Experiment Number: S0548   **Toxicokinetics Data Summary**   **Request Date:** 7/11/2023
Route: IV, Gavage   **Compound:** Sodium Nitrite / **Analyte:** Methemoglobin   **Request Time:** 10:03:16
Species/Strain: Rats/FISCHER 344   **CAS Number:** 7632-00-0   **Lab:** Midwest Research Institute

Male

Treatment Group (mg/kg)

	20 IV Plasma[a,b]	40 Gavage Plasma[a,b]	80 Gavage Plasma[a,b]
Cmax_pred (percent)	26.3	18.8	40.1
Tmax_pred (min)	45	60	120
Half-life (min)	53	50	75
MRT (min)	94	171	117
AUC_0-T (percent min)	3260	10500	2620

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Female

Treatment Group (mg/kg)

	20 IV Plasma[a,b]	40 Gavage Plasma[a,b]	80 Gavage Plasma[a,b]
Cmax_pred (percent)	25.8	65.9	31.5
Tmax_pred (min)	45	60	120
Half-life (min)	82	73	81
MRT (min)	130	125	186
AUC_0-T (percent min)	4340	5480	16400

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LEGEND
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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, and 30 minutes, 1, 2, 4, 6, 8, and 10 hours 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, and 30 minutes, 1, 2, 4, 6, 8, and 10 hours post-dose.

TK_GAVAGE PLASMA

40 mg/kg Male and Female

A single oral gavage dose of 40 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.

80 mg/kg Male and Female

A single oral gavage dose of 80 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.