



MembranePlus™ 3

in vitro metabolism & transport studies

What is MembranePlus™?

MembranePlus is an advanced, yet easy-to-use, modeling and simulation software program that unlocks important information from your *in vitro* permeability, hepatocyte assay, and ex vivo skin studies. With MembranePlus, all relevant experimental and cellular processes are integrated to simulate drug concentrations from *in vitro* cell-based/ noncell-based assays and calculate the corresponding permeability & additional *in vivo* rate parameters.

What's new in version 3?

- **NEW** models of *in vitro* penetration (IVPT) and release (IVRT) tests for novel analysis of absorption and dissolution kinetics
- **EXPANDED** membrane transport model parameters for improved predictions of permeability coefficients for both small and peptide molecules
- **IMPROVED** data handling and simulation performance
- **+ more!**



Powerful integration with GastroPlus®!

The figure displays three windows of the MembranePlus software:

- Compound Selection:** Shows a bar chart titled "Propranolol - Regional Compound Amount" with percentages: Water (82.8%), Hepatocytes (1.2%), Vascular Endothelia (0.3%), Dermal (7.5%), Rectal (3.1%), and Bile (3.8%).
- Experimental Setup:** Displays the chemical structure of Digoxin, its molecular weight (780.96), solubility (0.0551 mg/mL at pH=7), logP (1.46), and diffusion coefficient (0.44). It also shows tables for pKa, Enzyme, and Transporter properties.
- Simulation:** Shows a graph of "Percent released [%]" vs "Time [hrs]". The curve starts at 0% and rises to approximately 90% over 20 hours. Parameters shown include F1 (0.4227), C1 (0.65671), C2 (0.65202), C3 (1.659), C4 (0.1837), and V1 (1.539E-6).

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