

**ANTIVIRAL ACTIVITY OF AMINOCAPROIC
ACID AGAINST INFECTIOUS BRONCHITIS
CORONAVIRUS IN VITRO**

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Abstract

The aim of the study is a preclinical evaluation of the antiviral activity of aminocaproic acid (ACA) against the prototype strain IBV (Infectious bronchitis virus) of Coronavirus family *in vitro*.

Material and methods. During the research, modern methods were used to determine the cytotoxic effect of the evaluation on a monolayer of BHK-21 cell culture *in vitro*; cultivation, accumulation and determination of the infectious titer of IBV by cytopathic action on a monolayer of cell cultures; assessment of the antiviral effect of the drug — the establishment of the inhibitory concentration and the chemotherapeutic index (CTI) of ACA in various modes of drug administration: 2 hours before infection, simultaneously with infection and 2 hours after infection.

Results. With the introduction of ACA 2 hours before infection, a decrease in the infectious titer of the IBV virus was not established. The antiviral activity of ACA was detected when the drug was added in 2 modes: simultaneously and 2 hours after infection. The introduction of ACA into the medium for cell cultivation at non-toxic concentrations of 7.91–15.82 mg / ml led to a decrease in the infectious titer of the virus by 1.4–2.0 lg TCD₅₀ / 0.1 ml. The CTI of the ACA was 6 in the indicated concentrations and modes, which is an indicator of its promising potential for further studies of antiviral activity *in vivo*, including clinical studies.

Conclusions. The direct antiviral effect of ACA against the prototype H-120 virus strain from the Coronaviridae family *in vitro* was revealed. The suppression of viral reproduction with an established low toxicity of the drug, a decrease in the infectious titer of IBV by 1.4–2.0 lg TCD₅₀ / 0.1 ml and with a CTD equal to 6.0, indicate the prospects for further study of the antiviral properties of ACA in clinical trials.

Key words: aminocaproic acid, coronavirus, antiviral activity.