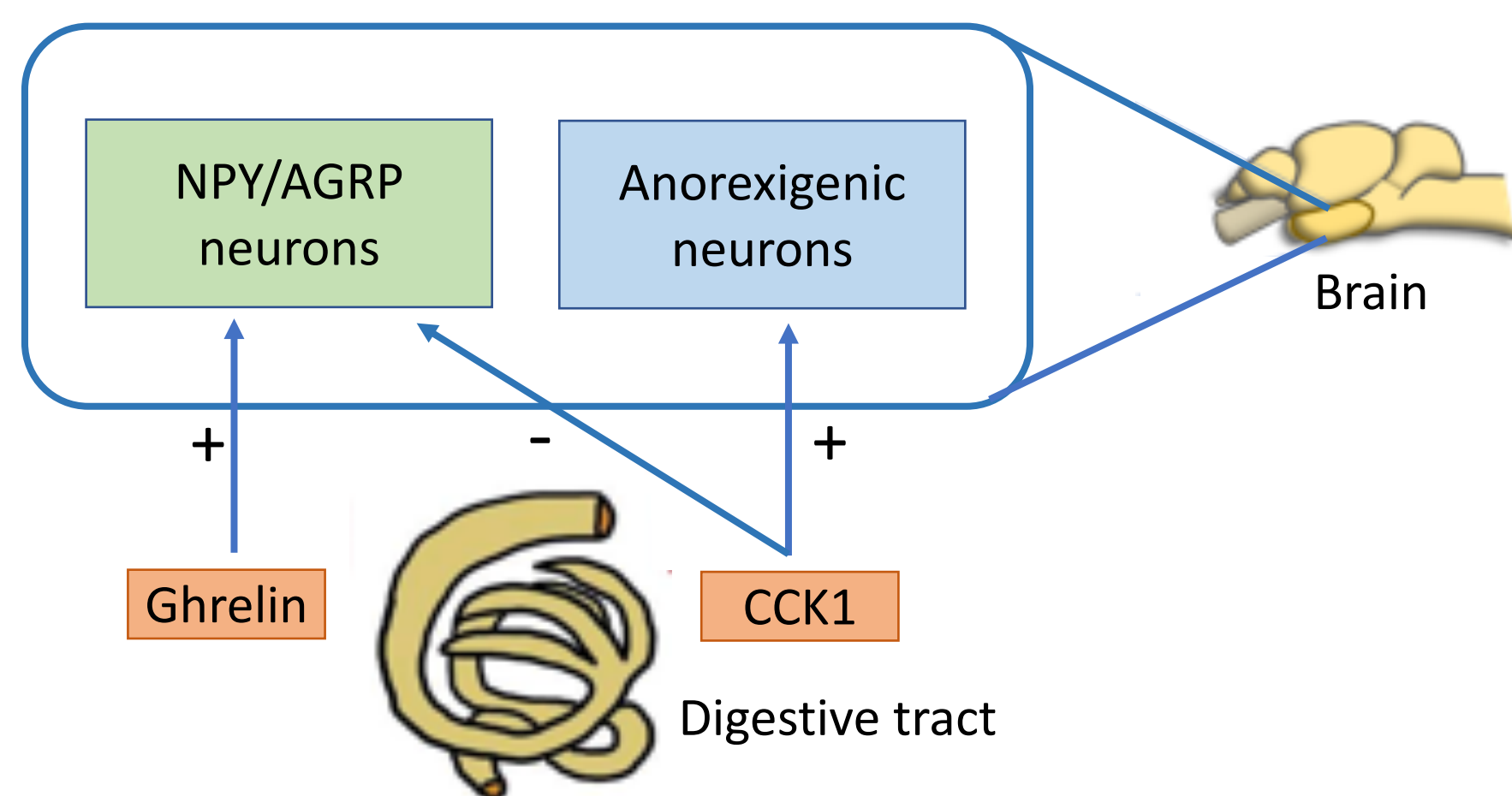


MOL231: Expression of *ghrelin*, *mboat4* and *cck1* following a single meal in Atlantic halibut

Thea F. Krog*, Paulina Pokusa*, Endre Lygre, Ivar Rønnestad, Ana S. Gomes
Department of Biological Sciences, University of Bergen, Bergen, Norway (* Shared authorship)

Background

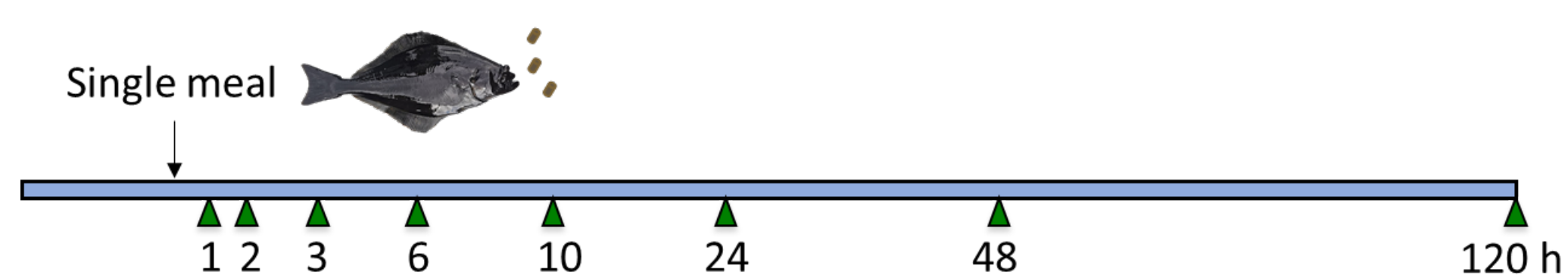
Appetite control and feed intake in Atlantic halibut is regulated by several peptides in the brain. It receives many signals, including those from the digestive system. Ghrelin is a hormone mainly produced in the stomach (ST) and is presumably an important stimulator of feed intake and metabolism (1). It is acetylated by the ghrelin O-acetyltransferase encoded by the *mboat4* gene. Cholecystinin 1 (*cck1*), however, is found in the midgut (MG) where it potentially induces satiety and has digestive functions (2).



Research questions:

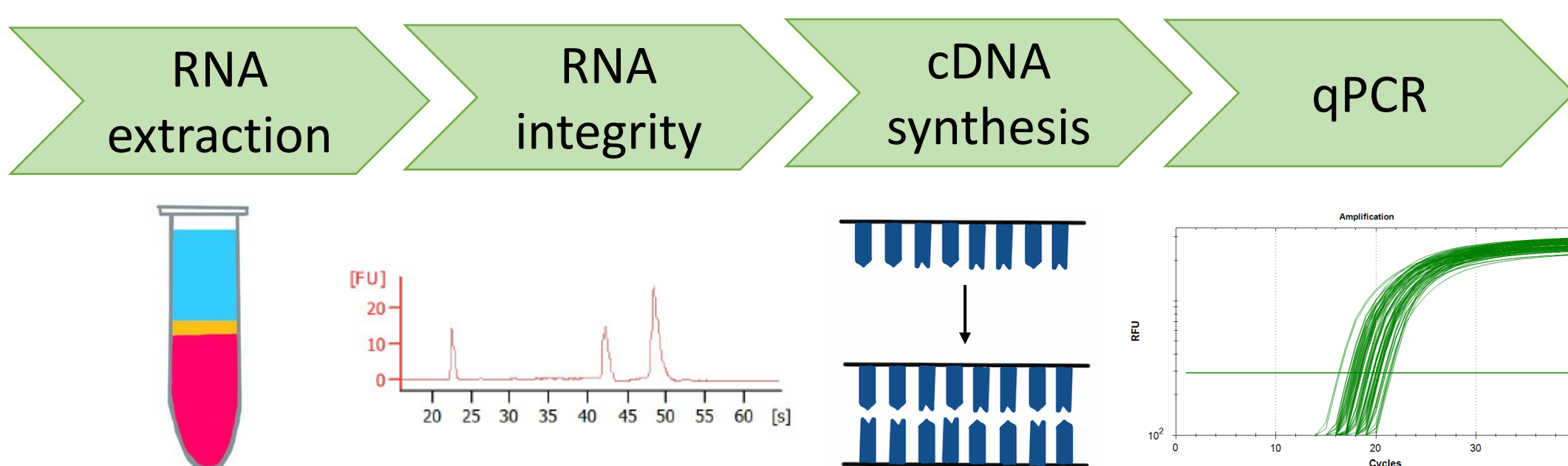
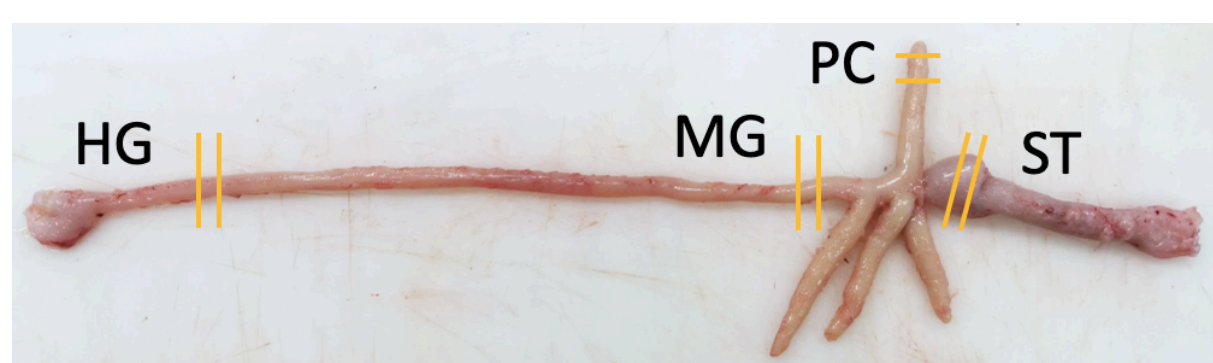
- 1) What is the effect of a single meal in the mRNA expression of *ghrelin* and *mboat4* in the stomach, and *cck1* in the anterior midgut?
- 2) Is the mRNA expression of *ghrelin*, *mboat4* or *cck1* correlated with the gut content?

Material and Methods

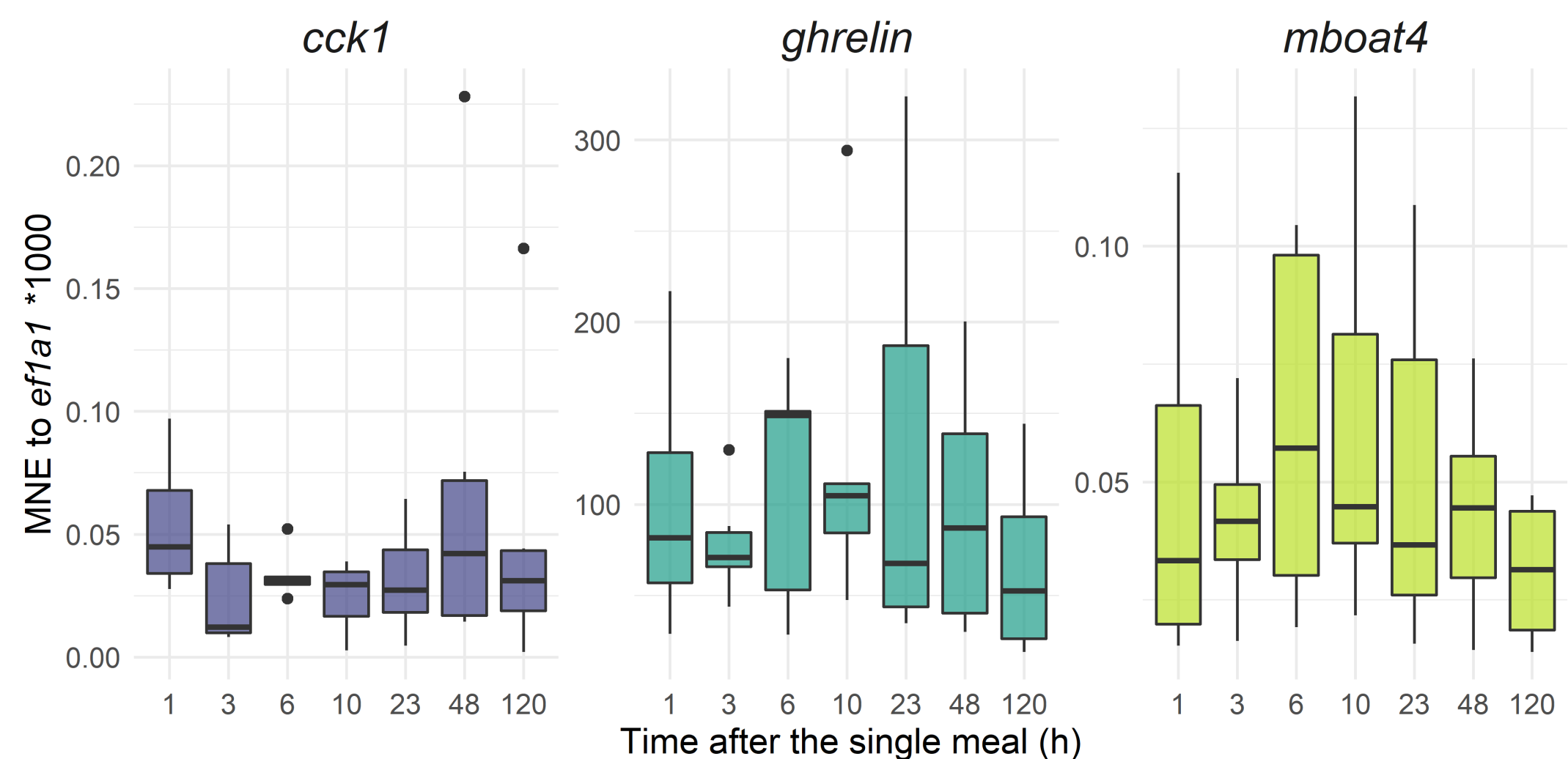


Sampling times after 5 days of fasting followed by a single meal

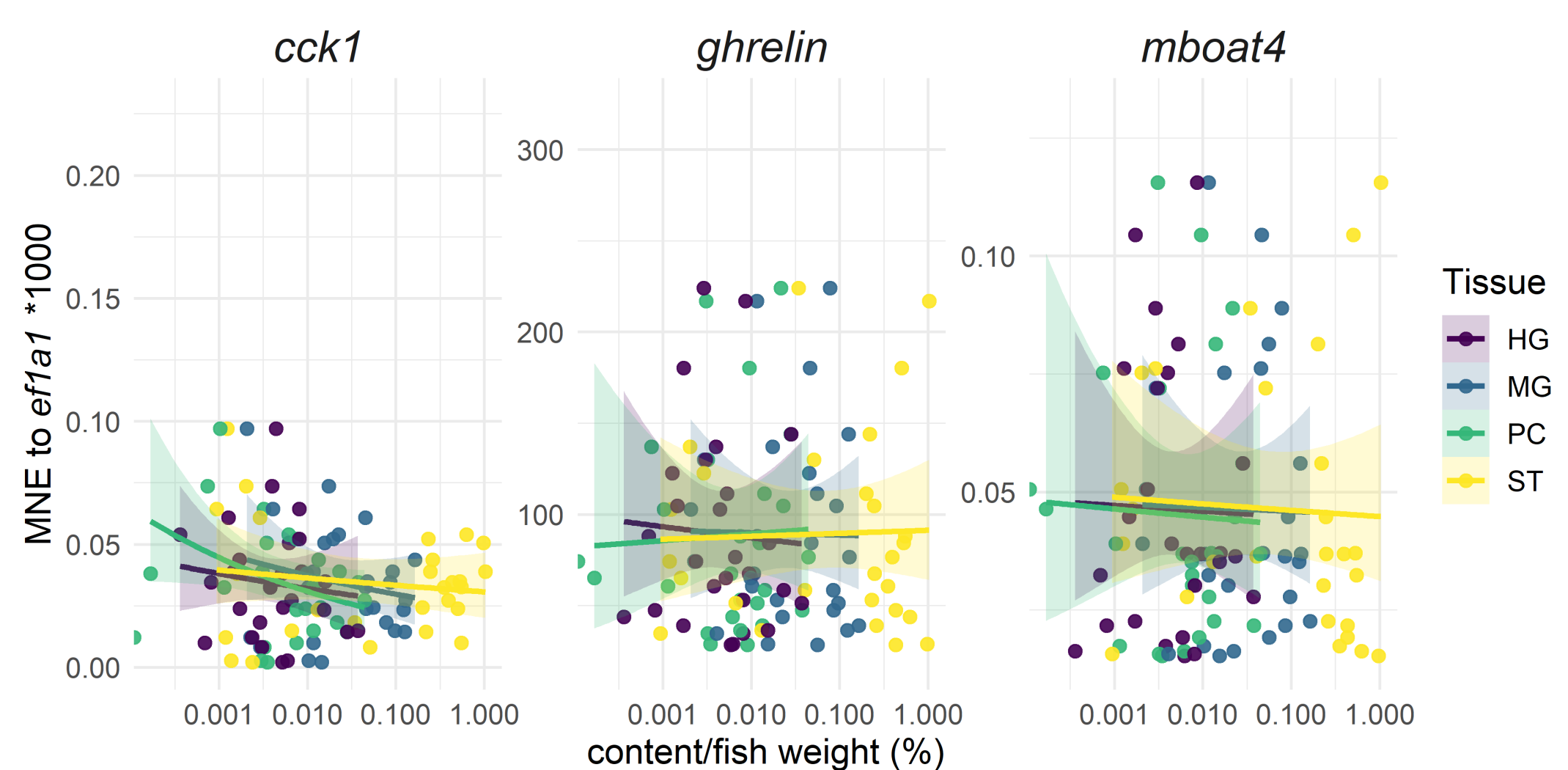
Tissue sampled for qPCR analysis



Results



Mean normalized expression (MNE) of *cck1* (MG), *ghrelin* (ST) and *mboat4* (ST) mRNA transcripts after one meal analyzed by qPCR



Mean normalized expression (MNE) of *cck1*, *ghrelin* and *mboat4* versus content in the different compartments of the gut (stomach (ST), pyloric caeca (PC), midgut (MG) and hindgut (HG))

Conclusions

- 1) There was no effect of a single meal in the mRNA expression of *ghrelin*, *mboat4* or *cck1* (no correlation between time and expression).
- 2) There was no correlation between the gut content and mRNA expression of *ghrelin*, *mboat4* or *cck1*.

References

1. JONSSON, E. 2013. The role of ghrelin in energy balance regulation in fish. *Gen Comp Endocrinol*, 187, 79-85.
2. RONNESTAD, I. et.al., 2017. Appetite-Controlling Endocrine Systems in Teleosts. *Front Endocrinol (Lausanne)*, 8, 73.

