

Verification of inhibitory effect of nanoe™ X, technology with the benefits of hydroxyl radicals on novel coronavirus (SARS-CoV-2)

Wiesbaden, Germany – 26 October 2020 - Panasonic today announced that, in collaboration with the global contract research organization Texcell*¹, Texcell has verified the inhibitory effect of the nanoe™ X, technology with the benefits of hydroxyl radicals on the novel coronavirus (SARS-CoV-2).

nanoe™ X, the original ionizer to generate “nano-sized atomized water particles” is developed by Panasonic. It is an electrostatic atomization technology, that collects invisible moisture in the air and applies high voltage to it to produce “hydroxyl radicals contained in water”. The decisive factor is the existence of hydroxyl radicals inside nanoe™ X. Hydroxyl radicals are characterized by being strongly oxidative and highly reactive.

Panasonic has been conducting research on this technology since 1997, and has verified its effectiveness in a variety of areas, including inhibiting certain pathogenic microorganism (bacteria, fungi, and viruses) and allergens, breaking down PM 2.5 components that have adverse effects on the human body*².

In 2012, Panasonic conducted a virus clearance test with a third-party organization and confirmed the effectiveness of each of the four categories in terms of biological characteristics. Based on this result, Panasonic announced that "hydroxyl radicals contained in water" technology could be expected to have an inhibitory effect on new viruses*³.

The novel coronavirus (SARS-CoV-2) of the current global pandemic is one such new type of virus and testing with Texcell has now confirmed that the nanoe™ X does have an inhibitory effect on this virus. This testing was carried out in a closed laboratory environment and was not designed to assess its efficacy in uncontrolled living spaces.

Panasonic will continue to pursue the potential of nanoe™ X technology to address possible risks associated with air pollution such as new pathogenic microorganisms, with the aim of creating cleaner environments for people around the world.

For reference :

Testing of inhibitory effect of nanoe™ X on the novel coronavirus (SARS-CoV-2)

• **Overview**

A comparative verification was conducted in a 45L test space containing the novel coronavirus (SARS-CoV-2) with and without exposure to nanoe™ X.

• **Results**

Over 99.99% of novel coronavirus (SARS-CoV-2) activity was inhibited within 2 hours.

Note: This verification was designed to generate basic research data on the effects of nanoe™ X on the novel coronavirus in laboratory conditions different from those found in living spaces. It was not designed to evaluate product performance.

• **Methodology and data**

Organisation : Texcell

Subject : Novel coronavirus (SARS-CoV-2)

Device : nanoe™ X device

Method :

- nanoe™ X device is installed at 15cm from the floor in the 45L test space.
- A piece of gauze saturated SARS-CoV-2 virus solution was placed in a petri dish and exposed to nanoe™ X for a predetermined time.
- The virus infectious titer was measured and used to calculate the inhibition rate.

• **Results data**

Test subject	Inhibition rate*	Capacity	Hours
SARS-CoV-2	99.99%	45L	2 hours

Notes:

*1: Texcell is a global contract research organization that specializes in viral testings, viral clearance, immunoprofiling and R&D or GMP cell banking, for your R&D, GCIP, GLP and GMP projects.

With more than 30 years of experience and roots within the Pasteur Institute in Paris, Texcell has a long recognized expertise in viral testing with a broad range of protocols for the detection of adventitious agents.

Texcell is the first spin-off of the Pasteur institute of Paris created in 1997.

*2: Main releases on verification cases

- May 12, 2009: Positive effects of charged water particles on viruses, bacteria, and agricultural chemicals have been verified.
- October 20, 2009: The new influenza virus inhibition effect of charged water particles has been verified.

- February 20, 2012: Suppression effect of charged water particles on pet-related allergens, bacteria, fungi, and viruses have been verified.

- January 16, 2014: Nano-sized electrostatic atomized water particles effectively breaks down PM2.5 components and inhibits growth of fungi attached to Yellow Sand.

*3: January 26, 2012: Virus suppression effect of charged water particles has been verified by the virus clearance test. Co-verified with Charles River Biopharmaceutical Services GmbH, a German testing organization.

About Panasonic

Panasonic is a worldwide leader in the development of diverse electronics technologies and solutions for customers in the consumer electronics, housing, automotive, and B2B businesses. The company, which celebrated its 100th anniversary in 2018, has expanded globally and now operates 528 subsidiaries and 72 associated companies worldwide, recording consolidated net sales of 7.49 trillion yen for the year ended March 31, 2020. Committed to pursuing new value through innovation across divisional lines, the company uses its technologies to create a better life and a better world for its customers.

<https://www.panasonic.com/global>.

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