

## **Wellisair: Efficiency against Coxsackievirus B5**

**Virus test report (n° 20180711):** July 11th, 2018 Laboratory of virus contaminants of water and food from the University of Barcelona

**Scope:** measure the effectiveness of Wellisair for the surface disinfection of Coxsackievirus B5 (CBV5), enterovirus associated to important pathologies in humans as hand, foot and mouth disease and infections of the central nervous system.

**Procedure:** the Wellisair was located in one box into a safety cabinet at room temperature with twelve pieces of glass contaminated with 100µl viral suspension per sample.

For the experiments with dried viruses, the glass pieces were flow dried for 1 hour at the safety cabinet before the disinfection experiment.

All tests were done with three replicates per each treatment time and conditions and the viral particles was quantified by plaque forming units (PFU).



### **Results:**

<b>Inactivation of CVB5 in WET suspensions</b>			
	<b>No treatment</b>	<b>Wellisair Treatment</b>	
<b>Time</b>	<b>Viruses (PFU/ml)</b>	<b>Viruses (PFU/ml)</b>	<b>Reduction (%)</b>
0 min	3,80x10 <sup>8</sup>	3,80x10 <sup>8</sup>	-
30 min	4,10x10 <sup>7</sup>	2,42x10 <sup>7</sup>	40,97
1h	1,33x10 <sup>7</sup>	2,78x10 <sup>6</sup>	79,09
2h	2,17x10 <sup>6</sup>	7,67x10 <sup>1</sup>	99,99
4h	5,27x10 <sup>5</sup>	Non detected	>99,999

<b>Inactivation of CVB5 in DRIED suspensions (first test)</b>			
	<b>No treatment</b>	<b>Wellisair Treatment</b>	
<b>Time</b>	<b>Viruses (PFU/ml)</b>	<b>Viruses (PFU/ml)</b>	<b>Reduction (%)</b>
0 min	9,87x10 <sup>5</sup>	9,87x10 <sup>5</sup>	-
30 min	1,67x10 <sup>5</sup>	1,00x10 <sup>4</sup>	94,01
1h	1,23x10 <sup>5</sup>	1,07x10 <sup>4</sup>	91,30
2h	4,47x10 <sup>4</sup>	5,47x10 <sup>2</sup>	98,77
4h	1,20x10 <sup>4</sup>	6,90x10 <sup>1</sup>	99,42

<b>Inactivation of CVB5 in DRIED suspensions (second test)</b>			
	<b>No treatment</b>	<b>Wellisair Treatment</b>	
<b>Time</b>	<b>Viruses (PFU/ml)</b>	<b>Viruses (PFU/ml)</b>	<b>Reduction (%)</b>
0 min	1,53x10 <sup>6</sup>	1,53x10 <sup>6</sup>	-
2h	4,77x10 <sup>5</sup>	2,97x10 <sup>3</sup>	99,39
4h	2,27x10 <sup>5</sup>	1,97x10 <sup>1</sup>	99,99

**Conclusions:** Wellisair air disinfection purifier reduced the numbers of CVB5 infectious surface viruses higher that 99,99% after 2 hours of treatment and more than 99,999% after 4 hours.

The reduction of numbers of CVB5 infectious viruses for dried glass surfaces were between 99,42 and 99,99% after 4 hours.