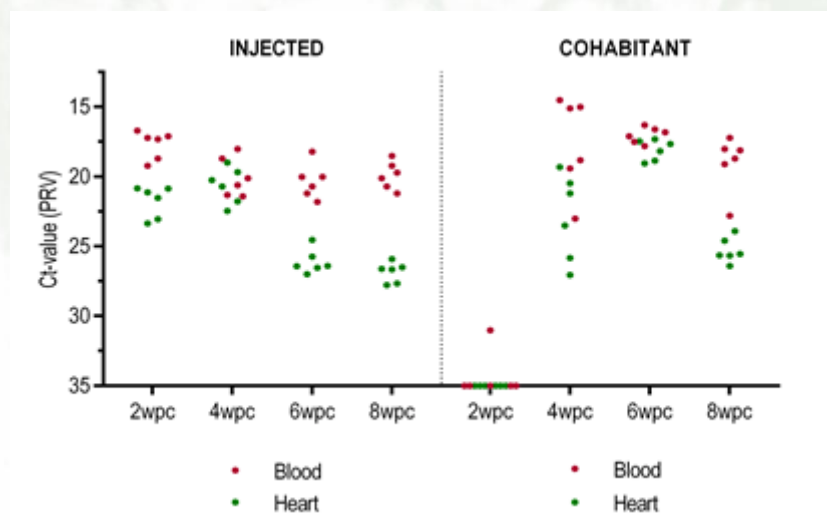


ATLANTIC SALMON - PISCINE ORTHOREOVIRUS (PRV)

Piscine orthoreovirus (PRV) is the causative agent of heart and skeletal muscle inflammation (HSMI). The virus is ubiquitous, but there is a significant increase in the viral load during an outbreak of HSMI. Experimental transmission of HSMI has been demonstrated using tissue homogenate, red blood cells and purified virus. The diagnosis is based on slowly emerging histopathological changes in the heart. qPCR and immunohistochemistry can be used to detect the virus at early stages of infection, before the onset of histopathological changes.

A challenge model for experimental infection of Atlantic salmon has been developed at VESO Vikan in close collaboration with researchers from the Norwegian School of Veterinary Science (NMBU). Parr and smolts can be challenged by i.p. injection of infectious material or by cohabitation, followed by serum and tissue sampling. Cohabitation trials are typically run for 8-10 weeks. There is a strong correlation between viral load and the following histopathological changes in the heart.



Detection of PRV after challenge by i.p. or cohabitation (n = 6, individual fish shown). Low Ct value = high viral load. From Wessel *et al* (2017), PLoS ONE 12(8).

Available models

Salmon			Water			Challenge model		
Fry	Parr	Smolt	FW	SW	°C	Ip	Bath	Cohab
	X	X	X	X	12	X		X