

Oral Dissolvable Film (ODF) Delivery of Peptides Using InstaRelease™ Technology

Double-Blind Comparison of Glutathione ODF vs. Glutathione ODF with InstaRelease™

Overview

This double-blind comparison pharmacokinetic study evaluates whether peptides can be effectively absorbed through the oral mucosa using oral dissolvable film (ODF) technology, and whether InstaMed's patent-pending InstaRelease™ penetration enhancers improve that absorption. While ODFs have existed for decades, their potential for peptide delivery remains underutilized. This study assesses (1) the feasibility of buccal peptide delivery, (2) absorption kinetics, and (3) the impact of InstaRelease™ technology on uptake.

Study Design

20 adults (ages 50–65) meeting strict metabolic health criteria were enrolled and divided into two blinded groups. Strip A was ODF with InstaRelease™ Technology and strip B was standard ODF without enhancers. Total glutathione (GSH + GSSG) was measured at baseline, 10 min, 30 min, 1 hr, 2 hr, and 4 hr. One ODF was taken immediately after baseline, followed by additional doses after each draw at 10 min, 30 min, 1 hr, and 2 hr.

Results

Analysis focused on absorption magnitude, rate of absorption, sustained glutathione levels, and comparative PK curves.

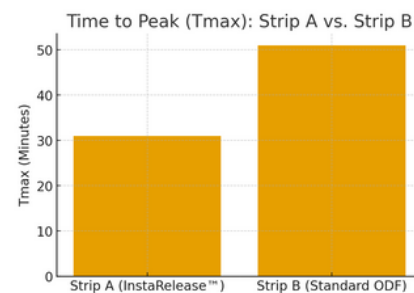
Key PK Findings:

- Earlier Tmax: Strip A $\approx$ 31 min vs. Strip B $\approx$ 51 min
- Higher early-phase exposure: Strip A shows faster onset and greater early uptake
- Higher Cmax: Modestly higher peak glutathione levels with Strip A
- Higher AUC (0–240): Slightly greater total exposure with Strip A

These patterns demonstrate behavior consistent with enhanced mucosal penetration.

Conclusion

This study confirms that buccal administration is a valid and effective delivery route for glutathione and potentially other peptides. The InstaRelease™ technology produced faster absorption, higher early exposure, and more consistent maintenance of circulating reduced glutathione compared to a standard ODF strip. Though a larger study is warranted and additional peptides will need to be studied, we believe that this data answers the question regarding feasibility of oral mucosa absorption of certain peptides.



**40% FASTER ABSORPTION
WITH INSTARELEASE™**

