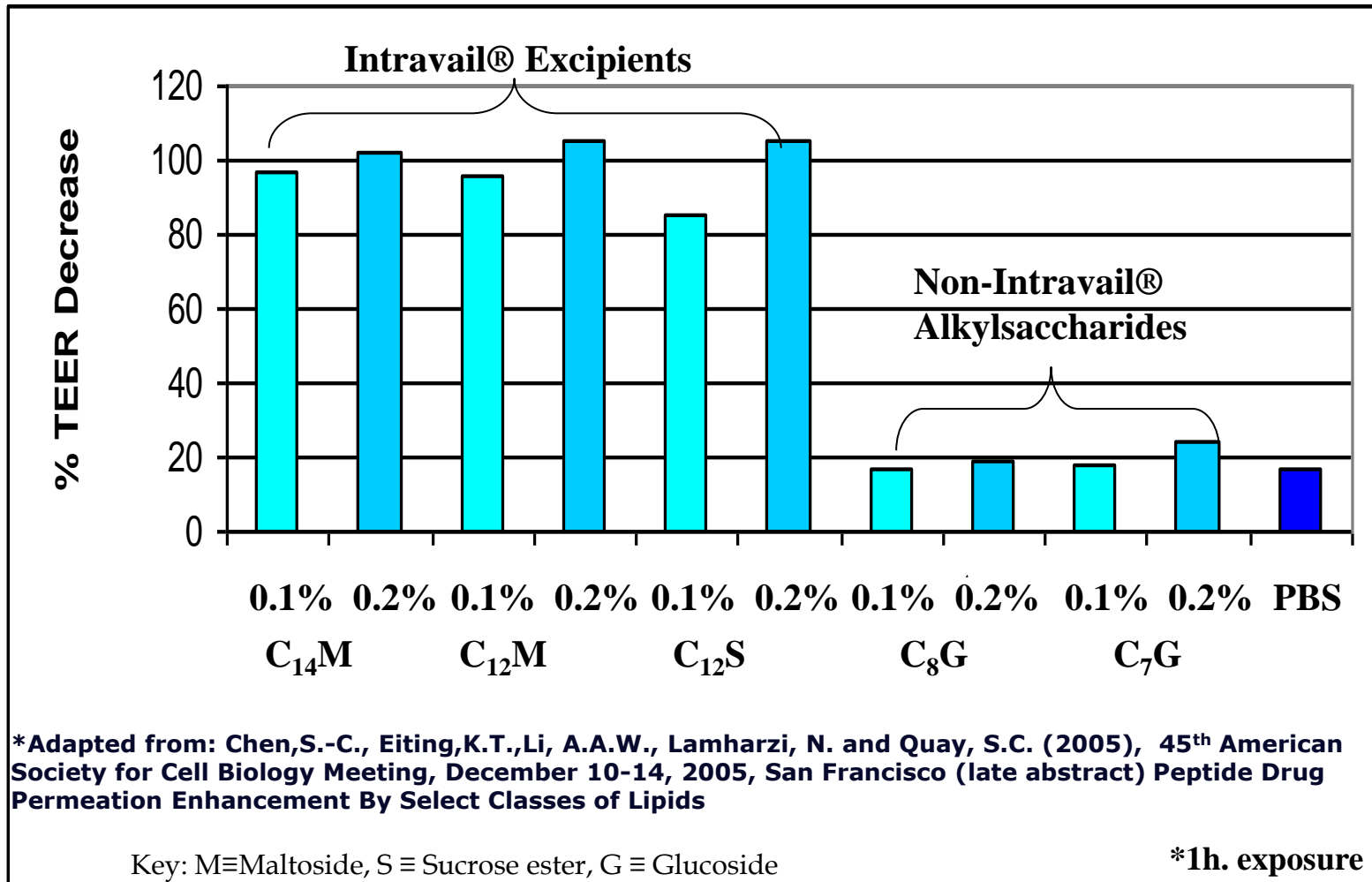


Paracellular Absorption: Reduction in TEER*

(Normal Human Tracheal/Bronchial Epithelial Cell Derived Mucociliary Tissue)

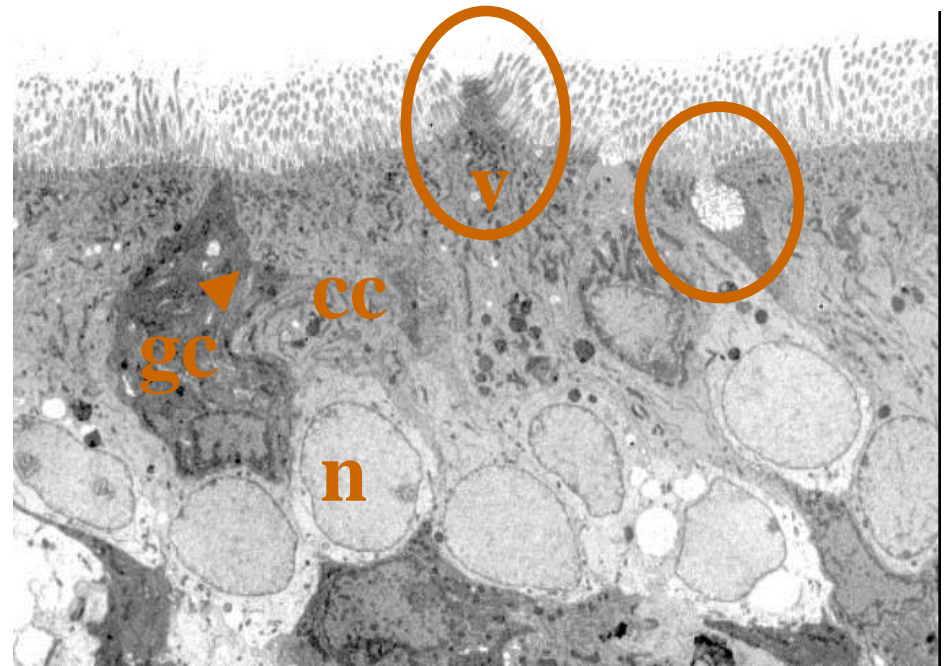
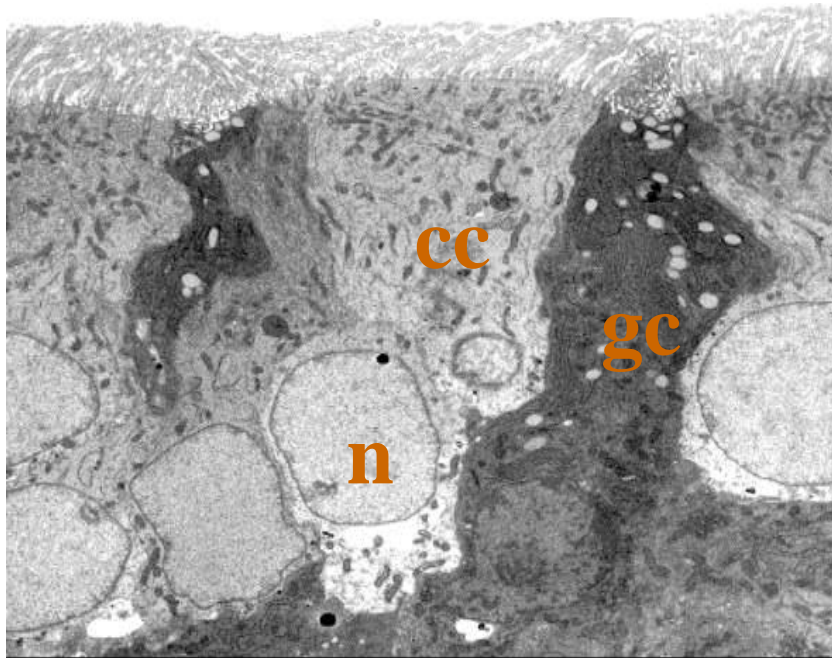


Transcellular Absorption: Effect on Nasal Epithelium

Transmission Electron Microscopy, vertical sections of rat nasal mucosa, 0.125% TDM, 10 min. after instillation

Without Intravail® Enhancer

With Intravail® Enhancer



(cc) ciliated cell (n) Nucleus
 (gc) goblet cell (v) vesicle

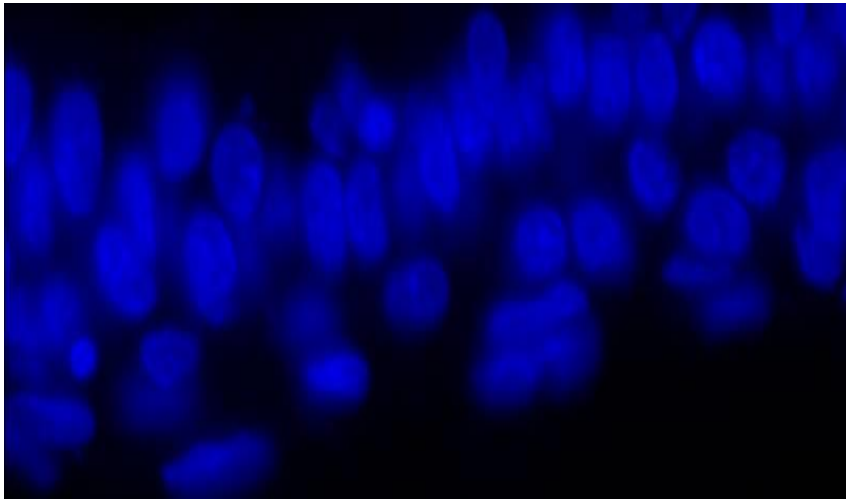
Rat Nasal Epithelium

Magnification 3500X

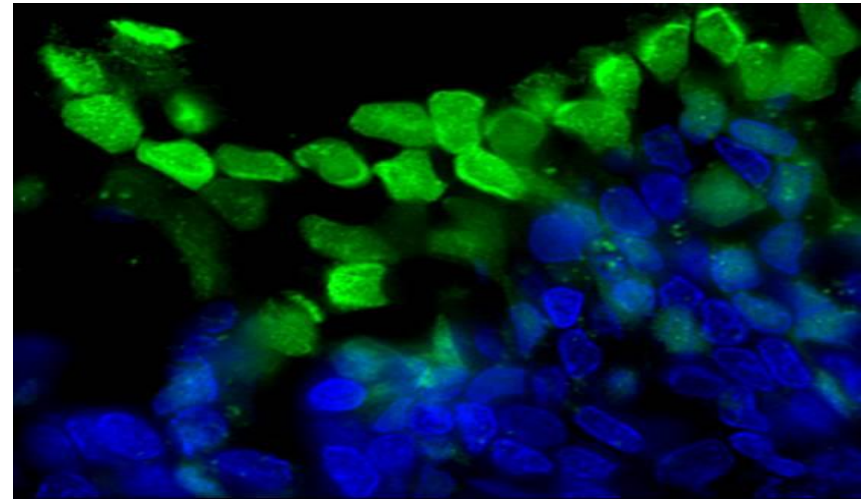
Effect of Intravail® Enhancer on Insulin Permeation

Fluorescence Microscopy, vertical sections of rat nasal mucosa showing penetration of FITC-labeled insulin, 0.125% Intravail®, 10 min. after instillation

Without Intravail® Enhancer



With Intravail® Enhancer



Rat Nasal Epithelium

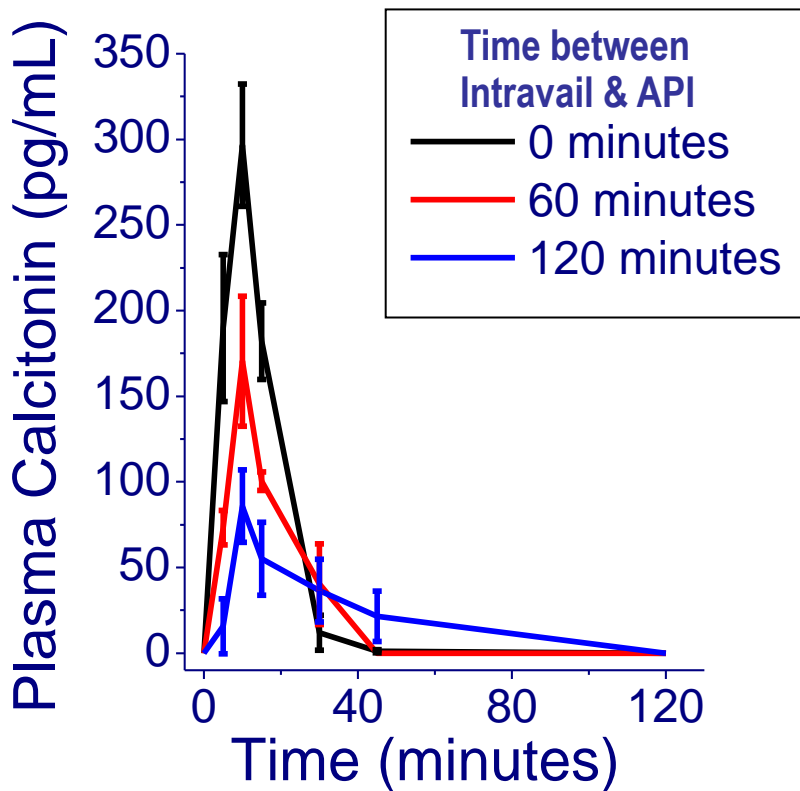
Magnification 40X

JOURNAL OF PHARMACEUTICAL SCIENCES, VOL. 93, NO. 9, SEPTEMBER 2004

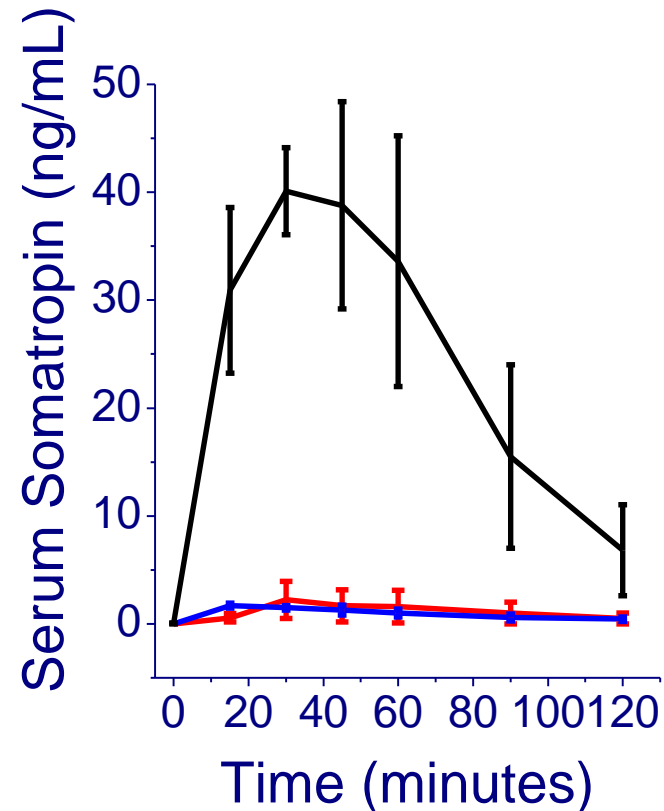
Intravail® Interacts Reversibly with Nasal Mucosa – 4 Independently of Drug API

Rat Model Data

Calcitonin



Somatotropin



Arnold, Fyrberg, Meezan, Pillion (2010) J Pharm Sci. 99(4):1912-20.