

Protein Sciences Gears Up to Combat Pandemic Influenza Due to Recent Outbreaks in China

For Immediate Release

March 21, 2017

Contact:

Courtney Reis
Communications Associate
Phone: (203) 686-0800 ext. 301

Meriden, CT — In light of the growing concern over recent Avian Influenza outbreaks in China, [Protein Sciences Corporation](#), maker of the highly effective [Flublok® Influenza Vaccine](#), announced today that the Biomedical Advanced Research and Development Authority (BARDA) has requested the development of two new pandemic vaccine candidates to combat new H7N9 strains, one representing a pathogenic H7N9 virus. BARDA is a division of the Office of the Assistant Secretary for Preparedness and Response within the U.S. Department of Health and Human Services. The request for a vaccine candidate is made under the BARDA contract awarded to the Company in September as part of the Authority's medical countermeasures against pandemic influenza and influenza strains with pandemic potential (contract number HHSO1002016000051), with a value up to \$610 million. Protein Sciences' recombinant technology is the only FDA approved platform that can produce influenza vaccines fast enough and without use of influenza virus in manufacturing to meet the needs of an emerging pandemic.

A fifth wave of H7N9 with increasing numbers of infection is occurring in China. As of February 14, 2017, 1,223 cases of H7N9 with 380 fatalities have been reported to the World Health Organization (WHO). The emergence of a highly pathogenic version among newly identified H7N9 viruses in poultry is raising particular concern. WHO has recommended two new vaccine strains (one against low pathogenic and one against high pathogenic H7N9) for pandemic preparedness purposes.

"Our technology puts us in the unique position to deliver vaccine early," said Manon Cox, President and CEO of Protein Sciences. "Since our vaccines can be made from a genetic code and do not require handling of the pathogenic virus, production can be started 3-6 months earlier than manufacturers who have to wait for acceptable starting materials and safety clearance. Furthermore, we expect to have a very large increase in FDA approved production capacity for the manufacturing of pandemic vaccine available later this year. The ultimate goal is to have vaccine ready before the demand for healthcare service is at its peak during a pandemic. Egg-based manufacturing does not allow for that fast turnaround time."

Traditionally, egg-based vaccines are available 16-20 weeks after the declaration of a pandemic. Protein Sciences' technology allows for a highly effective recombinant vaccine to be available in approximately 12-16 weeks.

About Protein Sciences

Protein Sciences is a world leader in vaccine development and protein production. Our mission is our inspiration: to save lives and improve health through the creation of innovative vaccines and biopharmaceuticals.

About Flublok®

Flublok, the world's first recombinant protein-based vaccine for the prevention of seasonal influenza disease, is approved for all adults over 18 years. FDA approved the quadrivalent formulation ("Flublok Quadrivalent") in October 2016 that will be commercially available for everyone over 18 years for the 2017/18 influenza season. Flublok is the only flu vaccine made in a 100% egg-free system using modern cell culture technology, making it unnecessary to use an infectious influenza virus, antibiotics or harsh chemicals (e.g., formaldehyde) in manufacturing. Flublok is highly purified and does not contain any preservatives (e.g., thimerosal - a form of mercury), egg proteins, gelatin or latex. In addition, Flublok contains three times more antigen than traditional flu vaccines (3x45mcg hemagglutinin protein versus 3x15mcg hemagglutinin protein).* In a 2014/15 post-marketing study of 9,000 adults 50 years and older, people who received Flublok were over 40% less likely to develop cell culture confirmed influenza than people who received a traditional flu vaccine. Flublok is an exact copy of the influenza virus coat protein and is not subject to the egg-adapted mutations associated with low vaccine effectiveness (see [Skowronski et al. \(2014\) PLOS ONE 9\(3\), e92153](#)).

Healthcare professionals in the U.S. wishing to order Flublok should contact one of the following distributors:

- Protein Sciences Corporation: 203-686-0800 www.flublok.com
- FFF Enterprises: 800-843-7477 www.myfluvaccine.com
- Cardinal Health: 866-677-4844 <http://www.cardinal.com/flu>
- McKesson: 877-MCK-4FLU mms.mckesson.com
- Moore Medical: 800-234-1464 www.mooremedical.com/flu
- Henry Schein: 1-800-772-4346 www.henryschein.com

Learn more at www.proteinsciences.com and www.flublok.com.

Flublok Safety Information

Flublok is approved for people 18 and older to prevent influenza disease. The most common side effect from Flublok is pain at the site of injection. Headache, fatigue or muscle ache may occur. Tell the doctor if you have ever experienced Guillain-Barré syndrome (severe muscle weakness) or have had a severe allergic reaction to any component of Flublok vaccine. Vaccination with Flublok may not protect all individuals. Please see the complete Package Insert available at www.flublok.com or call 203-686-0800 for more information.

*Flublok demonstrated a higher antibody response to the A strains in two field trials in adults ≥ 50 years old. The B strain antibody responses were comparable to traditional trivalent and quadrivalent vaccines.

###