

Siderophore receptor and porin (SRP) protein vaccines against fowl cholera: overcoming the serotype paradox.

D. T. Domingo*, C. N. Carver, B. Griffith, A. A. Huisinga, M. Peterson, D. E. Straub
**Dan.Domingo@Vaxxinova.com; Vaxxinova US, Willmar, MN*

Fowl cholera continues to be an important disease in commercial poultry production today. Increased demand for cage free, free-range and no antibiotics ever (NAE) production requires good management, strict biosecurity and the use of effective vaccines.

Current vaccine options have not changed for many years. Attenuated live vaccines are effectively used but have caused mortality, chronic infection or reversion to virulence. Inactivated vaccines protect only against similar serotypes and cause injection site reactions that negatively affect performance. USDA regulations require that vaccines show efficacy only against serotype 1 challenge in chickens, but flocks encounter diverse serotypes in the field.

An innovative new vaccine using siderophore receptor and porin (SRP) protein technology has been developed to protect against mortality due to fowl cholera. A series of vaccination-challenge studies was conducted to show the efficacy and safety of SRP vaccines against *P. multocida* challenge. A *P. multocida* SRP vaccine administered twice was able to provide up to 100% protection from mortality induced by a serotype 1 (USDA strain X-73) challenge. Another study demonstrated that a *P. multocida* SRP vaccine provided 70% and 92% protection from mortality due to heterologous challenge using serotype 7x9x10 or 8x14x15 virulent field isolates, respectively. In a safety study, injection site lesions induced by a *P. multocida* SRP vaccine resolved faster when compared to a commercial bacterin.

These studies have shown that an innovative vaccine using siderophore receptor and porin (SRP) protein technology is a safe and effective option for preventing mortality due to fowl cholera in chickens.