Project timeline

Prepare aquaria, stock fish, acclimate 10 days

T1.1 Prepare the 4 aquaria.
T1.2 Assess population distribution parameters: calculate mean for mass, size and associated standard deviations (if the population is gaussian).
T1.3 Stock 165 juveniles fish of at least 12-13 grams per aquarium.
T1.4 Record water parameter.
T1.5 Define feeding regime.
T1.6 Acclimate 10 days.

Monday, September 13

Read more

Recovery of the two strains S.agalactiae and A.veronii using TSA/TSB for 24h

T2.1 Recovery of the two strains

Wednesday, September 15

Read more

Cultivate bacteria 24h, draw growth-curves, count viable and dead cells, estimate biomass with spectrophotometer for λ=600 nm

T2.2 Stockage of bacteria for challenge test
T2.3 Production of vaccine Sa
T2.4 Production of vaccine Av
T2.5 Production of vaccine Sa + Av
T2.6 Production of vaccine Control

Thrusday, September 16

Read more

Bacterial isolation for different organs in 5 randomly sampled juveniles using TSA/TSB or BHIA

T1.7 Bacterial isolation: Quality control step to prove that the fish population is free of diseases

Saturday, September 18

Read more

Mucus and blood swab for baseline week 0, end of acclimatation phase

T3.1 Weekly fish swabs (to collect biomarkers). Harvest head kidney and liver on 3 fish.

Monday, September 20

Read more

Immunization

T3.2 Immunization (Sa , Av , Sa + Av , Control)

Monday, September 20

Read more

Mucus and blood swab for week 1

T3.3 Weekly fish swabs (to collect biomarkers). Harvest head kidney and liver on 3 fish.

Monday, September 27

Read more

Mucus and blood swab for week 2

T3.4 Weekly fish swabs (to collect biomarkers). Harvest head kidney and liver on 3 fish.

Monday, October 4

Read more

Mucus and blood swab for week 3

T3.5 Weekly fish swabs (to collect biomarkers). Harvest head kidney and liver on 3 fish.

Monday, October 11

Read more

Immunization 2: booster

T3.6 Immunization second dose: booster(Sa , Av , Sa + Av , Control)

Monday, October 11

Read more

Mucus and blood swab for week 4

T3.7 Weekly fish swabs (to collect biomarkers). Harvest head kidney and liver on 3 fish.

Monday, October 18

Read more

Bacterial challenge test 1 (no booster)

T5.1 Expose to Steptoccocus agalactiae the group vaccinated with Sa
T5.2 Expose to PBS the group vaccinated with Sa
T5.3 Expose to Aeromonas veronii the group vaccinated with Av
T5.4 Expose to PBS the group vaccinated with Av
T5.5 Expose to Steptoccocus agalactiae the group vaccinated with Sa + Av
T5.6 Expose to Aeromonas veronii the group vaccinated with Sa + Av
T5.7 Expose to PBS the group vaccinated with Sa + Av
T5.8 Draw conclusions pt.1

Tuesday, October 19

Read more

Mucus and blood swab for week 5

T3.8 Weekly fish swabs (to collect biomarkers). Harvest head kidney and liver on 3 fish.

Monday, October 25

Read more

Mucus and blood swab for week 6

T3.9 Weekly fish swabs (to collect biomarkers). Harvest head kidney and liver on 3 fish.

Monday, November 1

Read more

Mucus and blood swab for week 7

T3.10 Weekly fish swabs (to collect biomarkers). Harvest head kidney and liver on 3 fish.

Monday, November 8

Read more

Mucus and blood swab for week 8

T3.11 Weekly fish swabs (to collect biomarkers). Harvest head kidney and liver on 3 fish.

Monday, November 15

Read more

Mucus and blood swab for week 9

T3.12 Weekly fish swabs (to collect biomarkers). Harvest head kidney and liver on 3 fish.

Monday, November 22

Read more

Mucus and blood swab for week 10

T3.13 Weekly fish swabs (to collect biomarkers). Harvest head kidney and liver on 3 fish.

Monday, November 29

Read more

Mucus and blood swab for week 11

T3.14 Weekly fish swabs (to collect biomarkers). Harvest head kidney and liver on 3 fish.

Monday, December 6

Read more

Lab assays to monitor immune response

T4.1 ELISA for each group of samples for IgM and IgT
T4.2 PCR of key immune genes
T4.3 Agglutination test
T4.4 Collect and analyze results
T4.5 Draw conclusions

Wednesday, December 8

Read more

Bacterial challenge test 2

T5.9 Expose to Steptoccocus agalactiae the group vaccinated with Sa
T5.10 Expose to PBS the group vaccinated with Sa
T5.11 Expose to Aeromonas veronii the group vaccinated with Av
T5.12 Expose to PBS the group vaccinated with Av
T5.13 Expose to Steptoccocus agalactiae the group vaccinated with Sa + Av
T5.14 Expose to Aeromonas veronii the group vaccinated with Sa + Av
T5.15 Expose to PBS the group vaccinated with Sa + Av
T5.16 Draw conclusions

Thrusday, December 9

Read more

Final phase: draw conclusions

This is the content of the last section

Friday, December 10

Read more