

# Characterization of Antibodies Against Equine IL-31

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**This proposal aims to develop a new treatment for equine insect bite hypersensitivity (IBH) by targeting a key itch mediator, providing an alternative to steroids.**



We believe that a therapy targeting IL-31, a key trigger of itching, can greatly improve the well-being of horses suffering from allergies. Some allergies, like insect bite hypersensitivity (IBH), cause intense itching and currently have no treatment options other than steroids. Our team has developed antibodies specifically designed to target equine IL-31.

The treatment we plan to develop will be a biologic, specifically monoclonal antibodies designed to target itching. Unlike steroids, these antibodies are not considered performance enhancers in human medicine, so they won't carry the same restrictions. This means we can provide a healthier option for horses suffering from allergies, enhancing their quality of life and performance.

This proposal aims to further validate these antibodies, which could lead to a new treatment option for itchy horses. Our goal is to create a safe and sustainable alternative to steroids that benefits equine athletes without compromising their health and performance. This new therapy will involve monthly injections of a biologic that selectively binds to and inactivates IL-31. This type of treatment, known as a "biologic," is commonly used in human medicine for various diseases, from eczema to cancer. It is advantageous because it is more targeted than traditional drugs, which can reduce the risk of side effects. Currently, horses have very few options for treating allergies and itching. This treatment could significantly improve their lives and the lives of their owners. The studies proposed in this application are essential for further characterizing the antibodies, which are necessary steps before we can proceed to clinical trials in the future.

**Importance to the Equine Industry:** Skin allergies in horses are often treated with steroids, but these drugs can lead to harmful side effects, especially with long-term use. Our goal is to develop a new treatment that avoids steroids and is safe for racehorses and other performance horses. This innovation would be a game-changer for the equine industry, offering a safer, more effective solution that helps horses stay healthy and perform at their best without the risks associated with steroids.