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Yersinia ruckeri infection of rainbow trout: entrance portals and spread in the host

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The portal of entrance of either formalin inactivated or live *Yersinia ruckeri* organism in rainbow trout fish was studied by applying immunohistochemistry and *in-situ* hybridization. The sequential study involved a specific monoclonal antibody and a specific oligonucleotide probe binding to *Yersinia ruckeri.* It demonstrated the differential and regional uptake of both formalin inactivated and live bacterial organism in rainbow trout. The uptake dynamics in various organs/tissues demonstrated a site specific propensity between formalin inactivated and live bacteria. The possibility that lateral lines, dorsal fins and the gastro-intestinal tract could act as an active avenue to bacterial entrance was shown by both immunohistochemistry and *in situ* hybridization. The translocations of systemically absorbed formalin inactivated and live bacteria within different host body compartments were elucidated.

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