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Authorized by the Japanese Government

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REPORT

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Test for Bactericidal Efficiency

1. Sample
   Air Towel "KTM" Series

2. Purpose
   This test aims to evaluate the bactericidal efficiency of the sample.

3. Outline of methods
   Cell suspensions of vancomycin-resistant *Enterococcus faecalis* (hereafter called "VRE"), *Escherichia coli* (O157:H7), *Pseudomonas aeruginosa*, *Salmonella enterica*, methicillin-resistant *Staphylococcus aureus* (hereafter called "MRSA") were separately spread on agar plates, which were called the test plates. The test plates were placed at a distance of 4 cm under the ultraviolet light equipped with the sample. After the required operating time, the test plates were taken out from the sample and incubated. After incubation, colonies developed on the test plates were counted. The test was performed twice.

4. Results
   Table 1 shows the results, and Figs. 1 to 5 are pictures of the test plates after incubation.

Table 1. Viable counts of the test plates which were placed under the ultraviolet light equipped with the sample

Test strain	Operating time	Viable counts per test plate	
		Test 1	Test 2
VRE	No operation	95	82
	5 seconds	0	0
	10 seconds	0	0
	20 seconds	0	0
Escherichia coli (O157:H7)	No operation	78	106
	5 seconds	0	0
	10 seconds	0	0
	20 seconds	0	0
Pseudomonas aeruginosa	No operation	165	155
	5 seconds	0	0
	10 seconds	0	0
	20 seconds	0	0
Salmonella enterica	No operation	152	131
	5 seconds	0	0
	10 seconds	0	0
	20 seconds	0	0
MRSA	No operation	133	132
	5 seconds	0	0
	10 seconds	0	0
	20 seconds	0	0

5. Methods in detail

1) Test strain

Enterococcus faecalis ATCC 51299 (VRE)
Escherichia coli ATCC 43895 (O157: H7)
Pseudomonas aeruginosa NBRC 13275
Salmonella enterica subsp. *enterica* NBRC 3313
Staphylococcus aureus IID 1677 (MRSA)

2) Test media

NA: Nutrient agar (Oxiod)
SA: Plate count agar [Eiken Chemical Co., Ltd.]

3) Preparation of the cell suspension

The test strains were grown on NA at 35 ℃ for 16 to 24 hours and transferred to NA and further grown for 16 to 20 hours. After incubation, cells were suspended in physiological saline to make a concentration of about 10^2 to 10^3 cells per mL.

4) Preparation of the test plates

On SA plate in a petri dish (about 90 mm in diameter), 0.1 mL of the cell suspension was spread.

5) Test procedure

The test plates were placed at a distance of 4 cm under the ultraviolet light equipped with the sample. The sample was operated for 5, 10 and 20 seconds, and then the test plates were taken out each operating time.

The test was preformed twice.

6) Viable cell counts

The test plates were incubated at 35 ℃ for 2 days. After incubation, colonies developed on the test plates were counted.

No operation of the ultraviolet light equipped with the sample was served as control.

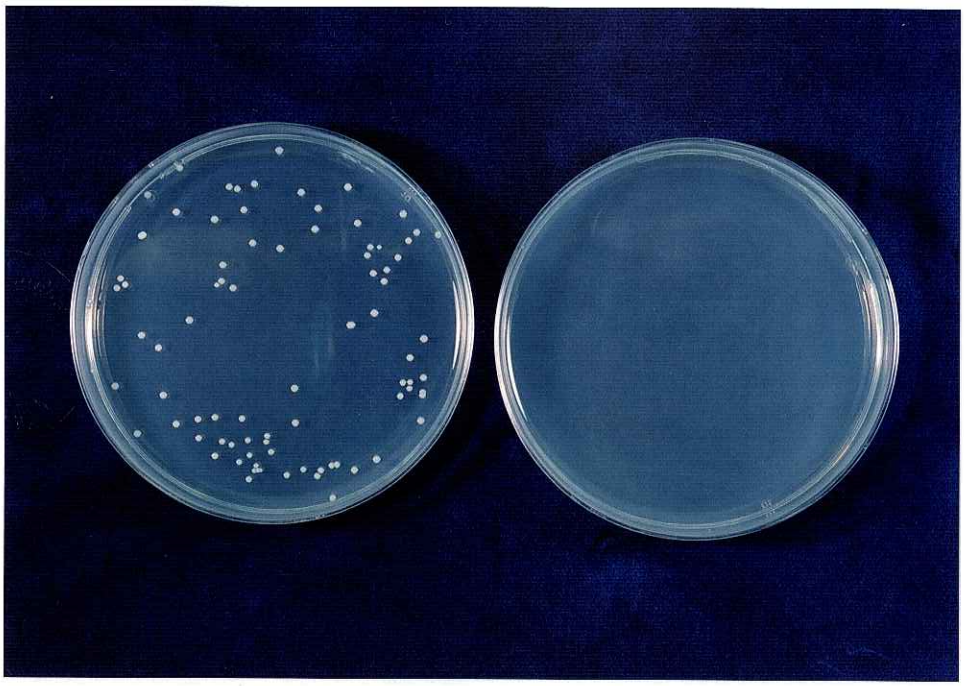

Fig. 1: The test plates after incubation [VRE]
(left; no operation, right; 5 seconds operation)

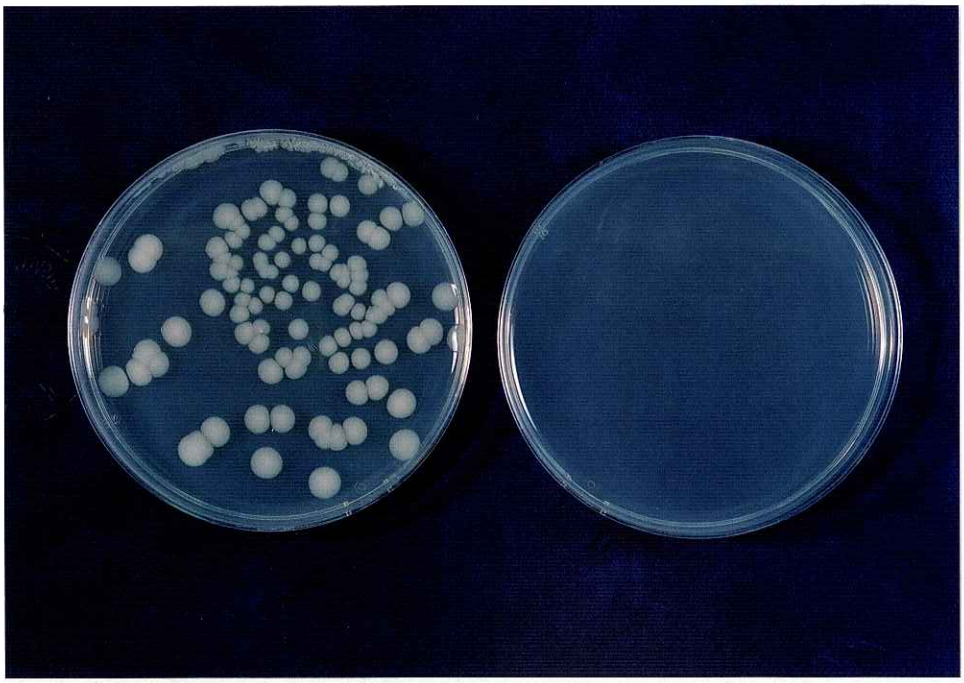

Fig. 2: The test plates after incubation [*Escherichia coli* (O157:H7)]
(left; no operation, right; 5 seconds operation)

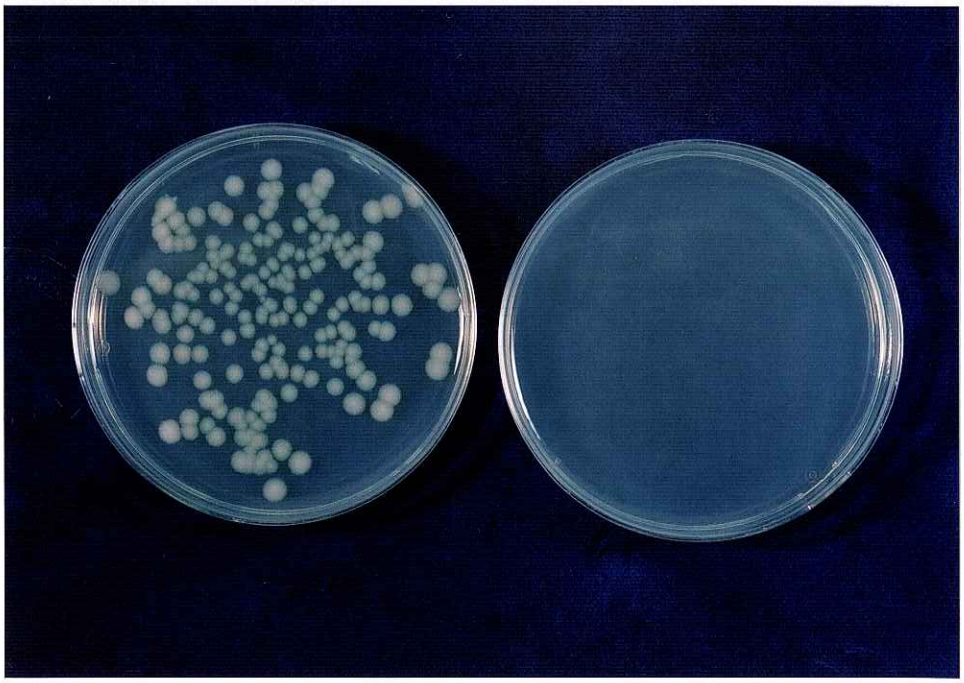

Fig. 3: The test plates after incubation [*Pseudomonas aeruginosa*]
(left; no operation, right; 5 seconds operation)

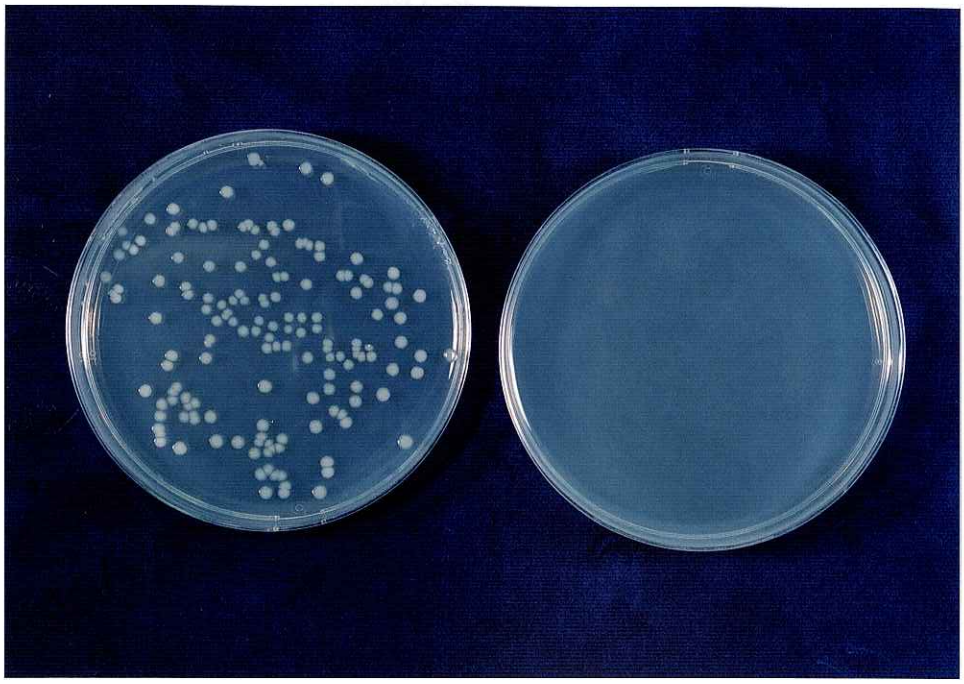

Fig. 4: The test plates after incubation [*Salmonella enterica*]
(left; no operation, right; 5 seconds operation)

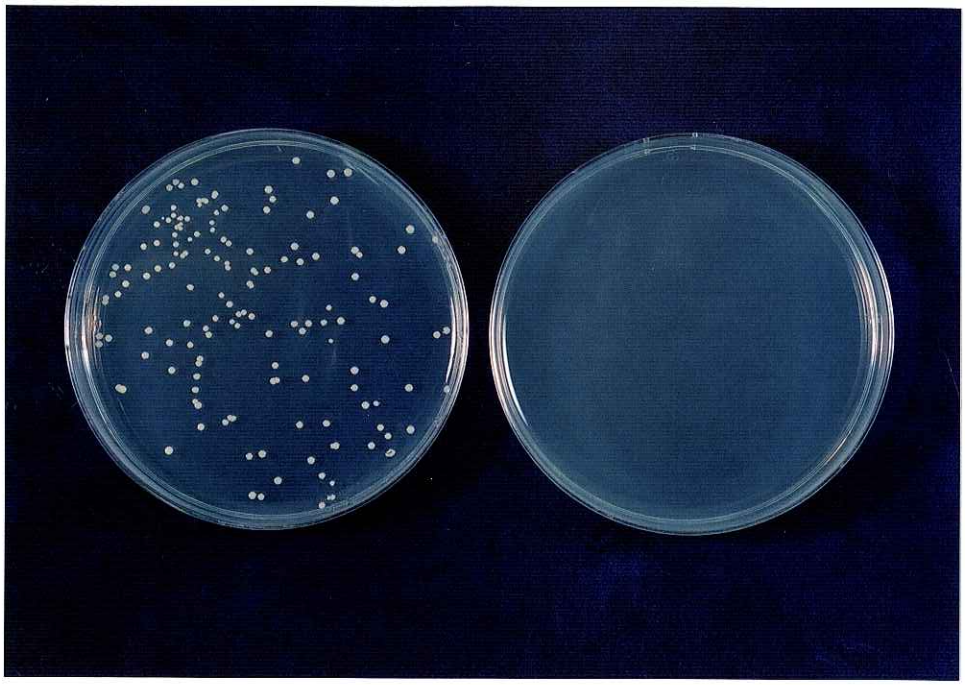

Fig. 5: The test plates after incubation [MRSA]
(left; no operation, right; 5 seconds operation)

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