Experiment Number: S0546
Route: Gavage, IV
Species/Strain: Hamster/Syrian Golden

Toxicokinetics Data Summary
Test Compound: 2,4-Dichlorophenoxyacetic Acid
CAS Number: 94-75-7

Date Report Requested: 11/09/2016
Time Report Requested: 13:59:32
Lab: Research Triangle Institute

Male

	Treatment Groups (mg/kg)				
	2 [a]	**8 [b]**	**8 [a]**	**40 [a]**	**8 IV [a]**
	Plasma				
$C_{0min(pred)}$ (ug/mL)					223.0
C_{max} (ug/mL)	6.86		18.2	70.1	
T_{max} (minute)	15		5	5	
$t_{1/2(Beta)}$ (minute)	36.9		24.6	210.0	21.0
k_{01} (min^-1)		0.0467 ± 0.012			
k_{10} (min^-1)		0.116 ± 0.010			
Cl (mL/min/kg)					5.30
$Cl_{1(F)}$ (mL/min/kg)	7.85		14.8	3.38	
V_1 (L/kg)		0.0605 ± 0.0055			
MRT (minute)	103.0		33.0	306.0	12.8
AUC_{inf} (ug/mL*min)	255.0		541	11830	1510
F (fraction)	0.67		0.36	1.57	

LEGEND

Data are displayed as mean ± SEM

MODELING METHOD & BEST FIT MODEL

[a] Modeling Method: Models 200 and 201, PCNONLIN software, SCI Software, Lexington, KY; noncompartmental model (not best fit)

[b] Analyzed using compartmental modeling techniques with established models or models written to simultaneously solve iv and oral data sets (PCNONLIN software, SCI Software, Lexington, KY); The hamster data were best fit using a 1-compartment model with simultaneous solution of the iv (Study T) and mid oral (Study V) data. The model underpredicted terminal concentrations for both the iv and oral studies.

ANALYTE

2,4-Dichlorophenoxyacetic acid

TK PARAMETERS

$C_{0min(pred)}$ = Fitted plasma concentration at time zero (IV only)

C_{max} = Observed or Predicted Maximum plasma (or tissue) concentration

T_{max} = Time at which C_{max} predicted or observed occurs

$t_{½(beta)}$ = Half-life for the beta phase

k_{01} = Absorption rate constant, k_a

k_{10} = Elimination rate constant from the central compartment also k_e or k_{elim}

Cl = Clearance, includes total clearance

$Cl_{1(F)}$ = Apparent clearance of the central compartment, also $Cl_{(F)}$ for gavage groups in non-compartmental model

V_1 = Volume of distribution of the central compartment, includes V_d and V_{volume} of distribution, V_z apparent volume of distribution NCA, V_{app} apparent volume of distribution for intravenous studies

MRT = Mean residence time

AUC_{inf} = Area under the plasma concentration versus time curve, AUC, extrapolated to time equals infinity

F = Bioavailability, absolute bioavailability

** END OF REPORT **