Technology & Immunology



Product Immunology Breakdown:

(Two Technologies in One Bottle)

<u>Bacterin</u>: Totally Naked Mutant Core that doesn't have the ability to grow LPS. The core has a completely exposed cell wall that is common to all gram-negative bacteria.

<u>Toxoid</u>: Separate component, that is completely different than the bacterin. It is not just a loose toxin that has separated from the bacterin. It has been totally detoxified yet retains its mitogen properties through stimulation of certain TLRs. This makes it more than just and adjuvant and a true Immunostimulant.

Virtually any gram-negative you can think of DVMs use Endovac for.

The cell walls of all gram-negatives are exactly the same, it is only LPS that differentiates them as separate species and serotypes. Creating a gram-negative mutant that does not have the ability to grow LPS, means that we can actually make antibodies for the epitopes on the cell wall. Normal gram-negative vaccines, or even the J5 cores cannot do this, because the antigenicity of the LPS is too strong and the antigen presenting cells completely ignore the cell wall. By putting it in completely devoid of LPS and coupling it with a true immunostimulant, we are able to make antibodies for epitopes all over the exposed cell wall.

Two Technologies, One Bottle

Endovac Vaccine

- Diprecedented efficacy
- Doesn't create large milk drop due to no active endotoxins
- Unrivaled pathogens protected



Immune Plus

- Activated immune system for stronger responses
- Only immune stimulant included in a vaccine
- Increases antibodies, lymphocytes and neutrophils



Immune Plus found only in Endovac Vaccines!

Immune Plus raises the overall response in the immune system of the animal. This is important both for response to vaccination as well as overall health at critical times. As the graphs below demonstrate, two key components of the immune system, lymphocytes and antibodies are both significantly increased with Immune Plus. Elevating the animal's own immune response to ward off harmful pathogens, as well as enhancing the response to all administered vaccinations, are key roles of Immune Plus.

Endovac Vaccine's Broad Spectrum of Protection

The way most vaccines are built, multiple antigens have to be added to the vaccine to get protection from multiple diseases. This cocktail method means that the animal has to respond to lots of different antigens individually. Endovac vaccine is different for two reasons. First, the way our core technology is built, it is broad spectrum with only one antigen – see diagram below. Our unique antigen is the core of all gramnegative bacteria. This allows it to protect against virtually all gram-negative bacterial diseases. Second, Endovac is the only gram-negative vaccine to not have harmful active endotoxins. Endotoxins, also known as lipopolysaccharide, are not grown at all by our core antigen. This includes the toxin Lipid A, that plagues other gram-negative vaccines.







