Experiment Number: S0546
Route: Gavage, IV
Species/Strain: Mouse/B6C3F1

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

Date Report Requested: 11/09/2016
Time Report Requested: 13:59:40
Lab: Research Triangle Institute

Male

	Treatment Groups (mg/kg)				
	1 [a]	1 [b]	2 [b]	5.2 [b]	1 IV [b]
	Plasma				
$C_{0min(pred)}$ (ug/mL)					9.07
C_{max} (ug/mL)		3.49	6.22	19.2	
T_{max} (minute)		5	30	30	
Alpha (min^-1)	0.0186 ± 0.0053				
Beta (min^-1)	0.00278 ± 0.0051				
$t_{1/2(Beta)}$ (minute)		143	63.8	74.8	90.8
k_{01} (min^-1)	0.129 ± 0.034				
k_{10} (min^-1)	0.0149 ± 0.0029				
k_{12} (min^-1)	0.00301 ± 0.0027				
k_{21} (min^-1)	0.00347 ± 0.0066				
Cl (mL/min/kg)					1.36
$Cl_{1(F)}$ (mL/min/kg)		2.71	2.34	1.15	
V_1 (L/kg)	0.124 ± 0.011				
MRT (minute)		157.0	94.4	162	106
AUC_{inf} (ug/mL*min)		369	854	4541	735
F (fraction)		0.50	0.58	1.19	

LEGEND

Data are displayed as mean ± SEM

MODELING METHOD & BEST FIT MODEL

[a] 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 mouse data were best fit using a 2-compartment model with simultaneous solution of the iv (Study P) and low oral dose (Study Q) data.

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

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

Alpha = Hybrid rate constant of the alpha phase

Beta = Hybrid rate constant of the beta phase

$t_{1/2(beta)}$ = 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}

k_{12} = Distribution rate constant from first to second compartment etc.

k_{21} = Distribution rate constant from second to first compartment etc.

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 **