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	0.576	None	-0.6
Diestrus	Mid-Control	0.632	None	-0.6
Diestrus	High-Control	0.179	None	-0.7
Estrus	Low-Control	1.000	None	0.0
Estrus	Mid-Control	1.000	None	0.0
Estrus	High-Control	0.248	None	0.2
Metestrus	Low-Control	1.000	None	-0.1
Metestrus	Mid-Control	0.939	None	0.1
Metestrus	High-Control	1.000	None	-0.1

a: Insufficient data to evaluate proestrus stage.

b: Sample sizes for the Control, Low, Mid, and High dose groups respectively were n = 10, 10, 10, 10. Dose levels were 0, 0.3, 1.0, 3.0 mg/mL respectively.

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.

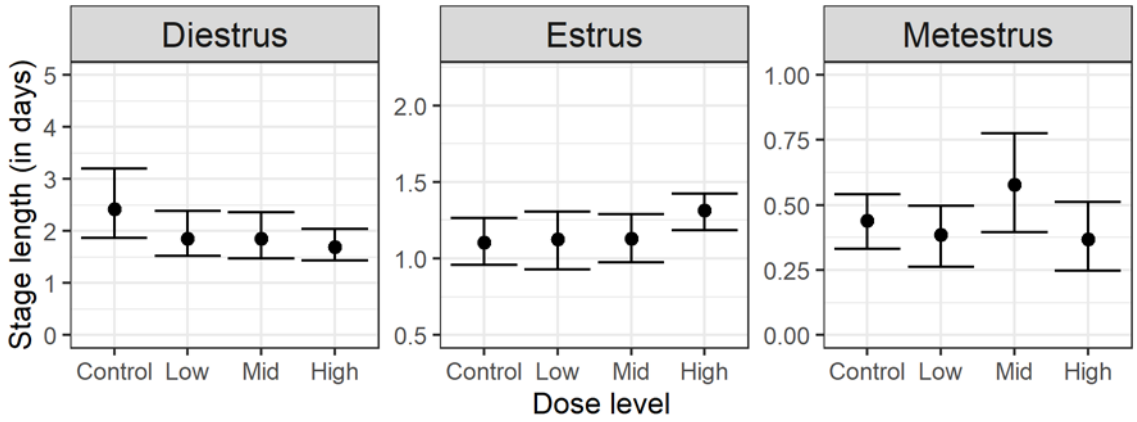
d: Significance is based on the adjusted p-value with a significance level of $\alpha = 0.05$.

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/mL)		Low dose (0.3 mg/mL)		Mid dose (1.0 mg/mL)		High dose (3.0 mg/mL)	
	Stage Length (days)	95% CI	Stage Length (days)	95% CI	Stage Length (days)	95% CI	Stage Length (days)	95% CI
Diestrus	2.4	(1.9, 3.2)	1.8	(1.5, 2.4)	1.9	(1.5, 2.4)	1.7	(1.4, 2.0)
Proestrus[a]	0.2	--	0.2	--	0.2	--	0.2	--
Estrus	1.1	(1.0, 1.3)	1.1	(0.9, 1.3)	1.1	(1.0, 1.3)	1.3	(1.2, 1.4)
Metestrus	0.4	(0.3, 0.5)	0.4	(0.3, 0.5)	0.6	(0.4, 0.8)	0.4	(0.2, 0.5)

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.