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Inactivation of SARS-CoV-2 by SafetyTector™ S
(Use as extraction buffer and running buffer in rapid antigen tests Covid-19)

The inactivation of SARS-CoV-2 is essential for the safe and secure execution of rapid antigen tests. CANDOR Bioscience GmbH (Wangen, Germany) has developed a virus inactivation buffer (**SafetyTector™ S)** within the framework of the COMBI-CoV-2 project. This project aims at developing safe and secure rapid diagnostics and is government-funded by the BMWi (German Federal Ministry for Economic Affairs).

We tested this extraction buffer, **SafetyTector™ S**, for its SARS-CoV-2 inactivating properties. For this purpose, the infectious SARS-CoV-2 BetaCoV/Netherlands/01/NL/20202 isolate was diluted 10-fold in pooled human saliva and then mixed 4-fold with **SafetyTector™ S**. After incubation for 1 to 15 minutes, samples were taken and the remaining infectivity of the virus was assessed. To this end, a serial dilution of the preparation was pipetted onto Vero E6 cells. After 5-7 days the virus-induced cytopathic effect was determined and wells were classified as infected or uninfected. The dilution, at which 50% of the wells were infected, were used to calculate viral infectivity as median tissue culture infectious dose per ml by the Reed-Muench-method.

The experiment showed that **SafetyTector™ S** completely eliminated the infectivity of SARS-CoV-2 after only 1 min of incubation.

Thus, implementation of the **SafetyTector™ S** during rapid antigen testing procedures may significantly reduce SARS-CoV-2 infectivity and provide a safer working environment.

Prof. Dr. Jan Münch