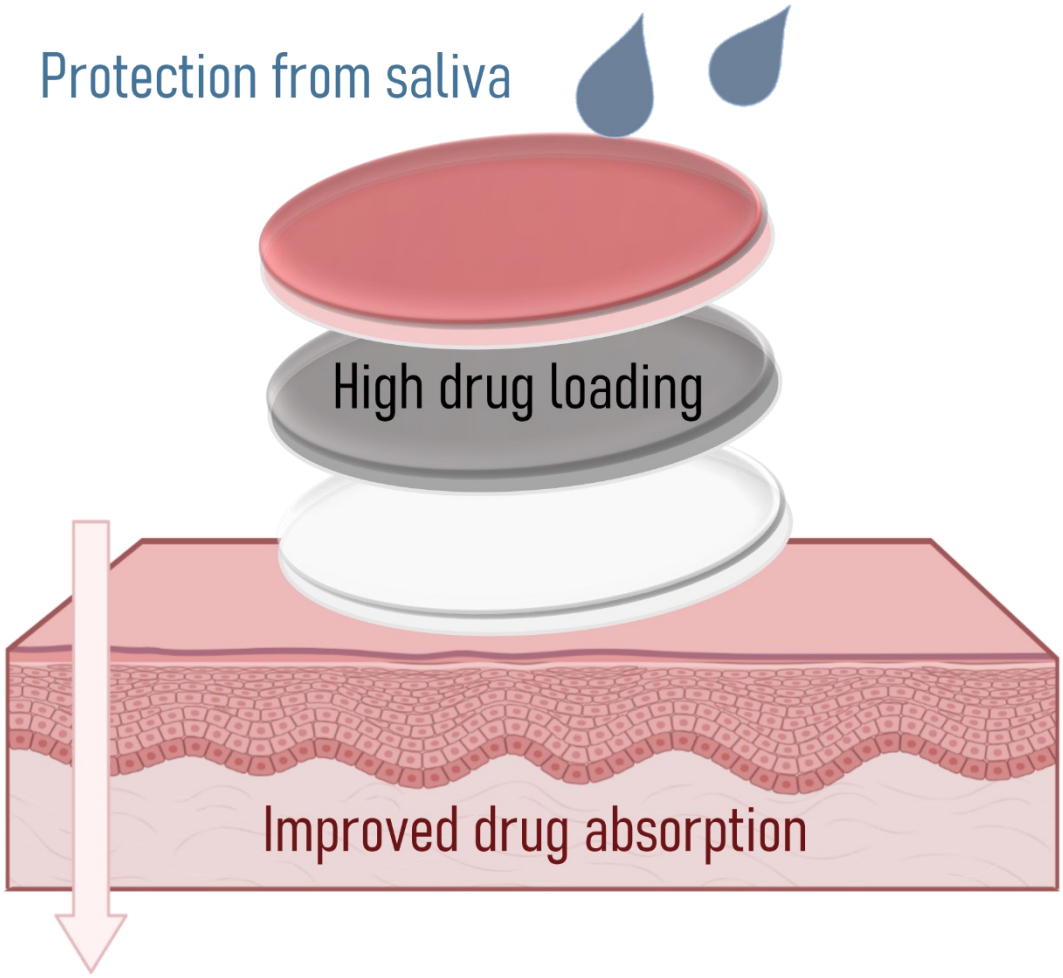
THE TECH TRANSFER OFFICE
UNIVERSITY OF COPENHAGEN

SAFE Patch™

Rethinking drug delivery



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Case number: 521-0741

Background

Taking drugs by mouth is much preferred over other routes, such as injection or rectal administration. However, swallowing or access to water is a problem for a significant number of patients. Furthermore, due to the low pH in the stomach and a greater degree of hepatic metabolism, many drugs degrade if swallowed. Other drugs do not reach the blood stream sufficiently fast if given as a tablet to swallow.

Existing attempts at overcoming these issues include oromucosal dosage forms such as films and fast-disintegrating tablets, which are intended to deliver the drug directly to the blood stream over the mucosa of the mouth. However, the current technologies suffer from drawbacks such as low drug loading, short retention time at the oral mucosa and extensive washout of drug by saliva.

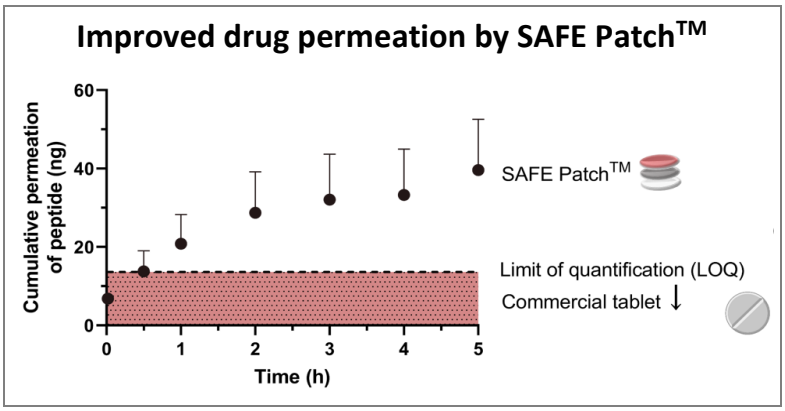
SAFE Patch™ is designed to overcome these drawbacks.

The invention

SAFE Patch™ is a self-adhesive, flexible and effective patch technology consisting of three layers:
1) mucoadhesive electrospun nanofibers, 2) porous foam for drug loading and 3) protective backing film.

The electrospun nanofibers adhere strongly to the mucosa, which – combined with the saliva-repelling backing film – results in effective delivery of the drug into the blood stream, and limited drug loss by saliva washout. The dose is delivered fast and efficiently.

The SAFE Patch™ is strong, flexible and thin, and therefore easy to handle and comfortable to use for the patient.



Improved permeation of a peptide drug through excised porcine mucosa. Comparison of SAFE Patch™ and a commercial oromucosal tablet.

Key features

- **Ready for clinical translation** – developed with biocompatible and commonly used excipients.
- **Ready for industrial scale-up** – simple and mild production conditions known to industry.
- **Versatile** – due to the foam layer, SAFE Patch™ can be used for many drugs that are not suitable for other oromucosal dosage forms.

Development status

- We have demonstrated efficient loading of multiple drugs, tuned drug release, excellent mucoadhesive properties, prolonged retention time at the site of application and enhanced drug permeation.
- We are working to confirm that SAFE Patch™ is suited to our first-choice clinical indication.

Intellectual property rights

Priority EP application filed in April 2021.