



सीएसआईआर – इमटेक
CSIR-IMTECH

सीएसआईआर – सूक्ष्मजीव प्रौद्योगिकी संस्थान

सैक्टर 39-ए, चण्डीगढ़ - 160 036 (भारत)

CSIR-INSTITUTE OF MICROBIAL TECHNOLOGY

(A CONSTITUENT ESTABLISHMENT OF CSIR)

Sector 39-A, Chandigarh-160 036 (INDIA)

Date: 16-06-2022

Test Report Number: CSIR-IMTECH/AVT/2022-08

Testing Anti-Viral efficacy of “AiRTH’s Anti-Microbial Air Purifier”

Study Methods

All the experiments involving the handling of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) virus strain were performed in the BSL3 facility at CSIR-Institute of Microbial Technology, Chandigarh. The SARS-CoV-2 strain used in the study was isolated from the Indian patient and cultured using VeroE6 cell line.

Study material

The “Anti-Microbial Air Purifier” device was provided by Airth Research Private Limited.

Preparation of the study material

The device was kept inside a hood in the BSL3 facility, air filters were removed and the device was then sterilized for 15 min by UV treatment before testing.

Test Procedure:

1. 250 μ L virus stock solution in a quartz cuvette was kept inside the device and incubated for the desired time points in both machine off and on conditions.
2. Post incubation of 100 μ L sample was collected and aseptically transferred to the 48 well tissue culture plate containing about 5×10^4 Vero E6/TMPRSS2 (JCRB1819) cells having 100 μ L DMEM supplemented with 5% FBS and antibiotics.
3. The plate was incubated for one hour at 37 °C in a humidified chamber with an atmosphere of 5% CO₂ to allow virus infection to the cells.
4. After incubation, the virus suspension was discarded, and cells were washed with 100 μ L 1X PBS followed by the addition of fresh 200 μ L DMEM supplemented with 5% FBS and antibiotics.
5. The plate was incubated for 24 hours at 37 °C in a humidified chamber with an atmosphere of 5% CO₂. Post-incubation, 150 μ L of the culture supernatants were harvested for RNA isolation and qRT-PCR based analysis.
6. The RNA was isolated as per the kit protocol and eluted in 35 μ L elution buffer. The qRT-PCR was performed using 5 μ L of the eluted RNA sample as a template. The assay protocol for qRT-PCR was setup following the kit manufacturer’s instructions.
7. The analysis of the virus inactivation was based on the quantification of viral RNA present in the culture supernatant using qRT-PCR.

Page 1



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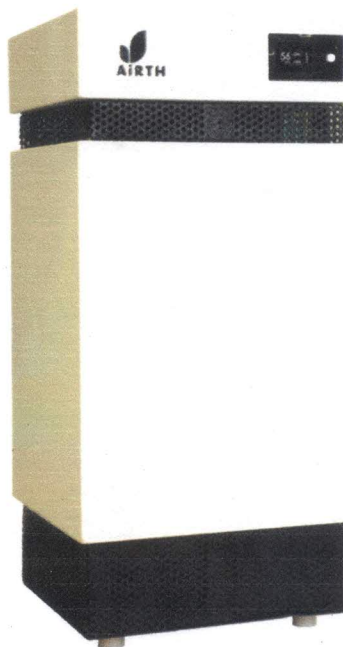
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AiRTH's Anti-Microbial Air Purifier

Figure 1: Device provided by the study sponsor evaluated in the present study

Page 2



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Study Conclusions:-

AiRTH Air Purification Device				
Time Points Tested	Machine OFF	Machine ON	Relative Ct change compared to Control	Percent SARS-CoV-2 inactivation
1 min	16±0.2	27±0.5	11±0.4	99.9
5 min	17±0.8	27±0.8	10±1.6	99.9

The AiRTH's Anti-Microbial Air Purifier was efficacious in inactivating human coronavirus SARS-COV-2 achieving an inactivation of 99.9% within one minute under machine "ON" condition compared to "OFF" condition under controlled laboratory conditions as described above. No apparent cytotoxicity was observed in the cells for the time points studied.

The test report is valid for the AiRTH device provided by the study sponsor.

Disclaimer: This is only a test report and this not a certificate


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End of Report

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