



## ADDITIONAL DOSAGE ROUTES: **PULMONARY**

The Pulmonary Compartmental Absorption & Transit (PCAT™) model represents the lung/nose as a collection of the following compartments: an optional nose, extra-thoracic, thoracic, bronchiolar, and alveolar-interstitial.



### The pulmonary model provides dosing via the intranasal or respiratory route as an:

- ✓ Immediate release or infusion solutions
- ✓ Immediate release or infusion powders
- ✓ Intratracheal administration
- ✓ Nasal sprays (solution or powder)
- ✓ Vapor Inhalation

The pulmonary model includes the advanced ICRP 66 (Smith et al., 1999, LUDEP) and Finlay deposition models for calculating deposition fractions in each compartment of both API and carrier particles. Additionally, you may account for the following processes in your simulations:

- ✓ Mucociliary transit
- ✓ Linear mucus and tissue binding
- ✓ Lymphatic transport & systemic absorption
- ✓ Nonlinear metabolism or transport in any lung tissue compartment



### Utilize validated PBBM models

Mechanistic, physiologically-based models are provided for each tissue, for different species.



### Customize in GastroPlus®

As with other GastroPlus modules, there is no equation or code writing required.



### Optimize your models

Load measured *in vivo* PK data, for local tissues, to optimize and validate your models.



### Leverage PBPK delivery models

PBPK delivery models, including the Population Simulator and Parameter Sensitivity Analysis, can be utilized.

