# ABSTRACT

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Title of rigorosum thesis: Study of the role of nucleoside transporters in intestinal absorption with the use of *in vitro* transport method based on the Caco-2 cell line.

Perorally used drugs are primarly absorbed in the small intestine. Enterocytes, forming the intestinal barrier, express a large number of transporters, representing both ATP-binding (ABC) and "solute carrier" (SLC) transporters, which can significantly affect the pharmacokinetics of the drugs transmitted by them. For this reason, FDA and EMA are currently focusing on studying these interactions and their effects on drug permeability.

The aim of this thesis was to investigate whether the equilibrative nucleoside transporters (ENTs), belonging to the SLC transporters, are involved in the absorption of nucleosides (adenosine and thymidine) and subsequently abacavir, the nucleoside antiretroviral. The *in vitro* transport method was performed on polarized, Caco-2 cell monolayer.

By the statistical analysis of acquired data was found, that although the expression of ENTs was confirmed on the apical side of the Caco-2 cell membrane, the transport of nucleosides [3H]ADE and [3H]THY proceeded without their participation. A statistically significant difference was not observed even when comparing the transport data of abacavir. Therefore, the ENTs carrier activity has not been confirmed.