Experiment Number: C92012B
Route: Gavage, IV
Species/Strain: Mouse/B6C3F1

Toxicokinetics Data Summary
Test Compound: 2-Methylimidazole
CAS Number: 693-98-1

Date Report Requested: 11/09/2016
Time Report Requested: 14:00:18
Lab: Battelle Columbus

Male

	Treatment Groups (mg/kg)			
	25 [a]	**50 [a]**	**100 [a]**	**10 IV [b]**
	Plasma			
C_{max} (ug/mL)	4.53 ± 0.87	10.0 ± 1.2	25.4 ± 2.2	5.33 ± 0.98
T_{max} (hour)	0.127 ± 0.076	0.099 ± 0.038	0.166 ± 0.034	
k_{01} (hour^-1)	19.9 ± 18.7	26.0 ± 15.2	12.9 ± 4.6	
$t_{1/2(k01)}$ (hour)	0.035 ± 0.033	0.027 ± 0.016	0.0537 ± 0.0189	
k_{10} (hour^-1)	2.07 ± 0.34	2.53 ± 0.15	2.18 ± 0.20	2.66 ± 0.32
$t_{1/2(k10)}$ (hour)	0.334 ± 0.054	0.274 ± 0.016	0.318 ± 0.028	0.260 ± 0.032
Cl (mL/hr/kg)				5000 ± 550
$Cl_{1(F)}$ (mL/hr/kg)	8800 ± 1100	9830 ± 630	5990 ± 410	
V_{ss} (mL/kg)				1880 ± 340
MRT (hour)				0.376 ± 0.046
AUC_{0-t} (ug/mL*hr)	2.84 ± 0.35	5.09 ± 0.32	16.7 ± 1.1	
AUC_{inf} (ug/mL*hr)				2.00 ± 0.22
F (percent)	51.2	49.7	85.0	

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Female

	Treatment Groups (mg/kg)			
	25 [a]	**50** [a]	**100** [a]	**10 IV** [b]
	Plasma			
C_{max} (ug/mL)	5.89 ± 0.53	13.0 ± 0.4	27.1 ± 1.2	6.27 ± 0.57
T_{max} (hour)	0.147 ± 0.027	0.165 ± 0.010	0.203 ± 0.018	
k_{01} (hour^-1)	13.7 ± 4.4	12.2 ± 1.3	9.77 ± 1.66	
$t_{1/2(k01)}$ (hour)	0.051 ± 0.016	0.057 ± 0.006	0.071 ± 0.012	
k_{10} (hour^-1)	2.75 ± 0.19	2.44 ± 0.07	2.04 ± 0.12	3.01 ± 0.16
$t_{1/2(k10)}$ (hour)	0.252 ± 0.018	0.284 ± 0.008	0.339 ± 0.020	0.231 ± 0.012
Cl (mL/hr/kg)				4800 ± 270
$Cl_{1(F)}$ (mL/hr/kg)	7790 ± 510	6310 ± 140	4990 ± 180	
V_{ss} (mL/kg)				1600 ± 150
MRT (hour)				0.333 ± 0.018
AUC_{0-t} (ug/mL*hr)	3.21 ± 0.21	7.93 ± 0.17	20.0 ± 0.7	
AUC_{inf} (ug/mL*hr)				2.08 ± 0.12
F (percent)	59.9	74.4	93.9	

LEGEND

Data are displayed as mean ± SEM

MODELING METHOD & BEST FIT MODEL

[a] WinNonlin V01.5A, using Gauss-Newton (Levenberg and Hartley) method; one-compartment model with no lag phase and first order absorption and elimination. The concentration values were weighted 1/y^2 (predicted).

[b] WinNonlin V01.5A, using Gauss-Newton (Levenberg and Hartley) method; one-compartment model with first order elimination. The concentration values were weighted 1/y^2.

ANALYTE

2-Methylimidazole

TK PARAMETERS

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

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

k_{01} = Absorption rate constant, k_a

$t_{1/2(k01)}$ = Half-life of the absorption process to the central compartment

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

$t_{1/2(k10)}$ = Half-life for the elimination process from the central compartment

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_{ss} = Volume of distribution at steady state

MRT = Mean residence time

AUC_{0-t} = Area under the plasma concentration versus time curve, AUC, from time t_i (initial) to t_f (final), AUC_{last}

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

F = Bioavailability, absolute bioavailability

** END OF REPORT **