

# Test Report

Client RAYCOP JAPAN INC.

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Specimen RSC

A company seal

Title Sterilization effect test

Here is a report on test results of the above specimen that was submitted to our center on March 9, 2020.

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## Sterilization effect test

### 1. Client

RAYCOP JAPAN INC.

### 2. Specimen

RSC

A bed pad [outer fabric: polyester 80%, cotton 20%; inner cotton: polyester 100%] and a sheet [an attached white cotton for test (unbleached muslin No. 3), JIS Test Fabric-Cotton] were provided by the client.

### 3. Test summary

Samples were prepared by dropping bacterial suspension for a test on the location of the sheet that the client specified with or without incubation for 5 or 10 minutes at room temperature. The number of living bacteria in the sample was measured after applying the specimen to the sample under the condition specified by the client.

### 4. Test results

Results are indicated in Table 1.

Plates for measuring the number of living bacteria after culture are shown in pictures 1 to 18.

Table 1 Results of the measurement of the number of living bacteria in samples

Test Bacteria	Sample	Classification	Application duration	The number of living bacteria (/cells)	
<i>E. coli</i>	No incubation	Before application		$7.9 \times 10^5$	
			about 2 seconds	$1.6 \times 10^2$	
		After specimen application*	about 5 seconds	$1.3 \times 10^3$	
	5 minutes incubation	Before application		$2.6 \times 10^5$	
			about 2 seconds	$9.3 \times 10^2$	
		After specimen application *	about 5 seconds	<10	
	10 minutes incubation	Before application		$1.8 \times 10^5$	
			about 2 seconds	<10	
		After specimen application*	about 5 seconds	<10	
	<i>S. aureus</i>	No incubation	Before application		$2.4 \times 10^5$
				about 2 seconds	$3.2 \times 10^4$
			After specimen application*	about 5 seconds	$6.1 \times 10^3$
5 minutes incubation		Before application		$1.7 \times 10^5$	
			about 2 seconds	$4.1 \times 10^2$	
		After specimen application*	about 5 seconds	$4.6 \times 10^2$	
10 minutes incubation		Before application		$1.4 \times 10^5$	
			about 2 seconds	$8.1 \times 10^5$	
		After specimen application*	about 5 seconds	<10	

Sample: Samples were prepared by covering a bed pad with a sheet and dropping 80  $\mu\text{l}$  (10  $\mu\text{l}$  x 8 drops) of bacterial suspension for a test on the location of the sheet that the client specified with or without incubation for 5 or 10 minutes at room temperature.

Operating condition: Max mode

<10: No detection

\*The application was performed with a speed of 8 cm per second.

Table 2 Test Condition

## Tested bacteria

*Escherichia coli* NBRC3972 (*E. coli*)

*Staphylococcus aureus* subsp. *aureus* NBRC12732 (*S. aureus*)

## Medium for measuring the number of bacteria and culture condition

Standard agar medium [Eiken chemical Co., Ltd.], 35°C ±1°C, for 18 to 24 hours

Culturing fluid: purified water

Number of bacteria: about 10<sup>6</sup>/mL

## Specimen preparation

Samples were prepared by covering a bed pad [outer fabric: polyester 80%, cotton 20%; inner cotton: polyester 100%] with a sheet [an attached white cotton for a test (unbleached muslin No. 3), JIS Test Fabric-Cotton] which was high-pressure steam sterilized (121°C for 15 minutes), and by dropping 80 µl (10 µl x 8 drops) of bacterial suspension for a test on the location of the sheet that the client specified with or without incubation for 5 or 10 minutes at room temperature.

## 4) Testing operation

After applying the specimen to the sample under the condition specified by the client, a region of about 15 cm x 15 cm of the sample, that included a spot where the bacterial suspension for the test was dropped, was cut out and washed out with 10 mL of SCDLP medium [Nihon Pharmaceutical Co., Ltd.]. The number of living bacteria in this washout fluid was measured by the pour plate culture method using a medium for measuring the number of bacteria and it was converted to a number per sample

Samples where a specimen was not applied were also tested in the same manner, and they were called “before application.”

Testing Condition	Max mode
Washed out fluid	SCDLP medium [Nihon Pharmaceutical Co., Ltd.], 10 mL
Bacteria counting	Standard agar medium [Eiken chemical Co., Ltd.], 35 °C ±1 °C, for 2 days



Picture 1 *E. coli* No incubation

Before application: only aspiration  
(Washout fluid 1 mL)



Picture 2 *E. coli* No incubation

After specimen application: 2 round trips  
(Washout fluid 1 mL)



Picture 3 *E. coli* No incubation  
After specimen application:5 round trips  
(Washout fluid 1 mL)



Picture 4. *E. coli* 5 minutes incubation  
Before application  
(Washout fluid 1 mL)



Picture 5. *E. coli* 5 minutes incubation  
After specimen application: 2 round trips  
(Washout fluid 1 mL)



Picture 6. *E. coli* 5 minutes incubation  
After specimen application: 5 round trips  
(Washout fluid 1 mL)



Picture 7. *E. coli* 10 minutes incubation  
Before application  
(Washout fluid 1 mL)



Picture 8. *E. coli* No incubation  
After specimen application:2 round trips  
(Washout fluid 1 mL)





Picture 9. *E. coli* No incubation  
After specimen application: 5 round trips  
(Washout fluid 1 mL)



Picture 10 *S. aureus* No incubation  
Before application  
(Washout fluid 1 mL)



Picture 11 *S. aureus* No incubation  
2 round trips (Washout fluid 1 mL)



Picture 12. *S. aureus* No incubation  
5 round trips (Washout fluid 1 mL)



Picture 13. *S. aureus* 5 minutes incubation  
Before application  
(Washout fluid 1 mL)



Picture 14 *S. aureus* 5 minutes incubation  
After specimen application: 2 round trips  
(Washout fluid 1 mL)



Picture 15. *S. aureus* 5 minutes incubation  
After application: 5 round trips  
(Washout fluid 1 mL)



Picture 16. *S. aureus* 10 minutes incubation  
Before application  
(Washout fluid 1 mL)



Picture 17. *S. aureus* 10 minutes incubation  
After specimen application: 2 round trips  
(Washout fluid 1 mL)



Picture 18. *S. aureus* 10 minutes incubation  
After specimen application: 5 round trips  
(Washout fluid 1 mL)