NIPPON Genetics EUROPE

Technical Data

Tightness of FastGene® adhesive seal (FG-93AC) in a PCR thermocycler

Product
FastGene® Ultracycler (96-well) (FG-TC0#)
FastGene® Adhesive PCR Foil (FG-93AC)
FastGene® 96-Well Plates (Fast PCR Plate 0.1 ml (FG-03890), non-skirted (FG-170225), semi-skirted (FG-190250), full-skirted (FG-180250), PCR ABI® style Plate, semi-skirted (FG-200250))

Purpose
Testing the evaporation rate of sealed (FG-93AC) 96-well Plates in the FastGene® Ultracycler (FG-TC0#)

Method
Stained water was pipetted in 96 well plates. These were sealed by FastGene® Adhesive PCR Foil (FG-93AC). Plates were weighted before and after a standard PCR run.

Material & Method

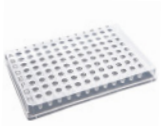
FastGene®
Ultracycler (96 well)
(Cat No. FG-TC01 Gradient version
Cat No. FG-TC02 N version)

FastGene®
Adhesive PCR Foil
(FG-93AC)

Silica Membrane
1.6 mm thick

Plates:

FastGene® Fast PCR Plate
Semi-skirted (FG-03890)



FastGene® 96-well Plate
Full-skirted (FG-180250)

FastGene® 96-well Plate ABI® style
Semi-skirted (FG-200250)

FastGene® 96-well Plate
Non-skirted (FG-170225)

Experimental procedure

● Steps

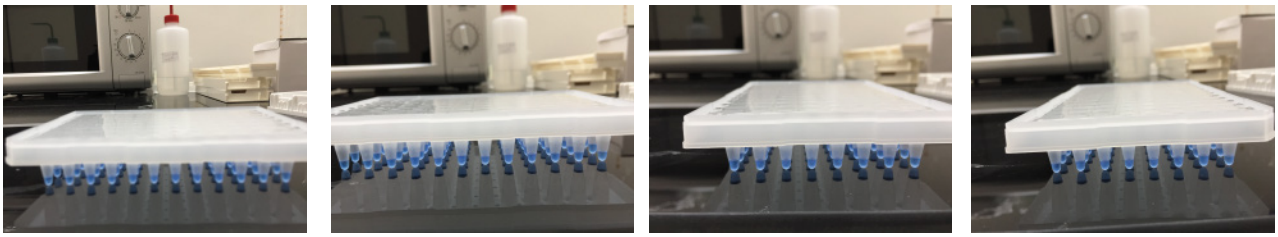
1) 20 µL of blue staining solution was mixed with 1980 µL of water
2) 20 µL of this solution was pipetted in each well of the PCR plates
3) Plates were sealed manually with adhesive seal (FG-93AC)
4) Seal was fixed by using a roller*
5) Weight of all plates were controlled before and after the PCR-Run

*For sealing of the FG-170225, the plate was placed into the cycler, which gives more stability to the plate.

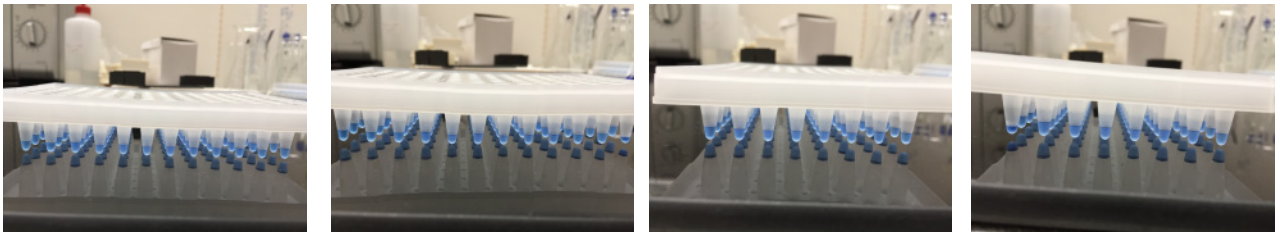
● Cycle program

Heat lid	110°C		
Enzyme Activation	95°C	5 min	
↓			
Denaturation	95°C	15 sec	35 cycles
↓			
Annealing	62°C	30 sec	
↓			
Elongation	72°C	30 sec	
↓			
Final Extension	72°C	5 min	
↓			
Storage	8°C	infinite	

Result



Pictures of the FastGene® 96-well Plate ABI® style semi-skirted (FG-200250) before the PCR run. Pictures were made of all 4 sides of the plate



Pictures of the FastGene® 96-well Plate ABI® style semi-skirted (FG-200250) after the PCR run. Pictures were made of all 4 sides of the plate

Calculated result

Product	before PCR	after PCR	loss of weight	**Difference***
FG-03890	18.625 g	18.334 g	0.291 g	1.56%
FG-180250	20.262 g	20.127 g	0.135 g	0.66%
FG-200250	22.883 g	22.753 g	0.130 g	0.57%
FG-170225	15.624 g	15.464 g	0.160 g	1.02%

*Difference= ((value after PCR) * 100) / (value before PCR)

Summary

All tested plates can be used in the FastGene® Ultracycler FG-TC0#. The loss of weight during the PCR is under 2%.

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