Experiment Number: S0548
Route: IV, Gavage
Species/Strain: Mouse/B6C3F1

Toxicokinetics Data Summary
Compound: Sodium Nitrite / **Analyte:** Methemoglobin
CAS Number: 7632-00-0

Request Date: 7/11/2023
Request Time: 10:03:16
Lab: Midwest Research Institute

Male

	Treatment Group (mg/kg)		
	20 IV Plasma[a,b]	**62.5 Gavage Plasma[a,b]**	**125 Gavage Plasma[a,b]**
Cmax_pred (percent)	4.2	14.9	35.1
Tmax_pred (min)	5	15	15
Half-life (min)	18	23	25
MRT (min)	29	38	55
AUC_0-T (percent min)	151	665	2720

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Female

	Treatment Group (mg/kg)		
	20 IV Plasma[a,b]	**62.5 Gavage Plasma[a,b]**	**120 Gavage Plasma[a,b]**
Cmax_pred (percent)	4.8	11.2	38.6
Tmax_pred (min)	2	15	60
Half-life (min)	15	18	14
MRT (min)	26	37	60
AUC_0-T (percent min)	141	669	3620

LEGEND

MODELING SOFTWARE

PCNONLIN

MODELING METHOD & BEST FIT MODEL

[a]PCNONLIN Statistical Consultants, Inc., Lexington, KY, Non compartmental (NCA) model

EXCEPTIONS

[b]where Half-life is equal to Kc half-life

ANALYTE

Methemoglobin

TK PARAMETERS

Cmax_pred = Observed or Predicted Maximum plasma (or tissue) concentration
Tmax_pred = Time at which Cmax predicted or observed occurs
Half-Life = Lambda z Half life, t 1/2, the terminal elimination half-life based on non-compartmental analysis
MRT = Mean residence time
AUCinf = Area under the plasma concentration versus time curve, AUC, extrapolated to time equals infinity

TK PARAMETERS PROTOCOL

ANALYSIS METHOD

Blood collection time points for this group are 2, 5, 10, 15, 20, 30, 45, 60, 75, and 90 minutes post-dose.

TK_INTRAVENOUS PLASMA

20 mg/kg Male and Female

A single intravenous dose of 20 mg/kg was given per study via lateral tail vein. Toxicokinetic analyses were performed using the average concentration for each time point. The data were modeled using nonlinear regression analysis (PCNONLIN, Statistical Consultants, Inc., Lexington, KY). The nitrite data was modeled using compartmental models.

ANALYSIS METHOD

Blood collection time points for this group are 2, 5, 10, 15, 30, 45, 60, 90, 120, and 150 minutes post-dose.

TK_GAVAGE PLASMA

62.5 mg/kg Male and Female

A single oral gavage dose of 62.5 mg/kg was given per study. Toxicokinetic analyses were performed using the average concentration for each time point. The data were modeled using nonlinear regression analysis (PCNONLIN, Statistical Consultants, Inc., Lexington, KY). The nitrite data was modeled using compartmental models.

125 mg/kg Male and Female

A single oral gavage dose of 125 mg/kg was given per study. Toxicokinetic analyses were performed using the average concentration for each time point. The data were modeled using nonlinear regression analysis (PCNONLIN, Statistical Consultants, Inc., Lexington, KY). The nitrite data was modeled using compartmental models.