Evaluation of SARS-CoV-2 RNA degradation for Nordic Smartlight – 09.09.2020

HouseTest ApS

Lumbyvej 19G – 5000 Odense C – Denmark

Phone: +45 42 47 52 52 – info@housetest.com

housetest.com

The primary mechanism by which UVC radiation is killing coronaviruses such as SARS and MERS are by disrupting the covalent bonds, and inducing formation of pyrimidine dimers in the RNA thereby inhibiting viral replication.

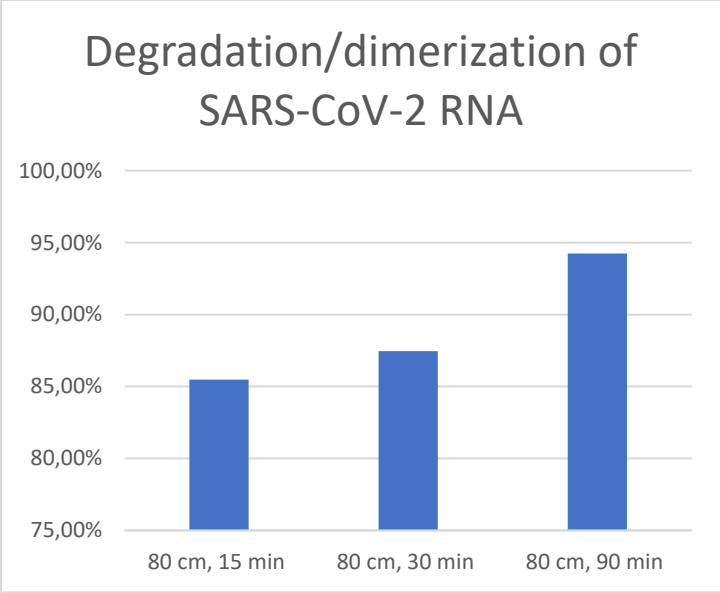
A sputum sample containing intact SARS-CoV-2 virus was placed on a steel surface, end exposed to UVC radiation from the Smarts Light Smarts care 20W bulb as listed below in duplicate. The distance of 80 cm was measured from the glass tube to the exposed surface.

In the current study the stability of SARS-CoV-2 RNA was evaluated using reverse transcriptase quantitative polymerase chain reaction (RT qPCR). The reaction is inhibited by dimerization/degradation of the viral RNA caused by UVC radiation, and consequently the dimerization/degradation can be quantified by comparing the qPCR results from UVC exposed samples to unexposed samples. All samples were analysed in triplicate.

Results

Degradation/dimerization of SARS-CoV-2 RNA

80 cm, 15 min	85,47%
80 cm, 30 min	87,46%
80 cm, 90 min	94,23%



Ann Dorte Pørneki
HouseTest ApS
Lumbyvej 19G, DK-5000 Odense C
housetest.com