



NEWS RELEASE

Merck Animal Health Announces USDA Approval of Innovative Canine Flu Bivalent Vaccine

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First Vaccine to Offer Protection Against Both Strains of Canine Influenza

Merck Animal Health, known as MSD Animal Health outside of the United States and Canada, today announced that the U.S. Department of Agriculture has approved a license for Nobivac® Canine Flu Bivalent vaccine – the first vaccine to aid in the control of disease associated with both canine influenza virus (CIV) H3N2 and canine influenza virus H3N8.

“Merck Animal Health has a rich history of vaccine development supported by a wealth of expertise, as well as a deep commitment to bringing innovative products to market that truly impact the health and well-being of animals,” said KJ Varma, BVSc, Ph.D., senior vice president, R&D, Merck Animal Health. “Our new bivalent canine influenza vaccine will simplify protection against this disease and is a tremendous example of our ongoing pursuit of the science of healthier animals and our dedication to providing veterinarians with new medicines and vaccines to advance optimal pet care.”

CIV H3N2 was identified last year in the United States following multiple outbreaks throughout the country. Since cases were first reported in March 2015, dogs in more than half of the United States¹ have been stricken by this respiratory disease. CIV H3N8 was first diagnosed in 2004 and has impacted dogs in more than 40 states.

"Dogs at risk for CIRDC (canine infectious respiratory disease complex) should be vaccinated at least yearly with both influenza strains, H3N8 and H3N2, in addition to the other causes of 'Canine Cough,'" said Ronald Schultz, Ph.D., professor of pathobiological sciences at the University of Wisconsin School of Veterinary Medicine. "The

occurrence of one strain or the other is unpredictable and so dogs should be protected against both. Because dogs do not maintain long duration of immunity against influenza, it is important to vaccinate them annually.”

According to clinical studies by researchers at the University of Wisconsin, the CIV H3N2 may be shed for an extended period of time – up to 24 days, which is far longer than what is seen with CIV H3N8.² As a result, the infection can spread quickly among social dogs in inner cities, doggie daycares, boarding facilities, dog parks, sporting and show events and any location where dogs commingle. Clinical signs of both strains of CIV in dogs include coughing, fever, lethargy and interstitial pneumonia,³ and can be spread by direct contact with respiratory discharge from infected dogs, through the air via a cough or sneeze and by contact with contaminated objects, such as dog bowls and clothing or by people moving between infected and uninfected dogs.² The U.S. Centers for Disease Control and Prevention (CDC) notes there is no evidence of transmission of the virus from dogs to people.

Nobivac Canine Flu Bivalent is recommended for healthy dogs 7 weeks of age or older as an aid in the control of disease associated with canine influenza virus H3N8 and canine influenza virus H3N2. Primary immunization requires two vaccinations given two to four weeks apart. Annual revaccination with one dose is recommended.

“Our commitment to animal health runs deeper than simply providing safe, high-quality products to our customers,” said Kathleen Heaney, D.V.M., executive director, companion animal technical services, Merck Animal Health. “It’s also our responsibility to help educate pet owners about potential health threats and the factors that put dogs at risk. We are actively collaborating with veterinarians to share information about CIV and the importance of prevention through vaccination, as well as sharing simple precautionary measures pet owners can take to help protect the health of their animals.”

To learn more about CIV and the educational outreach initiative, visit doginfluenza.com and doginfluenza.com/ifthisdogcouldtalk.asp.

About Merck Animal Health

For 125 years, Merck has been a global health care leader working to help the world be well. Merck Animal Health, known as MSD Animal Health outside the United States and Canada, is the global animal health business unit of Merck. Through its commitment to the Science of Healthier Animals™, Merck Animal Health offers veterinarians, farmers, pet owners and governments one of the widest range of veterinary pharmaceuticals, vaccines and health management solutions and services. Merck Animal Health is dedicated to preserving and improving the health, well-being and performance of animals. It invests extensively in dynamic and comprehensive R&D resources and a modern, global supply chain. Merck Animal Health is present in more than 50 countries, while its products are available in some 150 markets. For more information, visit www.merck-animal-health.com or connect with us on [LinkedIn](#), [Facebook](#) and Twitter at @MerckAH.

Forward-Looking Statement of Merck & Co., Inc., Kenilworth, N.J., USA

This news release of Merck & Co., Inc., Kenilworth, N.J., USA (the “company”) includes “forward-looking statements” within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. These statements are based upon the current beliefs and expectations of the company’s management and are subject to significant risks and uncertainties. There can be no guarantees with respect to pipeline products that the products will receive the necessary regulatory approvals or that they will prove to be commercially successful. If underlying assumptions prove inaccurate or risks or uncertainties materialize, actual results may differ materially from those set forth in the forward-looking statements.

Risks and uncertainties include but are not limited to, general industry conditions and competition; general economic factors, including interest rate and currency exchange rate fluctuations; the impact of pharmaceutical industry regulation and health care legislation in the United States and internationally; global trends toward health care cost containment; technological advances, new products and patents attained by competitors; challenges inherent in new product development, including obtaining regulatory approval; the company’s ability to accurately predict future market conditions; manufacturing difficulties or delays; financial instability of international economies and sovereign risk; dependence on the effectiveness of the company’s patents and other protections for innovative products; and the exposure to litigation, including patent litigation, and/or regulatory actions.

The company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise. Additional factors that could cause results to differ materially from those described in the forward-looking statements can be found in the company’s 2015 Annual Report on Form 10-K and the company’s other filings with the Securities and Exchange Commission (SEC) available at the SEC’s Internet site (www.sec.gov).

¹Canine Influenza H3N2 Updates. Cornell University College of Veterinary Medicine website.

<https://ahdc.vet.cornell.edu/news/civchicago.cfm>.

²Updates in Canine Influenza Virus: Management, treatment and prevention of disease. VETgirl Webinar, July 27, 2015. Archived at www.vetgirlontherun.com.

³Kang et al., H3N2 Canine Influenza Virus Causes Severe Morbidity in Dogs with Induction of Genes Related to Inflammation and Apoptosis, *Veterinary Research* 2013,44:92.

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