Isolation of RNA from arterial tissue is difficult. Disrupting the tissue before starting the isolation of the nucleic acid can therefore enhance the RNA yield. Here, we present the isolation of RNA performed with and without the use of the homogenizer FastGene® Mixy Professional. The RNA was used to analyse the expression of metalloproteins in cardiovascular diseases.

## Experimental Condition

**Type and amount of Tissue:** Aorta (30 µg) and carotis (5 µg) isolated from mice (1 - 12 months old, stored at -80 °C)

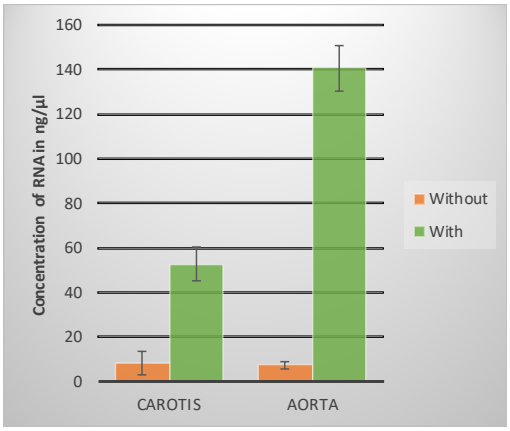
**Condition of Tissue:** Intact tissue morphology

**Methods:**

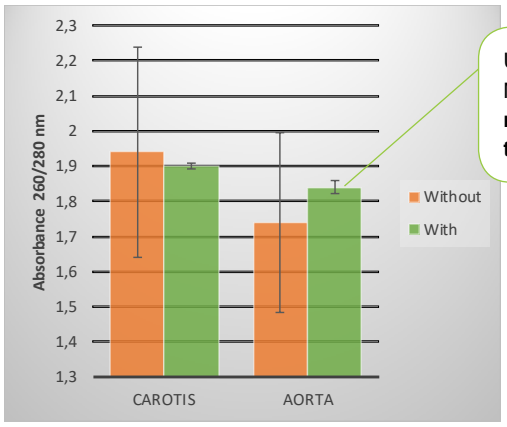
1. Homogenizing the tissue in lysis buffer using the FastGene® Mixy Grinder Professional
2. Incubation with Proteinase K
3. Column based mRNA isolation
4. Spectrometric determination of concentration and quality
5. RNA quality determination using agarose gel electrophoresis
6. Reverse transcription
7. Quantification (relative) of gene expression using qPCR assays

## Results

### Concentration of RNA




### Quality of RNA




Using the FastGene® Mixy Grinder Professional **reduces the variability of the RNA quality** immensly.

The RNA yield was extensively increased by 6 - 20 fold when using the FastGene® Mixy Grinder Professional. Additionally, the quality of the RNA measured spectrometrically showed considerably less variation when using the FastGene® Mixy Grinder Professional (absorbance at 260/280 nm is 1,94±0,30 without vs 1,90±0,01 with the FastGene® Mixy Grinder Professional).

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