**Longevity**

# Log-rank test

> log\_rank\_result <- survdiff(Surv(time, status) ~ species, data = surv\_data)

> # View the result

> log\_rank\_result

Call:

survdiff(formula = Surv(time, status) ~ species, data = surv\_data)

N Observed Expected (O-E)^2/E (O-E)^2/V

species=C. brenneri isolate 4500 1786 2955 462 3432

species=C. elegans N2 3100 1749 580 2355 3432

Chisq= 3432 on 1 degrees of freedom, p= <2e-16

**Survival of heat stress**

**# Log-rank test to compare survival curves**

> survdiff(Surv(time, status) ~ species, data = surv\_data)

Call:

survdiff(formula = Surv(time, status) ~ species, data = surv\_data)

N Observed Expected (O-E)^2/E (O-E)^2/V

species=C. brenneri 400 157 180 3.06 18.5

species=C. elegans 400 204 180 3.06 18.5

Chisq= 18.5 on 1 degrees of freedom, p= 2e-05

**# Cox regression model**

> cox\_model <- coxph(Surv(time, status) ~ species, data = surv\_data)

> summary(cox\_model)

Call:

coxph(formula = Surv(time, status) ~ species, data = surv\_data)

n= 800, number of events= 361

coef exp(coef) se(coef) z Pr(>|z|)

speciesC. elegans 0.2951 1.3432 0.1062 2.778 0.00546 \*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

exp(coef) exp(-coef) lower .95 upper .95

speciesC. elegans 1.343 0.7445 1.091 1.654

Concordance= 0.607 (se = 0.022 )

Likelihood ratio test= 7.79 on 1 df, p=0.005

Wald test = 7.72 on 1 df, p=0.005

Score (logrank) test = 7.78 on 1 df, p=0.005

Bacterial killing assay

*S. aureus*

Log rank

survdiff(Surv(time, status) ~ species, data = surv\_data)

Call:

survdiff(formula = Surv(time, status) ~ species, data = surv\_data)

N Observed Expected (O-E)^2/E (O-E)^2/V

species=cb 1800 297 422 36.8 163

species=ce 1800 546 422 36.8 163

Chisq= 163 on 1 degrees of freedom, p= <2e-16

Cox model

cox\_model <- coxph(Surv(time, status) ~ species, data = surv\_data)

> summary(cox\_model)

Call:

coxph(formula = Surv(time, status) ~ species, data = surv\_data)

n= 3600, number of events= 843

coef exp(coef) se(coef) z Pr(>|z|)

speciesce 0.98883 2.68810 0.07479 13.22 <2e-16 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

exp(coef) exp(-coef) lower .95 upper .95

speciesce 2.688 0.372 2.322 3.112

Concordance= 0.64 (se = 0.012 )

Likelihood ratio test= 186.8 on 1 df, p=<2e-16

Wald test = 174.8 on 1 df, p=<2e-16

Score (logrank) test = 187.8 on 1 df, p=<2e-16

*P. aeruginosa*

# Log rank test

> survdiff(Surv(time, status) ~ species, data = surv\_data)

Call:

survdiff(formula = Surv(time, status) ~ species, data = surv\_data)

N Observed Expected (O-E)^2/E (O-E)^2/V

species=cb 1800 272 412 47.6 203

species=ce 1800 552 412 47.6 203

Chisq= 203 on 1 degrees of freedom, p= <2e-16

#cox test

> cox\_model <- coxph(Surv(time, status) ~ species, data = surv\_data)

> summary(cox\_model)

Call:

coxph(formula = Surv(time, status) ~ species, data = surv\_data)

n= 3600, number of events= 824

coef exp(coef) se(coef) z Pr(>|z|)

speciesce 1.11326 3.04427 0.07712 14.44 <2e-16 \*\*\*

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

exp(coef) exp(-coef) lower .95 upper .95

speciesce 3.044 0.3285 2.617 3.541

Concordance= 0.659 (se = 0.012 )

Likelihood ratio test= 227.3 on 1 df, p=<2e-16

Wald test = 208.4 on 1 df, p=<2e-16

Score (logrank) test = 227.9 on 1 df, p=<2e-16