2.2.5.3 Pharmacokinetics and statistical analysis

Pharmacokinetics

Individual PK parameters for drug concentration of *in vivo* plasma samples were calculated by noncompartmental analysis (NCA) using the Kinetica program (used under academic license from Innaphase Ltd, France (Lic. # K 201009)). Pharmacokinetic parameters used were AUC, C_{max}, AUMC, MRT, $t_{0.5}$, T_{max} and Kel.

BA is determined by the rate (T_{max} and C_{max}) and extent (AUC) of an active drug to reach its site of action in the blood. The time (T_{max}) of the maximum observed concentration (C_{max}) were deduced directly from the serum concentration-time curves, whereas the AUC was calculated using the trapezoidal rule:

$$M_0 = \int_0^\infty t^0 \cdot C_p dt = \int_0^\infty C_p dt = AUC$$

AUMC is the area under moment curve which is simply $C_p \times t$.

$$M_1 = \int_0^\infty t \cdot C_p dt = AUMC$$

MRT (Mean residence time) is the mean time that drug molecules remain in the body after dosing and is calculated by the following equation:

$$MRT = \frac{AUMC}{AUC}$$

Kel, represents the fraction of drug eliminated per time and is determined by the slopes of the terminal segments of logarithmically transformed plasma levels against their