

Hypothesis test results for analysis of estrous cyclicity using the continuous-time Markov model

Stage ^a	Comparison ^b	p-value ^c	Significance ^d	Stage Length Difference ^e (days)
Diestrus	Low-Control	1.000	None	0.22
Diestrus	Mid-Control	1.000	None	0.25
Diestrus	High-Control	1.000	None	0.28
Estrus	Low-Control	0.004	p < 0.01	-0.59
Estrus	Mid-Control	1.000	None	-0.05
Estrus	High-Control	0.065	None	-0.36
Metestrus	Low-Control	0.002	p < 0.01	0.54
Metestrus	Mid-Control	1.000	None	0.06
Metestrus	High-Control	0.156	None	0.28

a: Insufficient data to evaluate proestrus stage.

b: Sample sizes for the Control, Low, Mid, and High dose groups were $n = 10$ for each group.

c: The p-values shown were calculated using a permutation null hypothesis testing method and have been adjusted for multiple comparisons using a Hommel correction within each stage.

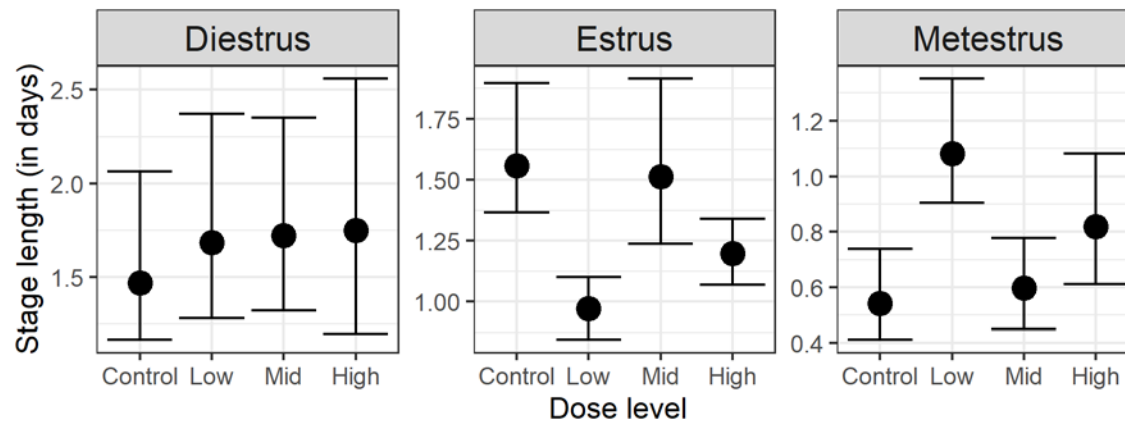
d: Significance is based on the adjusted p-value with a significance level of $\alpha = 0.05$.

e: A positive number indicates the estimated stage length in the treated group is longer than in the control group.

Markov model estimates of stage length and 95% confidence intervals

	Control (0 mg/kg)		Low dose (625 mg/kg)		Mid dose (1250 mg/kg)		High dose (2500 mg/kg)	
	Stage Length (days)	95% CI	Stage Length (days)	95% CI	Stage Length (days)	95% CI	Stage Length (days)	95% CI
Diestrus	1.47	(1.17, 2.07)	1.69	(1.28, 2.37)	1.72	(1.32, 2.35)	1.75	(1.20, 2.56)
Proestrus ^a	0.14	--	0.14	--	0.14	--	0.14	--
Estrus	1.56	(1.37, 1.89)	0.97	(0.84, 1.10)	1.51	(1.24, 1.91)	1.20	(1.07, 1.34)
Metestrus	0.54	(0.41, 0.74)	1.08	(0.91, 1.35)	0.60	(0.45, 0.78)	0.82	(0.61, 1.08)

a: Due to a very low number of observations of proestrus, stage lengths were estimated using a profile likelihood approach. As a result, confidence intervals are not available for the proestrus stage length estimate.



Estimates of stage length shown as dots, with bars indicating 95% confidence intervals. Estimates for lengths of proestrus are not shown here due to very low numbers of observations of this stage.