

Study on the resistance of severe acute respiratory syndrome-associated coronavirus

Xin-Wei Wang^a, Jin-Song Li^b, Min Jin^a, Bei Zhen^b, Qing-Xin Kong^a, Nong Song^a, Wen-Jun Xiao^b, Jing Yin^a, Wei Wei^b, Gui-jie Wang^b, Bing-yin Si^b, Bao-Zhong Guo^b, Chao Liu^c, Guo-Rong Ou^a, Min-Nian Wang^b, Tong-Yu Fang^d, Fu-Huan Chao^a, Jun-Wen Li^a 

[Show more](#)

<https://doi.org/10.1016/j.jviromet.2005.02.005>

[Get rights and content](#)

Abstract

In this study, the persistence of severe acute respiratory syndrome-associated coronavirus (SARS-CoV) was observed in feces, urine and water. In addition, the inactivation of SARS-CoV in wastewater with sodium hypochlorite and chlorine dioxide was also studied. In vitro experiments demonstrated that the virus could only persist for 2 days in hospital wastewater, domestic sewage and dechlorinated tap water, while 3 days in feces, 14 days in PBS and 17 days in urine at 20 °C. However, at 4 °C, the SARS-CoV could persist for 14 days in wastewater and at least 17 days in feces or urine. SARS-CoV is more susceptible to disinfectants than *Escherichia coli* and f₂ phage. Free chlorine was found to inactivate SARS-CoV better than chlorine dioxide. Free residue chlorine over 0.5 mg/L for chlorine or 2.19 mg/L for chlorine dioxide in wastewater ensures complete inactivation of SARS-CoV while it does not inactivate completely *E. coli* and f₂ phage.

[Previous](#)

[Next](#)

Keywords

SARS-CoV; Resistance; In vitro; Disinfection

[Recommended articles](#) [Citing articles \(10\)](#)

[View full text](#)

Copyright © 2005 Elsevier B.V. All rights reserved.

ELSEVIER [About ScienceDirect](#) [Remote access](#) [Shopping cart](#) [Advertise](#) [Contact and support](#) [Terms and conditions](#) [Privacy policy](#)

We use cookies to help provide and enhance our service and tailor content and ads. By continuing you agree to the [use of cookies](#).
Copyright © 2020 Elsevier B.V. or its licensors or contributors. ScienceDirect® is a registered trademark of Elsevier B.V.
ScienceDirect® is a registered trademark of Elsevier B.V.

 RELX™