**S4 Table. Survival functions.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Model | Probability density function (f(t)) | Survival function | Parameters | With covariates | Mean (95% Confidence interval: lower bound, higher bound) | AIC | ΔAIC |
| Exponential |    |   | *λ* =rate | $$λ=λ\left(dose\right)$$$$λ\left(dose\right)=\frac{1}{e^{β\_{f,control }+β\_{f,dose}}}$$ | *βcontrol=*2.94 (2.86, 3.02)*β1ow=* -0.29(-0.49, -0.08)*βhigh=* -0.63(-0.85, -0.41) | 8626 | 1222 |
| Weibull |    |   | *λ*=rate*v =* shape | $$λ=λ\left(dose\right)$$$$λ\left(dose\right)=e^{β\_{f,control }+β\_{f,dose}}$$ | *ν =* 2.70 (2.57, 2.84)*βcontrol=*3.04 (3.01, 3.07)*βlow=*--0.31(-0.38, -0.23)*βhigh=*-0.49(-0.57, -0.41) | 7558 | 154 |
| Log-normal |  |  | *μ* = locationσ= scale | $$μ=μ\left(dose\right)$$$$μ\left(dose\right)=e^{β\_{f,control }+β\_{f,dose}}$$ | σ *=*0.58(0.55, 0.60)*βcontrol=*2.84 (2.80, 2.89)*βlow=*-0.28(-0.40, -0.16)*βhigh=*-0.87(-0.99, -0.74) | 8051 | 646 |
| Gamma |   | No closed form | *λ*=rateκ *=* shape | $$λ=λ\left(dose\right)$$$$λ\left(dose\right)={ν}/{e^{β\_{f,control }+β\_{f,dose}}}$$ | κ = 4.14 (3.83, 4.48)*βcontrol=* 0.22(0.20, 0.24)*β1ow=*0.29(0.19, 0.39)*βhigh=*0.63(0.52, 0.74) | 7776 | 372 |
| Generalized Gamma |  |  | *λ* =rate*v* =shape 1*κ* = shape 2 | $$λ=λ\left(dose\right)$$$$λ\left(dose\right)=e^{β\_{f,control }+β\_{f,dose}}$$ | κ = 0.21 (0.16, 0.26)*ν =* 8.82 (7.38, 10.53)*βcontrol=* 29.46(28.64, 30.30)*βlow=*-0.33(-0.38, -0.28)*βcontrol=*-0.36(-0.42, -0.30) | 7404 | 0 |