



# HOKKAIDO UNIVERSITY

Title	IMMUNOSUPPRESSION IN RAINBOW TROUT BY INFECTIOUS PANCREATIC NECROSIS VIRUS (IPNV)
Author(s)	TATE, Hideki
Citation	Japanese Journal of Veterinary Research, 37(2), 135-135
Issue Date	1989-06-20
Doc URL	<a href="https://hdl.handle.net/2115/3177">https://hdl.handle.net/2115/3177</a>
Type	departmental bulletin paper
File Information	KJ00002377280.pdf



IMMUNOSUPPRESSION IN RAINBOW TROUT  
BY INFECTIOUS PANCREATIC NECROSIS VIRUS (IPNV).

Hideki TATE

*Department of Epizootiology  
Faculty of Veterinary Medicine  
Hokkaido University, Sapporo 060, Japan*

The infectivity of infectious pancreatic necrosis virus (IPNV) to mononuclear leucocytes *in vivo* and the effects of the virus infection in rainbow trout on host immune responses were investigated.

Mononuclear leucocytes of virus-infected rainbow trout were prepared from a lymphoid organ and peripheral blood by Ficoll-Conray gradient centrifugation. The cells were separated to lymphocytes and the macrophage-monocyte population by adherence to a petri dish and nylon wool. The infectivity of IPNV to mononuclear leucocytes was measured by co-cultivation with STE-137 line cells. IPNV infected both macrophage monocytes that adhered to the petri dish and cells that adhered to nylon wool.

The mitogenic activity of lymphocytes in mononuclear leucocytes and the non-specific cytotoxic activity of separated lymphocytes were measured by  $^3\text{H}$ -thymidine incorporation and  $^{51}\text{Cr}$ -releasing assay, respectively. The mitogenic and nonspecific cytotoxic activities of lymphocytes from virus-infected fish were suppressed when compared to those of normal fish. Immunosuppression in these cell populations was related to IPNV infection and the growth of the virus in these cells.

These results suggest that IPNV infects macrophage-monocytes and lymphocytes of rainbow trout and induces immunosuppression in hosts.