



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)

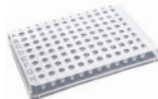


Silica Membrane
1.6 mm thick

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

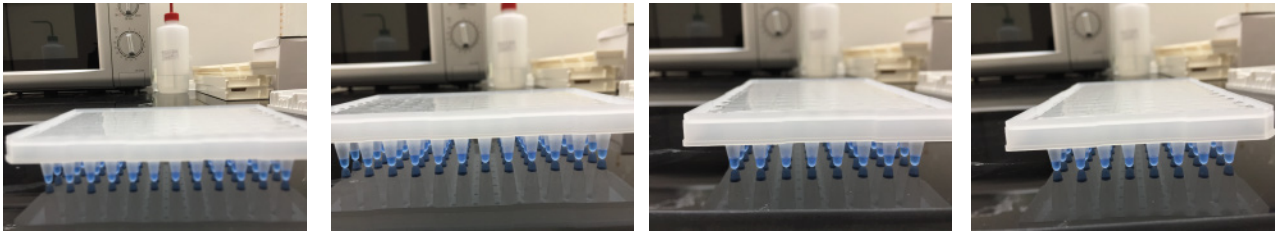
*For sealing of the FG-170225, the plate was placed into the cyclor, which gives more stability to the plate.

● Cycle program

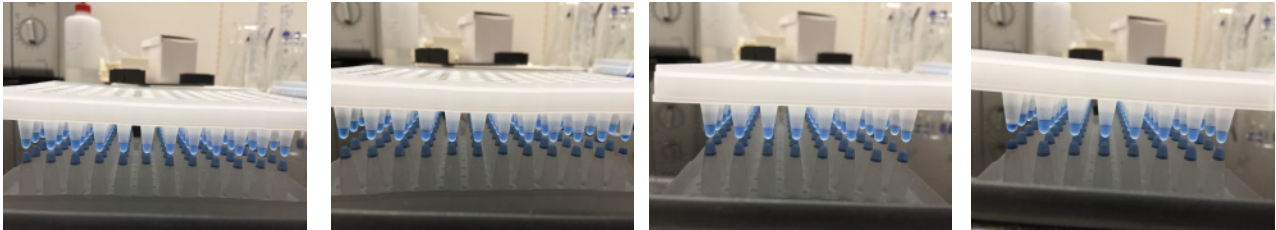
Heat lid	110°C	
Enzyme Activation	95°C	5 min
↓		
Denaturation	95°C	15 sec
↓		
Annealing	62°C	30 sec
↓		
Elongation	72°C	30 sec
↓		
Final Extension	72°C	5 min
↓		
Storage	8°C	infinite

} 35 cycles

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%

$$*\text{Difference} = ((\text{value after PCR}) * 100) / (\text{value before PCR})$$

Summary

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