



## Response to Viral Infection differs between families of Rainbow Trout

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## RESPONSES TO VIRAL INFECTION DIFFERS BETWEEN FAMILIES OF RAINBOW TROUT

Submission for session 1: Understanding host-pathogen interactions and disease mechanisms with genomics-enabled tools

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We identified differences in gene expression profiles from two families of rainbow trout (*Oncorhynchus mykiss*), challenged with viral hemorrhagic septicaemia virus (VHSV). The two families represented trout of high and low resistance. We collected head kidney samples from the fish in a time-series from the day of bath challenge to day 16 following challenge. The samples were analysed using a 16K cDNA microarray for salmonids. In total, 642 and 556 transcripts from high and low resistance trout showed significantly different profiles between infected fish and non-infected control fish (FDR  $p=0.05$ ). A closer look at expression profiles for differentially regulated genes of immunological interest reveal a number of differences in both the level and the timing of the responses in the two trout families. These results bring us closer to an understanding of the variability in the trout's response to the intruding virus and indicate some key factors that provide the high-resistance trout with an advantage compared to the low-resistance trout.

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