The Science of Significant Protection

UPDATED EQUINE INFLUENZA VACCINES FROM MERCK ANIMAL HEALTH

Featuring Florida ‘13 Clade 1 and Richmond ‘07 Clade 2 influenza strains – delivering advanced protection that matters to you and your clients.

PRESTIGE®
The Next Generation of FLU Protection
The Ongoing Threat of Equine Influenza

Equine influenza (EI) is not only an acute, extremely contagious viral disease in horses, it’s one of the most common causes of equine viral respiratory tract disease. Historically, flu outbreaks have caused significant economic loss and made a devastating impact on the horse industry. Today, flu continues to be a substantial international threat.

Outbreaks most frequently occur when susceptible horses are transported to racetracks, showgrounds and sales, and then housed in close quarters. Though originally thought to be a disease of young horses, we are now seeing more cases of Equine Influenza Virus (EIV) in older horses. Once the virus begins to circulate, it’s difficult to control and can spread rapidly. In an unvaccinated horse population that has never been exposed to the virus, equine influenza virus has a nearly 100 percent infection rate.

1 Merck Animal Health and University of California, Davis School of Veterinary Medicine (Nicola Pusterla). Infectious Upper Respiratory Disease Surveillance Program. Ongoing research. 2008-present.

The History of Florida ‘13

In February 2013, the annual Ocala Horse Shows in the Sun (HITS) event nearly came to a screeching halt due to an outbreak of equine herpesvirus (EHV-1) and equine influenza virus (EIV) that impacted hundreds of horses. While the initial quarantine was established due to a positive EHV-1 case, it quickly became apparent through PCR testing of nasal swabs that many more horses were impacted by EIV. The highly pathogenic strain of influenza that impacted these horses was ultimately isolated and identified as Florida ‘13 through the Merck Animal Health Respiratory Biosurveillance Program. Florida ‘13 represents a current, clinically significant strain responsible for a large influenza outbreak in well-vaccinated horses.
Equine influenza is caused by highly contagious and variable isolates of the influenza A virus, which is endemic in horses and other equus species. Equine influenza virus isolates are classified by subtype and named according to location and year of isolation. Subtypes are designated based on two glycoproteins found on the surface of the virus:

- Hemagglutinin (HA)
- Neuraminidase (NA)

At the present time all outbreaks of EIV are caused by subtype H3N8. Subtype H3N8 was first isolated from an outbreak in Miami, Florida in 1963. Since then, the virus has undergone extensive natural mutation, known as antigenic drift, resulting in different lineages, sublineages and clades.

Vaccinating is one of the most important ways to protect horses from EIV. However, influenza viruses are constantly changing at the molecular level as they pass from one host to another. This process of minor evolutionary mutations and alterations, known as antigenic drift, leads to new virus strains that a horse’s immune system may not recognize.

Due to the changes that can occur with EIV, it is paramount to use effective vaccines with relevant strains to aid in providing the best protection against viruses currently circulating.

Although antigenic drift in equine flu viruses is minimal compared to the changes that occur in flu viruses that affect humans, it’s vital to track them and stay alert to any major changes around the globe. All current circulating strains originated from what’s known as Florida lineage, which then broke into two separate groups called Clade 1 and Clade 2. Evidence confirms that the Clade 1 strain primarily circulates in the United States while Clade 2 predominantly circulates in Europe. (To date, no outbreaks of Clade 2 have occurred in the United States.)
The Science of Protection that Matters Most to You and Your Clients

Introducing the next generation of Prestige® flu-containing vaccines

Prestige equine vaccines continues to set the standard in safety and efficacy you’ve come to expect along with new influenza strains (including Clade 1 and Clade 2 viruses).

**Updated Influenza Strains Include:**

- **Florida ‘13 Clade 1:**
  Based on a highly pathogenic isolate from the 2013 Ocala, Fla. influenza outbreak that impacted hundreds of horses. Florida ‘13 was exclusively identified and isolated through the Merck Animal Health Biosurveillance Program.

- **Richmond ‘07 Clade 2:**
  Meets World Organisation for Animal Health (OIE) and American Association of Equine Practitioners (AAEP) guidelines for Clade 2 influenza protection.

- **Kentucky ‘02:**
  Influenza strain maintained from previous vaccine line.

**In Addition To:**

- **Kentucky ‘02:**

**Updated Prestige® equine flu-containing killed vaccines from Merck Animal Health:**

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<thead>
<tr>
<th>Disease Antigen</th>
<th>Prestige® Product</th>
</tr>
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<tbody>
<tr>
<td>EIV, EHV 1+4</td>
<td>Prestige® 2</td>
</tr>
<tr>
<td>EWT, EIV</td>
<td>Prestige® 4</td>
</tr>
<tr>
<td>EWT, EIV, EHV 1+4</td>
<td>Prestige® 5</td>
</tr>
<tr>
<td>EWT, EIV, EHV 1+4, WNV</td>
<td>Prestige® 5+WNV</td>
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No other company provides a broader range of influenza vaccine protection than Merck Animal Health by featuring both intramuscular killed vaccines with updated flu strains and an intranasal modified live vaccine.

Featuring the exceptional modified-live intranasal influenza vaccine, Flu Avert® LN, and the updated Prestige® line of flu-containing killed virus vaccines – customized, advanced influenza protection has never been easier to provide.
Since 2008, Merck Animal Health has conducted an ongoing, voluntary equine biosurveillance program to study the prevalence and epidemiology of relevant viral and bacterial respiratory pathogens.

In 2013, it was the Merck Animal Health Biosurveillance Program that identified a highly pathogenic isolate from the Ocala, Fla., influenza outbreak that impacted hundreds of horses. This isolate is now part of our updated line of influenza containing killed virus vaccines.

During an acute disease outbreak, diagnostic accuracy and timing are critical to ensure proper treatment. They are also vital for providing guidance and recommendations about vaccination, management, biosecurity and the potential need for quarantine. The Merck Animal Health Biosurveillance Program offers veterinarians the information and tools to sample horses with clinical signs of upper respiratory disease, so they can provide the most accurate and timely diagnosis possible to their clients.

To learn more, call our technical services team at 866-349-3497.

“This is the Science of Healthier Animals working for you – identifying threats and delivering advanced vaccine solutions to improve the lives of horses.”
Combining Science and Technology for Safe, Effective Protection

By combining our proprietary Antigen Purification System™ (APS) and exclusive Havlogen® adjuvant, we are able to produce a line of killed virus vaccines that are highly efficacious and have an exceptional safety profile shown to be 98% reaction-free in field safety trials.²

Antigen Purification System™
A vaccine can never be too safe. Our technology, known as the Antigen Purification System (APS), has been utilized for more than 20 years to help remove extraneous protein and cellular debris. Using this method of filtration purification allows concentration of antigen while minimizing the presence of extraneous protein and cellular debris that can contribute to vaccine associated adverse events. By purifying the vaccines with the APS, we reduce the debris that can cause undesirable injection site reactions in the horse.

Exclusive Havlogen® Adjuvant
Our killed vaccines are highly efficacious, in part, because of our exclusive Havlogen adjuvant. Havlogen is an emulsive, lipid-based, carbopol polymer cross-linking adjuvant. Havlogen stimulates the immune system to produce high, long-lasting levels of protection through the slow release and gradual absorption of antigen. Due to the composition of Havlogen, the vaccine maintains suspension without separation and settling in the vial, resulting in consistency and potency in every dose.

At Merck Animal Health, we stand behind our products. For details about the Equine Vaccine Performance Guarantee, go to merck-animal-health-equine.com/products/vaccines.

For more information and to order the updated Prestige® line of flu-containing vaccines, contact your Merck Animal Health representative or call 800-521-5767.