Graphical Estimation of Pharmacokinetic Parameters: One Compartment System

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The intravenous pharmacokinetics of DQ1 was evaluated in BALB/c mice at a dose of 5 mg/kg (table 1). Data were plotted on a semi-logarithmic scale. DQ1 showed one compartment disposition with first order kinetics, and PK parameters were estimated graphically (figure 1, table 2).

Table 1: Blood concentration-time data of DQ1 in mice

Time (h)	concentration in blood (µg/ml)
0.017	6.811
0.083	6.482
0.25	5.725
1	3.275
1.5	2.256
2	1.555
3	0.738
4	0.351
6	0.079
8	0.018
10	0.004

Figure 1: Graphical estimation of pharmacokinetic parameters of DQ1 in mice

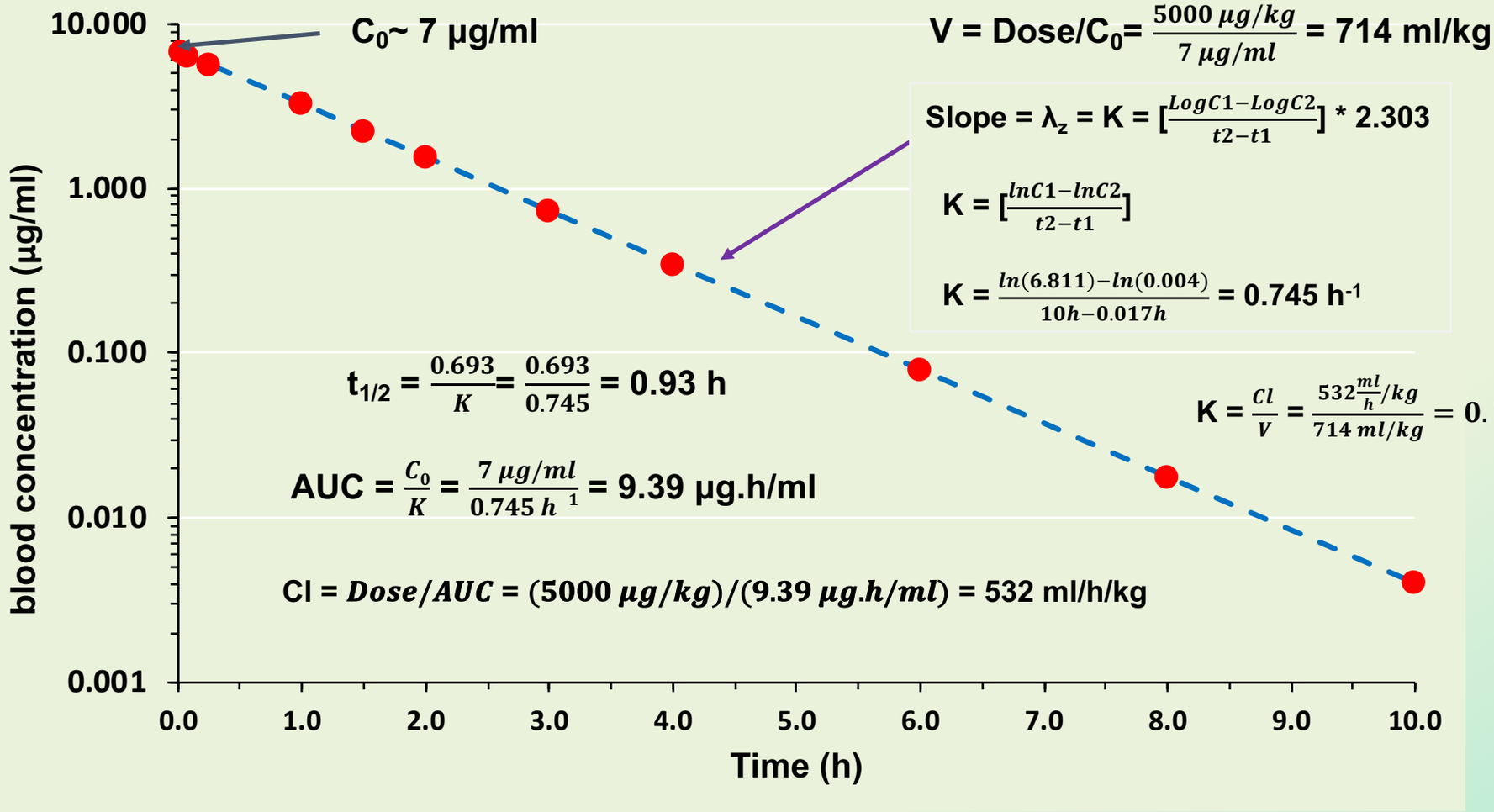

Table 2: PK parameters of DQ1 in mice estimated graphically

Parameter	Estimate
λ_z (K) (h^{-1})	0.745
$T_{1/2}$ (h)	0.93
AUC^{∞}_0 (µg.h/ml)	9.39
V (ml/kg)	714
Cl (ml/h/kg)	532

- **Graphical evaluation of pharmacokinetic curves can help in assessing a molecule's first order kinetics and compartmental behaviour. Initial parameter estimates of volume, clearance and half-life can be estimated and used as input for modelling.**