## Conclusion of Research Collaboration Agreement for Next-Generation Vaccines

Osaka, Japan, March 7, 2012---Mitsubishi Tanabe Pharma Corporation (Head Office: Chuo-ku, Osaka; President and Representative Director: Michihiro Tsuchiya) has concluded a research collaboration agreement with Medicago Inc., (President and CEO: Andy Sheldon) to create new vaccines that use Medicago's technologies for manufacturing Virus-Like Particles (VLPs). Under this agreement, the two companies will commence collaborative research on several new VLP vaccines, with a rotavirus vaccine as the first project.

VLPs are recognized as one of the most promising vaccine technologies. VLPs mimic the structure and antigen conformation of native viruses, and VLP vaccines are expected to induce effective immune responses. Furthermore, as they don't contain genetic material, VLPs cannot replicate in the body so these vaccines may also offer superior safety. Medicago has proprietary manufacturing technologies by which VLPs containing recombinant antigens are produced in plant leaves and subsequently extracted and purified efficiently. These technologies enable Medicago to manufacture VLPs cost-effectively and in a short period of time.

The two companies will advance this research towards several new VLP vaccines. These initiatives will commence in spring of 2012 with research for the first product, a rotavirus vaccine.

Infection with rotavirus causes gastroenteritis in infants. In Japan, it is estimated 800,000 infants each year develop rotavirus gastroenteritis, of which about 80,000 cases develop into serious illness. Accordingly, the prevention of rotavirus infection by vaccines is the focus of growing attention. The two companies will conduct the collaborative research, which aims to create a new rotavirus VLP vaccine that overcomes challenges associated with existing live virus vaccines.

Mitsubishi Tanabe Pharma has established the sales foundation in vaccines business. The

Company will strive to contribute to society from the viewpoint of disease prevention by

creating new vaccine products through active research and development, together with

in-licensing of competitive products and technologies.

**About Medicago** 

Medicago has proprietary technology for the rapid, cost-effective manufacture of targeted

proteins based on a transient expression system in plants. The company is working on

developing VLP vaccines and biosimilars. Medicago's clinical development pipeline includes

a seasonal influenza vaccine and an avian flu H5N1 pandemic vaccine. At the research stage,

Medicago is also working on a rabies vaccine and on an Ebola hemorrhagic fever vaccine,

the latter in collaboration with the U.S. Army Medical Research Institute of Infectious

Diseases.

<Media enquiry>

Corporate Communications Department

Phone: +81 6-6205-5211

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