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Dynavax's Universal Flu Vaccine Improves Response of Standard Flu Vaccines

Preclinical Studies Show TLR9 Agonists Conjugated to Conserved Viral Proteins

Provide 30-Fold Dose-Sparing of Standard Vaccine Components

BERKELEY, Calif., Oct. 19 /PRNewswire-FirstCall/ -- Dynavax Technologies Corporation (Nasdaq: DVAX) today announced that tomorrow, Friday, October 20, at the Second International Conference on Influenza Vaccines for the World in Vienna, Austria, it is presenting new preclinical data that show its influenza (flu) vaccine can improve the immunogenicity of standard flu vaccines. Dynavax said that the data from mouse and primate models demonstrate that co-administration of Dynavax's flu vaccine with standard vaccine enhances the immune response of the standard vaccine, allows reduction of standard vaccine dosage, and provides extra layers of protection that are not strain-dependent. Dynavax's vaccine is based on the company's proprietary TLR9 agonist-based immunostimulatory sequence (ISS) technology. The work was funded in part by a $3.0 million research and development grant for a pandemic influenza vaccine from the National Institute of Allergy and Infectious Disease (NIAID), a division of the National Institutes of Health.

Implications for Future Flu Vaccine Development

"Our findings in flu give us confidence about our ability to move forward quickly with a commercial product. In Dynavax's other infectious disease vaccine programs, preclinical data accurately predicted the results of subsequent human clinical trials," said Gary Van Nest, Ph.D., vice president of preclinical research at Dynavax.

Van Nest explained, "Standard flu vaccines provide protection against viral infection by generating neutralizing antibodies against viral surface proteins (hemagglutinin, or HA and neuraminidase, or NA). When there is inadequate antibody production or a mis-match between the vaccine and circulating virus, the effectiveness of standard vaccines can be dramatically reduced. The Dynavax universal flu vaccine not only enhances the virus-blocking, or neutralizing, effects of the co-administered standard flu vaccine, but also kills virus-infected cells and prevents virus spread that can lead to pneumonia and other often fatal sequellae, in a manner that is not strain-dependent."

"Our exciting results," added Van Nest, "are produced by linking our TLR9 agonists (ISS) to the highly conserved viral proteins, nucleoprotein (NP) and the extracellular domain of matrix protein 2 (M2e). NP-ISS induces strong type-1 helper T cell (Th1) and cytotoxic T cell responses (CTL) that kill virus-infected cells. M2e-ISS induces strong cytotoxic antibody responses that also kill infected cells, limiting disease severity. In effect, even if a standard flu vaccine does not match the virus that circulates in the season, our universal flu vaccine can potentially protect against viral disease, when combined or co-administered with any standard flu vaccine."

Data from Vienna

In the presentation in Vienna, entitled, "Induction of Broadly Protective Cellular Immune Responses Using an ISS Conjugate Vaccine," Debbie Higgins, Dynavax Senior Manager, Preclinical Programs, describes the work of Dynavax and its collaborators at The Influenza Research Center, Baylor College of Medicine.

The studies suggest that by adding the ISS-linked conserved antigens to standard vaccines, it may be possible to increase the effectiveness of any standard trivalent influenza vaccine or allow dose-reduction of standard vaccines and at the same time, increase their effectiveness. The data show the enhancement of functional antibody responses against the vaccine strains, specifically:

- In mice, NP-ISS co-administered with standard vaccine (Fluzone®, sanofi-aventis) provided significantly higher antibody responses with 30-fold less Fluzone.
- Primates (baboons) immunized with NP-ISS co-administered with standard vaccine developed enhanced Fluzone-specific antibody responses as measured by hemagglutination inhibition and viral neutralization assays.
- Linking ISS to a short M2e peptide (M2e-ISS) generated a strong M2e-specific antibody response.

In August 2006, at the "Novel Vaccines: Bridging Research, Development and Production" conference in Cambridge, MA, Dynavax presented data that showed both its flu vaccine's ability to confer cross-protective cellular immunity against widely divergent flu strains in mice and its potential as a universal flu vaccine. The data suggest that the vaccine has the potential to eliminate annual vaccinations and enable the stockpiling of vaccine for pandemic use. Specifically, the Dynavax flu vaccine was shown to protect against both "antigenic drift" and "antigenic shift." Mice immunized with the NP-ISS conjugate and then challenged with drift and shift virus strains demonstrated statistically significant lower viral titers and higher survival rates compared to mice immunized with NP alone or a PBS placebo.

About Dynavax

Dynavax Technologies Corporation discovers, develops, and intends to commercialize innovative TLR9 agonist-based products to treat and prevent allergies, infectious diseases, cancer, and chronic inflammatory diseases using versatile, proprietary approaches that alter immune system responses in highly specific ways. Our clinical development programs are based on immunostimulatory sequences, or ISS, which are short DNA sequences that enhance the ability of the immune system to fight disease and control chronic inflammation. Dynavax's pipeline includes: TOLAMBA™, a ragweed allergy immunotherapeutic, for which a major safety and efficacy trial (DARTT) is currently underway, and that is in a supportive clinical trial in ragweed allergic children; HEPLISAV™, a hepatitis B vaccine in Phase 3; and a therapy for non-Hodgkins lymphoma in Phase 2. Its preclinical asthma and COPD programs are partnered with AstraZeneca. Funding for the company's other preclinical programs in cancer, hepatitis B and hepatitis C therapies, and for an influenza vaccine has been provided by Symphony Dynamo, Inc. and NIH, but these programs represent future partnering opportunities. For more information, please visit www.dynavax.com .

Dynavax cautions you that this press release contains forward-looking statements, including without limitation the potential of Dynavax's flu vaccine to confer broad immunity to divergent and potentially pandemic flu strains, the ability to replicate preclinical results in clinical studies, plans to initiate and timing of clinical trials of Dynavax's flu vaccine, and the potential for continued development of existing clinical programs. Actual results may differ materially from those set forth in this release due to the risks and uncertainties inherent in Dynavax's business including, without limitation, risks relating to: the progress and timing of its current and anticipated clinical trials and other risks detailed in the "Risk Factors" section of Dynavax's Annual Report on Form 10-K and Quarterly Report on Form 10-Q. All forward-looking statements are made as of the date hereof and Dynavax undertakes no obligation to revise or update information provided in this press release.

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