

Test Report

Client RAYCOP JAPAN INC.

General Incorporated Foundation,
Japan Food Research Laboratories
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Tokyo, JAPAN

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.

When you publish this report somewhere, please follow our center's rules.

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		7.9×10^5	
			about 2 seconds	1.6×10^2	
		After specimen application*	about 5 seconds	1.3×10^3	
	5 minutes incubation	Before application		2.6×10^5	
			about 2 seconds	9.3×10^2	
		After specimen application *	about 5 seconds	<10	
	10 minutes incubation	Before application		1.8×10^5	
			about 2 seconds	<10	
		After specimen application*	about 5 seconds	<10	
	<i>S. aureus</i>	No incubation	Before application		2.4×10^5
				about 2 seconds	3.2×10^4
			After specimen application*	about 5 seconds	6.1×10^3
5 minutes incubation		Before application		1.7×10^5	
			about 2 seconds	4.1×10^2	
		After specimen application*	about 5 seconds	4.6×10^2	
10 minutes incubation		Before application		1.4×10^5	
			about 2 seconds	8.1×10^5	
		After specimen application*	about 5 seconds	<10	

Sample: Samples were prepared by covering a bed pad with a sheet and 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.

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 10⁶/mL

Specimen preparation

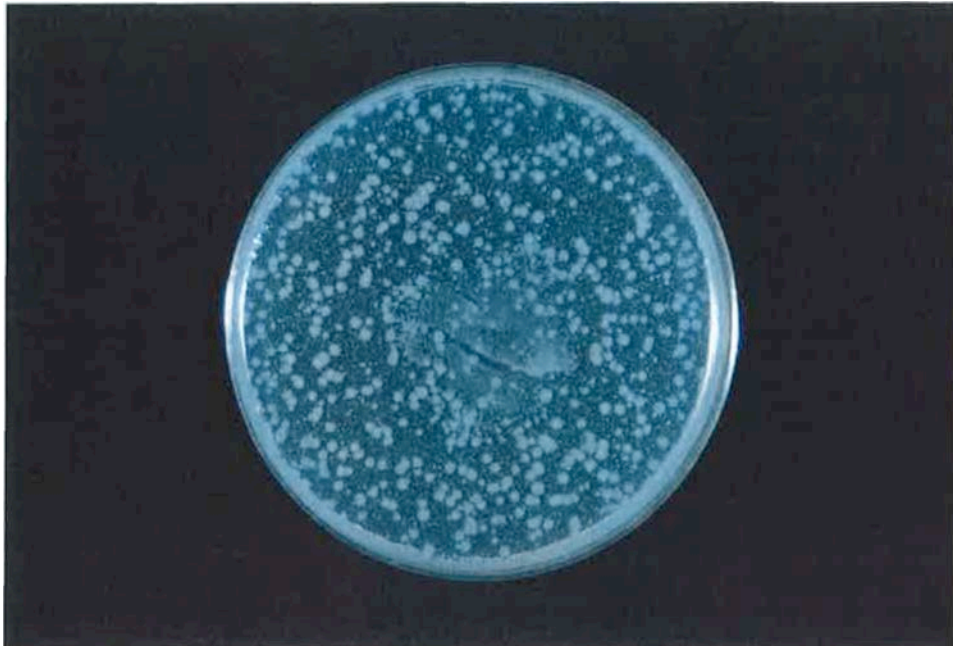
Samples were prepared by covering a bed pad [outer fabric: polyester 80%, cotton 20%; inner cotton: polyester 100%] with a sheet [an attached white cotton for a test (unbleached muslin No. 3), JIS Test Fabric-Cotton] which was high-pressure steam sterilized (121°C for 15 minutes), and by dropping 80 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

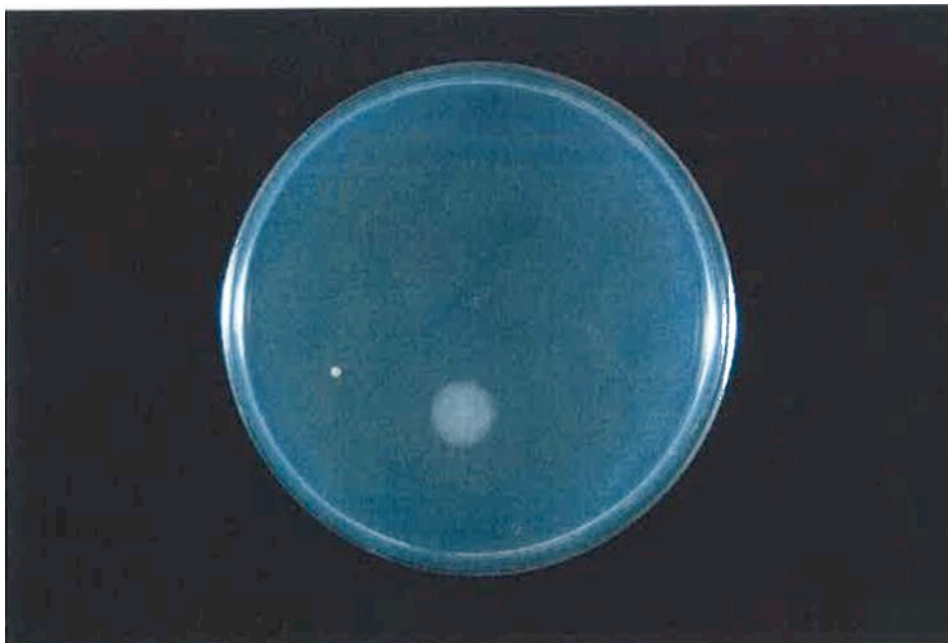
Samples where a specimen was not applied were also tested in the same manner, and they were called “before application.”

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)



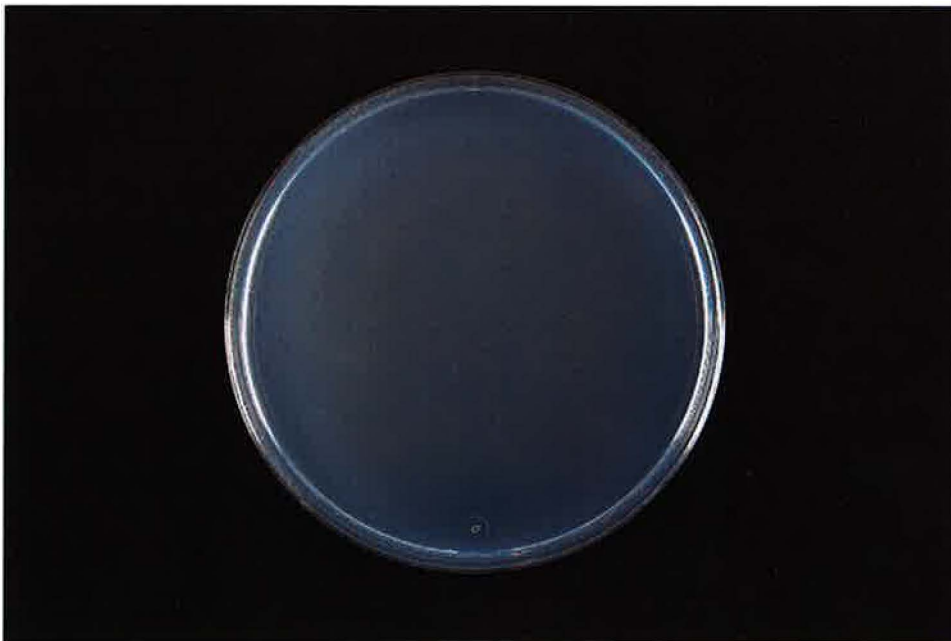
Picture 3 *E. coli* No incubation
After specimen application:5 round trips
(Washout fluid 1 mL)



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)



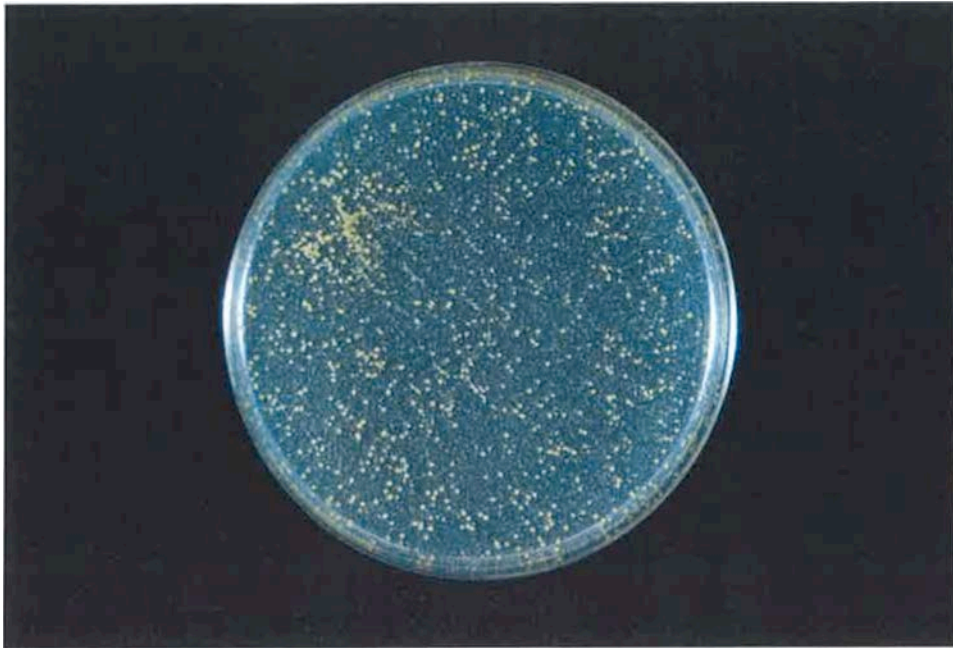
Picture 10 *S. aureus* No incubation
Before application
(Washout fluid 1 mL)



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)