SKIN-CAD®

SKIN-CAD Release Notes

SKIN-CAD 6.1

- Compatible with Windows Vista, 7, 8, 8.1.
- Compatible with 64 - bit PC & OS.
- Resolved “dot - comma” problem in decimal point.
- Switchable windows between parameters input and literature data.
- Updated literature data on “skin thickness”, “skin permeation” and “body pharmacokinetics” within the parameters input window.
- Improved unit conversion of “Initial Drug Concentration in Vehicle” within “Formulation Design” tab of parameter input window.
- Improved graphical representation of distribution of skin concentration within “Skin Distribution (Data)” tab of simulated results window.
- Improved display of theoretical fitted curve within graphical representation of all data.
- Resolved plot format of fitted curve within graphical representation of all data.

SKIN-CAD 6.0

- Addition of *in vitro* release data analysis.
- Addition of Freundlich-type binding scheme to skin permeation model.
- Addition of indirect response model to PK-PD model.
- Addition of automatic searching function of steady-state profile to *in vitro* skin permeation data analysis.
- Improvement of GUI.
- Improvement of deconvolution program for blood concentration data analysis.
- Addition of literature data to parameters list.

SKIN-CAD 5.2

- Addition of literature database: Diffusion Coefficient in Polymer.
- Addition of literature database: Skin Thickness of Human and Animals.
- Addition of literature database: Diffusion and Partition Coefficients in Skin of human and animals.
- Addition of literature database: Body Pharmacokinetic Parameters following intravenous administration in human.

SKIN-CAD 5.1

- Vehicle compartment model: Addition of simulation model: Vehicle Compartment + skin diffusion (2-layer or 1-layer) model … this feature provides simple simulation in the case of “solution” donor phase (e.g. liquid formulation, *in vitro* permeation system…).
- Dissolution-controlled model: Modification of simulation model: Dissolution-Controlled Model added to drug-dispersed matrix model … in this model, dissolution-controlled scheme can be considered as well as diffusion-controlled step for drug release from matrix system.
- PK curve fitting: Modification of [Pharmacokinetics] curve-fitting function … this feature provides curve-fitting functions for PK compartment models, which are available for Continuous Intravenous Infusion and Oral Administration as well as intravenous bolus injection.

- Deconvolution analysis: Addition of Deconvolution Method … blood concentration data can be analyzed by deconvolution method together with i.v. bolus data, and fractional absorption can be estimated.
- Improvement of graph drawing and printing.

SKIN-CAD 5.0

- Curve fitting function to compartment model: Curve fitting (non-linear regression analysis) function was added in order to calculate pharmacokinetic parameters. It is applicable to 1-, 2- and 3-comaprtment models from blood concentration data following intravenous administration.
- Curve fitting function to Fick's second law: Curve fitting (non-linear regression analysis) function was added in order to calculate diffusion and partition coefficients in the skin. It is applicable to Fick's second law from drug distribution data in the stratum corneum obtained by tape-stripping technique.
- Search function of *in vitro* steady-state permeation: Liniear regression program was added in order to determine the steady state for *in vitro* skin permeation profiles. This function makes it easy to search the steady-state profile, to evaluate permeation flux and time lag, and to calculate diffusion and partition parameters in the skin.
- Flexible settings of administration schedule (application period and system size) for multiple dose.
- Calculation of Tmax, Cmax and AUC for multiple administration.

SKIN-CAD 4.1

- Diffusional release model of dispersed drug from matrix is added to skin permeation model.

SKIN-CAD 4.0

- Pharmacodynamic (PD) analysis is possible and pharmacokinetic (PK) analysis for total body is available for 1-, 2- and 3-compartmental model.
- User interface was upgraded to be easy-to-use.