

TEST REPORT

Requested by : NON Co., Ltd.

Test samples : Described in test report

Test item : Anti-bacterial test

Study director : Shinichi Ri

Date of issue : July 26th, 2018



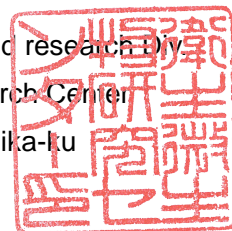
Shinichi Ri

General manager of inspect and research div

Hygiene & Microbiology Research Center

21-14, 7-chome, Aoto, Katsushika-ku

Tokyo Japan



Anti-bacterial test

1. Purpose

The test was conducted to estimate the anti-bacterial activity of the sample.

2. Test samples

DR.CLO PP10731SR (Antimicrobial 1.0%)

3. Test bacteria

<i>Staphylococcus aureus</i>	NBRC 13276
<i>Escherichia coli</i>	NBRC 3972
<i>Salmonella enterica</i>	NBRC 100797
<i>Klebsiella pneumoniae</i>	NBRC 13276

4. Test Method

The submitted samples were tested in accordance with Fig.1.

5. Test Results

The results of the anti-bacterial test of the samples were shown in table 1~4 and the results of concentrations of chlorine dioxide were shown in table 5.

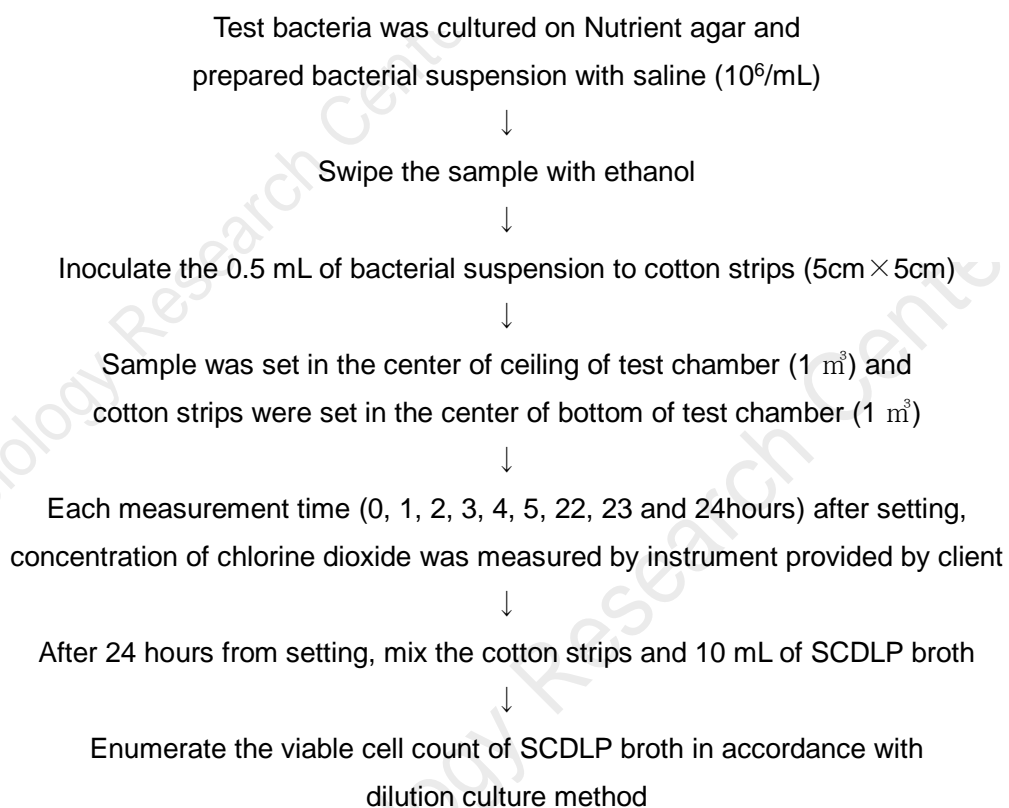


Fig.1. Test procedure

Table 1. Results of anti-bacterial test against *Staphylococcus aureus*

Test samples	Viable cell (CFU/ strips)	
	Initial	After incubation
DR.CLO	1.7×10^6	7.0×10^2 (99.96%)
Control	1.7×10^6	6.2×10^3

The viable cell count described in table is average of n3.

The percentage in parentheses is the rate of decrease comparing test samples from controls.

Table 2. Results of anti-bacterial test against *Escherichia coli*

Test samples	Viable cell (CFU/ strips)	
	Initial	After incubation
DR.CLO	2.7×10^6	— (>99.99%)
Control	2.7×10^6	6.7×10^3

The viable cell count described in table is average of n3.

The percentage in parentheses is the rate of decrease comparing test samples from controls.

—: Not detected by incubating (<100 CFU/ strips)

Table 3. Results of anti-bacterial test against *Salmonella enterica*

Test samples	Viable cell (CFU/ strips)	
	Initial	After incubation
DR.CLO	2.7×10^6	— (>99.99%)
Control	2.7×10^6	2.3×10^4

The viable cell count described in table is average of n3.

The percentage in parentheses is the rate of decrease comparing test samples from controls.

—: Not detected by incubating (<100 CFU/ strips)

Table 4. Results of anti-bacterial test against *Klebsiella pneumoniae*

Test samples	Viable cell (CFU/ strips)	
	Initial	After incubation
DR.CLO	1.0×10^6	— (>99.99%)
Control	1.0×10^6	7.0×10^2

The viable cell count described in table is average of n3.

The percentage in parentheses is the rate of decrease comparing test samples from controls.

—: Not detected by incubating (<100 CFU/ strips)

Table 5. Results of concentration of chlorine dioxide

Measurement time (hours)	Concentration of chlorine dioxide (ppm)
0	—
1	—
2	—
3	—
4	—
5	—
22	—
23	—
24	—

— : Below detection limit