

UMN Pharma Joins Protein Sciences' International Zika Vaccine Consortium

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Contact:

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

USA and Japan — [Protein Sciences Corporation](#) (Meriden, CT and Pearl River, NY), manufacturer of [Flublok® influenza vaccine](#), and UMN Pharma Inc. (Akita, Akita prefecture, Japan) announced today that UMN has signed on as the latest partner of the international Zika vaccine consortium initiated by Protein Sciences. The consortium, which also includes partners Sinergium Biotech (Buenos Aires, Argentina) and Mundo Sano, a private foundation with activities in Argentina, Spain and Africa, is developing a vaccine to combat the Zika virus based on Protein Sciences' proprietary technology. The partners are pooling resources to drive advancement of their vaccine candidate into the clinic as quickly as possible, which is anticipated for later this year. Under the terms of the agreement, UMN will pay an upfront fee to fund the development and manufacture of the vaccine being produced at Protein Sciences. In return, UMN will receive manufacturing and commercial rights to the vaccine in Japan and other countries to be determined.

Dan Adams, Protein Sciences Executive Chairman and Global Head of Business Development said, "Our consortium is gaining traction because people realize that only by using a proven platform technology such as ours will it be possible to get a Zika vaccine approved by authorities and distributed to where it is needed quickly." He added, "We are making a Zika vaccine using the same platform technology that we use to make Flublok, which has been proven to be safe and effective in tens of thousands of healthy adults."

UMN is no stranger to Protein Sciences' technology. The Company holds a license for Flublok in Japan, China, Korea, Hong Kong, Taiwan and Singapore. UNIGEN, a joint venture of UMN and IHI Corporation, will manufacture Flublok and Astellas will market it in Japan.

Tatsuyoshi Hirano, Chairman and CEO at UMN Pharma said, "We are pleased to join the Zika vaccine consortium. As a world class biopharmaceutical and vaccine supplier, we would like to contribute the use of our 21,000L bioreactors to provide Zika vaccine to emerging countries in addition to providing influenza vaccine to the Japan and US markets."

About Protein Sciences and Flublok

Protein Sciences specializes 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.

Flublok, the world's first recombinant protein-based vaccine for the prevention of seasonal influenza disease, was approved by FDA in January 2013. 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 or antibiotics in manufacturing. Flublok is highly purified and does not contain any preservatives (e.g., thimerosal, a mercury derivative), egg proteins, gelatin or latex. In addition, Flublok contains three times more antigen than traditional flu vaccines (3x45mcg hemagglutinin protein versus 3x15mcg hemagglutinin protein)*. Flublok is a perfect copy of the virus coat and is not subject to the egg-adapted mutations associated with low vaccine effectiveness (see [Skowronski et al. \(2014\) PLOS ONE 9\(3\), e92153](#)).

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

About UMN Pharma

UMN Pharma is a bio-venture established in 2004 and is headquartered at Akita, Akita prefecture in Japan. The company received a license from Protein Sciences for dealership and exclusive development and manufacture of the recombinant influenza HA vaccine in Japan in August 2006 and for other regions in Asia (China, Korea, Taiwan, Hong Kong and Singapore) in October 2010. In Japan, the company concluded a cooperation agreement for joint development and exclusive sales of the recombinant influenza HA vaccine with Astellas Pharma in September 2010. The companies have submitted an application for approval of manufacture and sale of the recombinant seasonal influenza HA vaccine UMN-0502 (Astellas Pharma development code: ASP7374) to the Ministry of Health, Labor and Welfare, based on its results and efficacy on May 30, 2014.

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. Clinical effectiveness in adults 50 and older is based on the immune response elicited by Flublok and not on demonstration of decreased influenza disease. 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 during 2 clinical trials in adults ≥ 50 years old. The B strain antibody response was comparable to traditional trivalent vaccines.

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