

August 23, 2021

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Dear All,

Novel Coronavirus Decreased by More than 99.9%

We would like to inform you that we confirmed antiviral effect of *urushi* against novel coronavirus (SARS CoV-2) by applying it on the test plate and measuring virus infectivity titer.

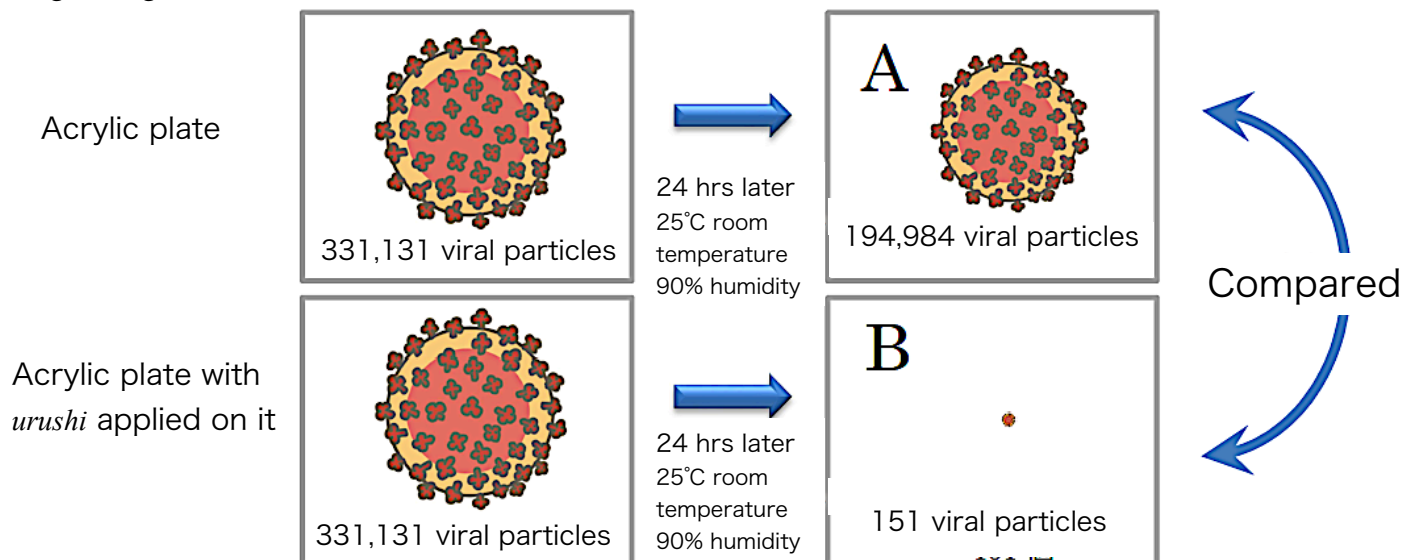
Test Summary

Antiviral effect of *urushi* against novel coronavirus (SARS-CoV-2) has been verified by the test conducted at General Incorporated Association Japan Textile Products Quality and Technology Center, in which our *urushi* was applied on a test plate.

The testing procedure applied 'ISO21702 Measurement of antiviral activity on plastics and other non-porous surfaces' (Figure 1). The plate applied with *urushi* and the intact plate were both contacted with the coronavirus, and after 24 hours, the infectivity titers of virus (the number of viral particles with cell infectivity) recovered from them were measured. The test has revealed that the novel coronavirus on the *urushi*-applied plate decreased by more than 99.9% in comparison with the virus on the plate without *urushi* on it (Figure 2).

- (1) Testing Institution: General Incorporated Association Japan Textile Products Quality and Technology Center (Government designated inspection agency)
- (2) Test Method: ISO21702 Measurement of antiviral activity on plastics and other non-porous surfaces
- (3) Tested Virus: Severe acute respiratory syndrome coronavirus 2 (novel coronavirus)
- (4) Materials used for the test: Acrylic plate 50mm × 50mm applied with *urushi*, an intact plate
- (5) Result: More than 99.9% reduction in the infectivity titer of virus

Figure 2
Image Diagram




The same number of novel coronavirus particles was inoculated onto the surface of *urushi*-applied acrylic plate and intact plate respectively. Comparing the number of A with B after 24 hours has resulted in more than 99.9% reduction rate.

Figure 1

3. Antiviral test on products with non-porous surfaces

Inoculation of test virus suspension ~ washing out virus from a sample



1. A test piece (50mm × 50mm) is taken out.

2. 0.4ml of test virus suspension is inoculated onto the test piece surface and covered with a cover film (40mm × 40mm).

3. The test piece is left to stand still at 25 °C and RH of 90% or higher for 24 hours to allow the virus to act on it.

4. 10ml of solution is added to wash over the test piece and recover the virus from it.

Provided by General Incorporated Association Japan Textile Products Quality and Technology Center

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The test result has been obtained by using our *urushi* that is natural and refined by traditional techniques. Not all *urushi* products or lacquer products will have the same outcome.