SimulationsPlus

GastroPlus®

ADR

ADDITIONAL DOSAGE ROUTES:

INTRAMUSCULAR

The intramuscular (IM) drug delivery model represents the site of injection as a single compartment. Within this compartment, drug can be bound, and local clearance can take place. Drug can also be transported into the lymph or systemic circulation.

GastroPlus® provides two intramuscular (IM) dosage forms, both of which assume that drug is injected into the muscle tissue. One of these is an immediate release (IR) dosage form, with the other treated as controlled release (CR).

Suspension dosage forms and precipitation kinetics with solution injections!

Some of the processes considered in the IM injection models include:

- ✓ Can be used for both small and large molecules (Biologics Module license required)
- ✓ Linear metabolic clearance can be set up directly in the muscle tissue
- ✓ Nonspecific binding can be incorporated
- ✓ Time-dependent change in depot volume can be defined to account for tissue inflammation after injection
- ✓ Immune cell layer can be included to account for fibrosis formation.

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.

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Interested in collaborating?

Email us! info@simulations-plus.com

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