Table A-7. Model Predictions for Squamous Metaplasia of the Epiglottis in Male Mice Exposed to Molybdenum Trioxide (NTP 1997)

Model	DF	χ^2	χ^2 Goodness of fit p-value[a]	Scaled residuals[b] Dose below BMC	Scaled residuals[b] Dose above BMC	Scaled residuals[b] Overall largest	AIC	BMC_{10} (mg/m^3)	$BMCL_{10}$ (mg/m^3)
Gamma[c,d]	***3***	***5.55***	***0.14***	***-0.00***	***1.60***	***-1.65***	***135.46***	***1.30***	***1.06***
Logistic	2	61.77	0.00	-3.19	2.80	-6.62	164.85	ND-1	ND-1
LogLogistic[e]	1	1.42	0.23	-0.00	0.34	-0.85	134.73	ND-2	ND-2
LogProbit[d]	1	0.88	0.35	-0.00	0.31	-0.70	136.12	ND-2	ND-2
Multistage (1-degree)[f]	2	5.55	0.06	-0.00	1.60	-1.65	137.46	ND-1	ND-1
Multistage (2-degree)[f]	3	5.55	0.14	-0.00	1.60	-1.65	135.46	1.30	1.06
Multistage (3-degree)[f]	3	5.55	0.14	-0.00	1.60	-1.65	135.46	1.30	1.06
Probit	2	90.03	0.00	-3.63	2.65	-8.24	171.89	ND-1	ND-1
Weibull[c]	3	5.55	0.14	-0.00	1.60	-1.65	135.46	1.30	1.06

[a]Values <0.1 fail to meet conventional goodness-of-fit criteria.
[b]Scaled residuals at doses immediately below and above the BMC; also the largest residual at any dose.
[c]Power restricted to ≥1.
[d]Selected model. BMCLs for models providing adequate fit were sufficiently close (differed by <3-fold). Therefore, the model with the lowest AIC was selected.
[e]Slope restricted to ≥1.
[f]Betas restricted to ≥0.

AIC = Akaike Information Criterion; BMC = maximum likelihood estimate of the exposure concentration associated with the selected benchmark response; BMCL = 95% lower confidence limit on the BMC (subscripts denote benchmark response: i.e., $_{10}$ = exposure concentration associated with 10% extra risk); DF = degrees of freedom; ND-1 = not determined, goodness-of-fit criteria, p<0.10; ND-2 = not determined, BMCL was 10 times lower than lowest non-zero dose