Vaxxon® SRP® Salmonella

Siderophore Receptors and Porins

Salmonella control **starts with prevention.**

Vaxxon® SRP® Salmonella is a subunit vaccine that uses proteins found in cell walls of Gram-negative bacteria to stimulate an immune response. In the cow, antibodies block the inflow of iron into the bacterial cell, which is a critical nutrient for infections.

SRP technology effectively helps control infection and fecal shedding of Salmonella Newport, resulting in reduced disease incidence[1] and improved herd performance.[2] This technology, along with proper sanitation and biosecurity are part of a three-prong approach to effective management of salmonellosis in dairy herds.

Key features & benefits

- Reduces signs of illness from salmonellosis due to Salmonella Newport[1]
- Reduces the amount of Salmonella Newport shed in feces[1]
- Increases milk production by 2.5 pounds/cow/day even in herds with no apparent clinical signs[2]
- Reduction in somatic cell count associated with vaccination[2]

82%

REDUCED CLINICAL SIGNS OF DIARRHEA[1]

99.9%

REDUCTION IN SHEDDING[1]

2.5 LB INCREASE IN MILK PRODUCTION[2]

Vaxxon SRP Salmonella Detailer (01-2021)

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Why is Salmonella prevention important?

Salmonella is a bacteria that causes disease in nearly all types of mammals. Its most common symptom is diarrhea, but it can invade nearly any tissue in the body. It is of concern to cattlemen because it can cause disease and death in cattle. It is also a concern because it is one of the most important foodborne diseases of humans with an estimated 1.3 million cases annually and 550 deaths.

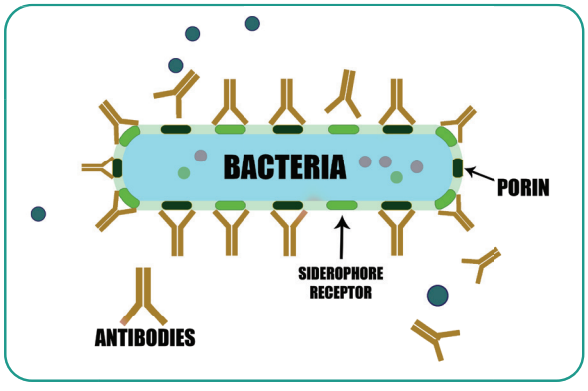
The SRP Difference

A study conducted in large herds of Texas Plains dairies looking at cull cow management showed the prevalence of Salmonella in cull cows was much less in herds vaccinated with Salmonella Newport Bacterial Extract vaccine with SRP technology.[3]

For more information on Vaxxon SRP Salmonella, please visit our website at www.vaxxinova.us.com

SRP Vaccine Technology

Bacteria require iron to survive. Since most iron in a host is tied up, bacteria produce and release siderophore proteins, which scavenge iron from the local environment. These "siderophores" then bring the iron back into the bacteria through protein pores (porins) specialized for iron acquisition. These pores are referred to as siderophore receptor proteins, or SRP. A vaccine made from SRP proteins will generate antibodies that block the uptake of iron into the bacterial cell.[5]



FEATURES	BENEFITS
SRP proteins are "conserved"[4]	Cross reactive antibody for many Gram-negative bacteria[4]
Antibodies attack critical bacterial function	Controls infection and colonization, not just endotoxemia
SQ administration	BQA compliant

Mode of action of SRP vaccines is different from that of the whole-cell autogenous or core antigen.[5] SRP vaccine-induced antibodies bind and block transfer of iron and nutrients through bacterial cell wall pores, starving bacteria of needed nutrients. Provides greater overall immunity than whole-cell bacterins.[5] Made from siderophore receptors and porins, specialized proteins on the outer membrane of the bacteria.

[1]Epitopix, LLC. N-0005-136-142 [2]Hermesch DR, Thomson DU, Loneragan GH, Renter DR, White BJ. Effects of a commercially available vaccine against Salmonella enterica serotype Newport on milk production, somatic cell count, and shedding of Salmonella organisms in female dairy cattle with no clinical signs of salmonellosis. AJVR 2008;69(9):1229-1234. [3]Loneragan, GH et al. Salmonella in Cull Dairy Cattle of the Texas High Plains. 89th Annual Meeting of the Conference of Research Workers in Animal Diseases, December 7-9, 2008, Chicago, Illinois. [4]Antigenic Homology of the Inducible Ferric Citrate Receptor (FecA) of Coliform Bacteria Isolated from Herds with Naturally Occurring Bovine Intramammary Infections, Jun Lin, Joseph S. Hogan, and K. Larry Smith, 1999. [5]Development of a Novel Coliform Mastitis Vaccine, J. S. Hogan1, J. Lin, and K. L. Smith.