Experiment Number: K99050
Route: Gavage
Species/Strain: Rat/F344/NCrl

Toxicokinetics Data Summary
Compound/Analyte: Ginkgo Biloba Extract/Kaempferol
CAS Number: 90045-36-6

Request Date: 11/27/2019
Request Time: 2:30:16
Lab: Battelle

Male

	Treatment Group (mg/kg)		
	30 Gav[a]	**100 Gav[a]**	**300 Gav[a]**
	Plasma		
Cmax_obs (ng/mL)	ND	ND	127
Tmax_obs (minute)	ND	ND	480
Half-life (minute)	ND	ND	ND
AUC_0-T (ng/mL•min)	ND	ND	32200
AUCinf_pred (ng/mL•min)	ND	ND	ND

LEGEND

MODELING METHOD & BEST FIT MODEL

[a] WinNonlin (Version 7.0, Certara, L.P., Princeton, NJ) non-compartmental library models with no weighting factors, Non-compartmental model, parameter estimates are reported to three significant figures. ND = Not determined. The 30 and 100 mg/kg group had samples that were ND or BLOD at all time points, and the 300 mg/kg only had four total measurable concentrations of KMF. No TK parameters were reported for the 30 or 100 mg/kg groups which had no measurable concentrations of KMF. In addition, the 300 mg/kg group did not have enough measurable concentrations of KMF to adequately characterize the concentration-time profile.

ANALYTE

Kaempferol

TK PARAMETERS

Cmax = Observed or Predicted Maximum plasma (or tissue) concentration
Tmax = 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
AUC_0-T = Area under the plasma concentration versus time curve, AUC, from time ti (initial) to tf (final), AUClast
AUCinf = Area under the plasma concentration versus time curve, AUC, extrapolated to time equals infinity

TK PARAMETERS PROTOCOL

TK PARAMETERS

TK analysis was performed on Ginkgolide A (GLA), Ginkgolide B (GLB), Ginkgolide C (GLC), Ginkgolide J (GLJ), Bilobalide (BLL), Isorhamnetin (ISR), Quercetin (QCT), and Kaempferol (KMF) after a single gavage administration of ginkgo biloba extract (GBE) batch 1 (Lot 020703) in corn oil at doses of 30, 100, and 300 mg/kg. Blood samples were collected prior to dose administration and at 11 time points post dose administration from typically three animals/time point/group. Time points were Pre-dose, 5, 10, 15, 30, 60, 90, 120, 240, 480, 720, and 1440 minutes. The LLOQ was 4 ng/mL for GLA, 1 ng/mL for GLC and GLB, 5 ng/mL for BLL and ISR, 3 ng/mL for QCT, 10 ng/mL for GLJ, and 40 ng/mL for KMF. The LOD is 3 ng/mL for GLA, 0.3 ng/mL for GLC, 2 ng/mL for BLL and ISR, 1 ng/mL for QCT, 0.4 ng/mL for GLB, 5 ng/mL for GLJ, and 40 ng/mL for KMF. Body weight ranges are 111.8-187.5 g, 114.5-187.7 g, and 111.8-186.6 g for 30, 100, and 300 mg/kg dosed male rats, respectively.

TK PARAMETERS (cont'd)

The plasma samples were hydrolyzed, heated, cooled, then extracted with ethyl acetate and centrifuged. The organic layer for each sample was removed, concentrated to dryness under nitrogen gas and reconstituted in methanol for analysis. The samples were hydrolyzed to convert the flavonol glycosides to corresponding aglycones which are the compounds quantified. A liquid chromatography coupled with tandem mass spectrometric (LC-MS/MS) method was used to quantitate known GBE constituents, terpene trilactones (Ginkgolide A [GLA], Ginkgolide B [GLB], Ginkgolide C [GLC], Ginkgolide J [GLJ], and Bilobalide [BLL]) and aglycones (Isorhamnetin [ISR], Kaempferol [KMF], and Quercetin [QCT]) of flavonol glycosides.