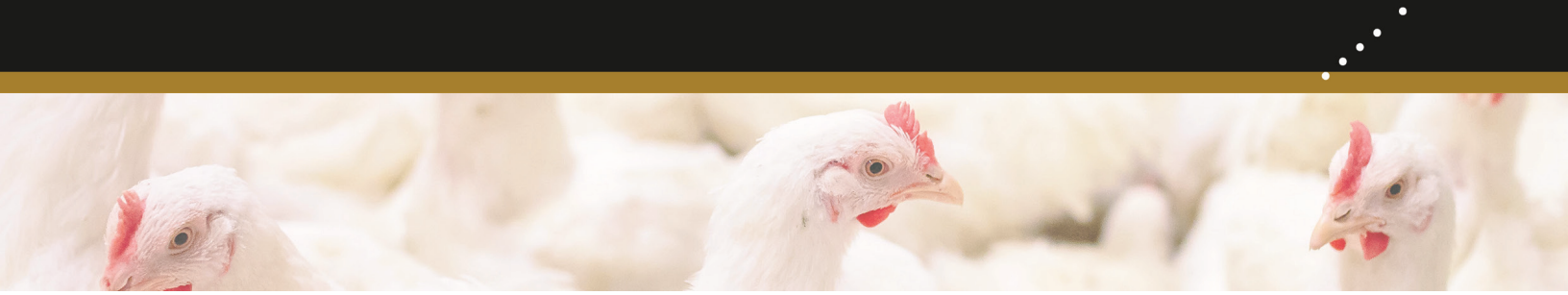


VAXXON® SRP® SE

An innovative option for *Salmonella* Enteritidis control in chickens

Salmonella Enteritidis (SE) and other *Salmonella* serotypes continue to be important food safety concerns in poultry.[1] They are ubiquitous hardy organisms and are found in otherwise healthy birds.[2] *Salmonella* contamination of poultry meat and eggs has been implicated in public health cases worldwide.[3] Effective prevention and control programs require coordinated and sustained implementation of risk reduction practices throughout the production system. Programs include the combined used of biosecurity, sanitation, environmental management, and vaccination. Administration of live and/or inactivated *Salmonella* vaccines has been shown to help decrease colonization of tissues, reduce vertical and horizontal transmission and contamination of eggs, progeny and the poultry environment.[4]

Vaxxon® SRP® SE
Salmonella Enteritidis Bacterial Extract Vaccine

Vaxxinova introduces an innovative vaccine against *Salmonella* Enteritidis. Vaxxon SRP SE is for the vaccination of healthy pullets against *Salmonella* Enteritidis to reduce colonization of SE in the reproductive tract.

Vaxxon SRP SE uses innovative siderophore receptor and porin (SRP) technology, developed and patented by Vaxxinova. It is a purified bacterial extract vaccine comprised of highly conserved SRP proteins as principal antigens, in a low volume vaccine dose.

USDA Label Indication: This product has been shown to be effective for the vaccination of healthy chickens 10 weeks of age or older against Salmonella Enteritidis. The duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov

This product has been shown to have an effect against colonization in the reproductive tract.

Directions: Shake well before use. Administer 0.25 mL (1 dose) subcutaneously. Revaccinate in 8 weeks.

vaxxinova®

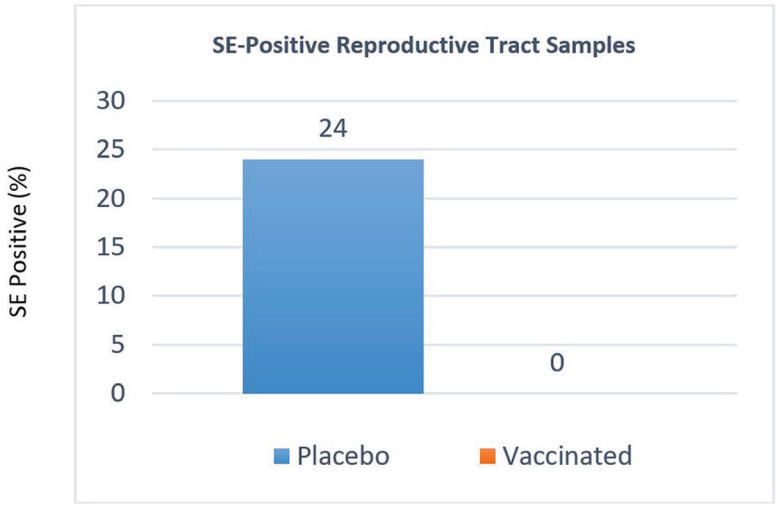
1801 Biotech Ave. NE
Willmar, MN 56201
+1 320.222.9822
info@vaxxinova.com
www.vaxxinova.us.com

Efficacy

In a randomized, double-blinded, placebo controlled challenge study, **Vaxxon® SRP® SE** decreased colonization of the ovaries and oviducts of vaccinated chickens.[5] At fourteen days post-challenge, there was 0% colonization of the reproductive organs in the Vaxxon SRP SE vaccinated birds compared to 24% colonization in the placebo group (up to 100% efficacy using Prevented Fraction analysis of vaccinated birds compared to placebo, P=0.014).

Table 1. SE colonization of reproductive tract 14 days post-challenge

SPF pullets were vaccinated at 10 and 18 weeks of age and challenged with a pathogenic field SE strain at 22 weeks of age. Colonization of the ovary and oviduct tissues was determined by necropsy.



Safety

Vaxxon® SRP® SE was demonstrated to be safe when used in multiple commercial operations located in different geographic locations. No adverse events were observed in the vaccinated birds, and mortality rates were very low and not different from the non-vaccinated controls over each of the two 3-week observation periods.[6]

Efficacious

- Reduced SE colonization of ovaries and oviduct

Purified SRP proteins as antigens

- Proteins create a strong anamnestic response
- Focuses host immune system on fewer antigens
- Stimulates both humoral and cell-mediated immunity
- SRPs are highly conserved between Salmonella serotypes

Minimal LPS compared to whole-cell bacterins

- Reduced injection site reactions
- Reduced post-vaccination activity suppression
- Avoids immunodominant, serogroup-dependent LPS

Low volume, specially formulated adjuvant

- Easy to administer, low viscosity
- Reduced risk of oil-induced vaccine reactions

REFERENCES: 1. Centers for Disease Control and Prevention. 2011. Vital signs: incidence and trends of infection with pathogens transmitted commonly through food – foodborne diseases active surveillance network, 10 US sites, 1996-2010. Morbid Mortal Weekly Rep. 60:749-755. 2. World Health Organization. Salmonella (non-typhoidal) Fact Sheet. February 20, 2018. 3. Richard K. Gast. Paratyphoid Infections. In Diseases of Poultry 13 Ed. D.E. Swayne Ed-in-Chief. Wiley-Blackwell. 2013 pp.693-706. 4. Dorea FC et al. 2010. Effect of Salmonella vaccination of breeder chickens on contamination of broiler chicken carcasses in integrated poultry operations. Appl Env Microbiol. 76:7820-7825. 5. Study on File. Study no. 1617. Epitopix LLC. October 2016. 6. Study on File. Study no. 1822. Epitopix LLC. July 2019.

vaxxinova®