# ABSTRACT

The main advantages of sublingual systemic administration of drugs can be linked with a rich blood supply and very small thickness of the non-cornified biological sublingual epithelium. The theoretical part partially corrects the fact that the hitherto little addressed issue of sublingual administration route is connected with the influence of saliva and mucosal coating.

The goal of the experiment was to verify the possibility of using albumin (BSA) as a part of potential drug carriers in the nanofiber membranes for sublingual administration.

Sublingual membranes were obtained by dissection of porcine tongue (*Sus scrofa*) followed by rapid freezing in liquid nitrogen and further storage at -20 ° C.

In vitro experiments involved the use of saliva as a medium of intermediate contact of drugs with the sublingual mucosa epithelium. Permeation of fluorescently labelled bovine serum albumin (FITC-BSA molecular weight of about 68. 000) was evaluated. Its application in the form 32-layered and 16-layered nanofiber carriers with the content of 30 percent FITC-BSA by weight was compared to permeation of the solutions of equivalent concentrations of lyophilized FITC-BSA and yielded the following findings:

1. FITC-BSA penetrated sublingual porcine membrane always by the flux **J** in the order of $10^1$ μg/cm$^2$. h$^{-1}$

2. No reduction was observed at permeation of FITC-BSA from the donor medium containing a saliva and citrate-phosphate buffer pH 6.8 mixture (1 : 1)