



## ADDITIONAL DOSAGE ROUTES: LONG-ACTING INJECTION

The Transdermal Compartmental Absorption & Transit (TCAT™) model represents the skin as a collection of the following compartments: stratum corneum, viable epidermis, dermis, subcutaneous tissue, sebum, hair lipid, and hair core.

**The model can simulate a variety of subcutaneous dosage forms and different dosing regions on the body.**

**Human:** Face, Scalp, Back, Arm, Leg, Abdomen;

**Minipig:** Ear, Snout, Neck, Back, Flank, Abdomen, Whole Body;

**Rat and mouse:** Whole Body

**Some of the processes considered in the subcutaneous models include:**

- ✓ Partitioning from the subcutaneous space into the various skin compartments
- ✓ Linear metabolism in any tissue region
- ✓ Systemic circulation and lymphatic absorption
- ✓ Drug partitioning and diffusion through different skin layers and compartments (stratum corneum, viable epidermis, dermis, sebum, hair)



### 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.

