EqStim Benefits

Consistent performance
Microbial resistance can be a problem with antibiotics, because these drugs typically have only one mode of action. EqStim stimulates a multi-faceted attack by the horse’s own immune system.

Flexible
EqStim’s recommended treatment regimen (one intravenous injection every three days for three injections) is the optimal dosage schedule for complete immune stimulation. However, depending on an individual horse’s response, EqStim’s multi-dose therapy allows the veterinarian to customize the patient’s care by amending the dose and number of treatments.

Safe
EqStim does not employ any adjuvants (oil-based adjuvants have been implicated in adverse side effects when administered intravenously). EqStim is safe to use in adult horses, ponies, and foals.

As with any equine biological, in rare instances EqStim may induce a mild, transient increase in body temperature, inappetence, and lethargy.

Cost Effective
Because EqStim enhances the horse’s first line of defense, the immune system, and shortens the recovery period from illness, there are substantial savings from the reduction in use of expensive antibiotics, lost training time, and missed performances.

References
Product Description

EqStim® is an immune stimulant, labeled as an adjunct therapy to antibiotics in the treatment of equine respiratory disease complex (ERDC). EqStim’s active ingredient is a whole cell inactivated bacterium, Propionibacterium acnes, which is a proven potent stimulator of innate immunity. When EqStim is administered via IV, it is rapidly removed from the bloodstream by macrophages in the liver, lungs, and spleen. These macrophages engulf (phagocytose) P. acnes and “turn on” the immune system by producing interferons and interleukins (cytokines), stimulating natural killer cells, and activating T-lymphocytes.

Immunotherapy

Unlike antibiotics and vaccines, which target specific ERDC causal agents, an immune stimulant activates a non-specific immune response to target many agents that a horse’s immune system may recognize as a threat. Because of this rapid and general response, immunotherapy is a valuable addition to standard treatments for both bacterial and viral ERDC organisms. The use of an immune stimulant, either prophylactically or before an infection becomes fully established, can reduce the severity of clinical illness, the likelihood of tissue damage (e.g., lung), and the spread of disease, which ultimately shortens the horse’s recovery time.

Years of investigation support effectiveness

Since its first use nearly 20 years ago, numerous research articles have been written, describing the diverse benefits of P. acnes and demonstrating that P. acnes is safe and effective in the treatment of ERDC. Clinical trials of respiratory disease in horses confirm that including P. acnes with antibiotic therapy significantly increases the degree of improvement and the number of complete recoveries when compared to antibiotic treatment alone. One study showed horses diagnosed with ERDC and treated with both P. acnes and antibiotics had a 96% response rate, compared to a 35% response rate for horses treated with antibiotics alone.

Insight into the mechanism of immunity

Recent studies by researchers at the Kansas State University College of Veterinary Medicine investigated the mechanism of immunity to P. acnes. Results of these studies indicate that CD4+ T-lymphocyte concentration, lymphokine activated killer cell activity, and macrophage phagocytic activity increases through amplified IFN-γ and NK-lysin gene expression. Earlier findings revealed that IL-1, IL-6, and TNF-α, cytokines essential for proper helper T-lymphocyte function, are also released by macrophages activated within a few hours of P. acnes administration.

EqStim & ERDC

EqStim & Equine Respiratory Disease Complex (ERDC)

While several viruses have been identified as causes of equine respiratory disease complex, the clinical signs and consequences are similar: cough, fever, nasal discharge, enlarged lymph nodes, loss of appetite, lethargy, slow recovery from exertion, and missed training.

Even before clinical signs of ERDC fully appear, the effects of reduced respiratory function may be apparent in a horse’s performance. Therefore, it is imperative to promptly treat a horse at the first indication of respiratory compromise. Competition horses placed at increased risk for ERDC due to frequent, lengthy transportation, busy show environments, exposure to large numbers of other horses, and other stressful situations may be treated prophylactically. If neglected, ERDC can escalate into secondary bacterial lung infections that may result in chronic problems and permanent damage to the horse’s respiratory tract.

What causes ERDC?

Common causes of ERDC include:

- Equine herpesvirus (rhinopneumonitis)
- Equine influenza virus
- Equine arteritis virus
- Equine adenovirus

Common secondary bacterial infections:

- Streptococcus zooepidemicus
- Streptococcus equi (strangles)
- Rhodococcus equi

Gram-negative bacteria, Gram-positive bacteria, and viruses all contribute to ERDC. Can EqStim be used regardless of the causative agent?

EqStim should not be confused with vaccines, which typically produce a pathogen-specific antibody response. EqStim generates a general, non-specific immune response, and is therefore effective against Gram-negative bacteria, Gram-positive bacteria, and viral pathogens.

Further Reading

Studies are available for review pertaining to EqStim use in mares with persistent endometritis, as well as prophylactic use in performance horses shipped over long distances.


For copies of these articles, please contact Neogen at 800/525-2022 or inform@neogen.com.