

Effects of hens egg yolk immunoglobulin in passive protection of rainbow trout against *Yersinia ruckeri*

Seung Bae Lee, Yoshinori Mine¹, and Roselynn M.W. Stevenson²

Department of Dairy and Food Sciences, Sangji University, Wonju, South Korea

¹Department of Food Science and ²Department of Microbiology, University of Guelph, Guelph, Ontario Canada

Anti-*Yersinia ruckeri* egg yolk immunoglobulin (IgY) was prepared after immunizing White Leghorn hens with formalin-killed whole cells of serovar 1 and serovar 2 *Y. ruckeri*. These IgY reagents were specific for their homologous lipopolysaccharides in Western immunoblots, while some protein bands were commonly recognized, even by IgY from eggs of unimmunized hens. Purified lipopolysacchides from *Y. ruckeri* serovars produced IgY of negligible titres. The IgY activity was stable when processed into pellet form by transglutaminase treatment and the pelleted material resisted acid pepsin for at least 2 h. Attempts to microencapsulate the IgY reduced activity. Feeding specific anti-serovar 1 *Y. ruckeri* IgY to fish either before or after immersion infection produced marginal reductions in mortalities and in intestine infection. This same IgY did passively protect rainbow trout against infection when administered by intraperitoneal infection 4 h before an immersion challenge.