

Infectious hematopoietic necrosis virus: advances in diagnosis and vaccine development

ABSTRACT

The aquaculture of salmonid fishes is a multi-billion dollar industry with production over 3 million tons annually. However, infectious hematopoietic necrosis virus (IHNV), which infects and kills salmon and trout, significantly reduces the revenue of the salmon farming industry. Currently, there is no effective treatment for IHNV infected fishes; therefore, early detection and depopulation of the infected fishes remain the most common practices to contain the spread of IHNV. Apart from hygiene practices in aquaculture and isolation of infected fishes, loss of fishes due to IHNV infection can also be significantly reduced through vaccination programs. In the current review, some of the diagnostic methods for IHNV, spanning from clinical diagnosis to cell culture, serological and molecular methods are discussed in detail. In addition, some of the most significant candidate vaccines for IHNV are also extensively discussed, particularly the DNA vaccines.

Keyword: DNA vaccine; Diagnosis; Infectious hematopoietic necrosis virus; Rhabdovirus; Vaccine