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For Immediate Release

IHI Plant Engineering Corporation  
UMN Pharma Inc.

**IPEC and UMN Pharma Begin  
Preparations for Construction of a Manufacturing Facility for UMN-0501, a Pandemic  
Influenza Vaccine Manufactured using a Novel Cell Culture Technique**

IHI Plant Engineering Corporation (headquartered in Tokyo, President & CEO: Haruhisa Yamagishi, hereinafter "IPEC"), an affiliate of IHI Corporation and UMN Pharma Inc. (headquartered in Akita, President & CEO: Shuichi Kanazashi, hereinafter "UMN") announced today that they have reached a designing agreement. This is the first step toward the construction of a facility to manufacture UMN-0501, UMN's pandemic influenza<sup>(1)</sup> vaccine under development, produced using a cell culture technique. As part of this agreement, IPEC made an investment in UMN Pharma to further strengthen the collaboration.

UMN-0501 is a new pandemic influenza vaccine manufactured from cell culture using recombinant protein<sup>(2)</sup>. The program was granted orphan drug designation by the Ministry of Health, Labour and Welfare in June 2008. Traditional vaccine production methods utilizing embryonated chicken eggs require at least six months while UMN-0501 can be produced in approximately eight weeks. This new method avoids the process of culturing an infectious influenza virus, thereby allowing safer vaccine production on a larger scale in a shorter time period. UMN is currently conducting phase I/II clinical trials for UMN-0501, and expects to obtain study results by the end of this year.

UMN has been developing the pandemic influenza vaccine project in Japan under a license agreement with Protein Sciences Corporation (hereinafter "PSC") based in the US. Since last year, IPEC has been working in cooperation with UMN toward the construction of the UMN-0501 production plant.

Haruhisa Yamagishi, the President and Chief Executive Officer of IPEC, commented that "We have offered our full support to UMN. As pandemic influenza poses a serious health threat, we pay particular attention to the novelty of UMN's technique and the safety and marketability of UMN-0501 and appreciate the significance of the project for society. We expect this agreement to further strengthen our business ties with UMN and ensure the steady progress of the project."

Shuichi Kanazashi, the President and Chief Executive Officer of UMN Pharma Inc., stated that "We are currently conducting the "first-in-man" clinical trial in Japan for the new pandemic influenza vaccine produced using a cell culture technique. With aid from IPEC, we will construct a manufacturing facility in conjunction with the clinical study already under way. We seek to establish a system for the stable supply of UMN-0501 as soon as possible."

<sup>1</sup> Pandemic influenza (flu) is a viral disease that occurs when the avian (bird) influenza virus emerges in humans and mutates allowing sustained person-to-person transmission. Because humans have little or no immunity to the unknown virus, it may cause serious illness and easily sweep across the country or world in a very short amount of time thereby potentially causing a pandemic outbreak

<sup>2</sup> A protein produced by gene recombination technology. The proteins can be artificially produced by inserting desired genes into the cells of Escherichia coli, yeast, insects and animals.

## About IHI Plant Engineering Corporation

IHI Plant Engineering Corporation was established in 1981 as the Detailed Design Division, Plant Operation Department, Ishikawajima-Harima Heavy Industries Co., Ltd. (IHI). Our fundamental principle is to contribute to society through providing services associated with manufacturing plants. We operate plant, apparatus and engineering businesses, the major three pillars of IHI. We have developed more than 100 cell culture facilities, reflecting our experience in bio-manufacturing plant construction. With knowledge and skills from our experience, we devote ourselves to satisfying the needs of customers at the cutting edge of various fields. Our bio-manufacturing plant construction business offers customer-oriented support and services ranging from lab-scale development to the scale-up of plants.

Incorporated	July 1, 1981
President & CEO	Haruhisa Yamagishi
Head office	Toyosu IHI Building 13th Floor, 3-1-1, Toyosu, Koto-ku, Tokyo, 135-0061, Japan Tel: + 81-3-6204-8200 (main) <a href="http://www.ipec-ihj.jp">http://www.ipec-ihj.jp</a>

## About UMN Pharma Inc.

UMN Pharma Inc. was incorporated in 2004 as a company dedicated to developing innovative pharmaceutical drugs that will satisfy unmet medical needs. Through our extensive network of Japanese universities and companies, we scout highly promising earlier stage drug seeds with the potential to become medical products, and promote their efficient development. Our pipeline includes vaccines against influenza and a therapeutic agent for the treatment of pancreatitis.

Incorporated	April 20, 2004
President & CEO	Shuichi Kanazashi, M.D., Ph.D
Head office	901, 3-1-9, Nakadori, Akita-city, Akita 010-0001, Japan
Tokyo Head Office	Kanenaka Bldg. 4th Fl., 1-15-8, Jinnan, Shibuya-ku, Tokyo 150-0041, Japan Tel: + 81-3-5728-5420 <a href="http://umnpharma.com/eng/">http://umnpharma.com/eng/</a>

If you have any questions, please contact:

- Public Relation & Advertising Division, IHI Cooperation  
Tel: + 81-3-6204-7030
- Hideaki Tsuji, Director, General Manager,  
Pharma. & Finechemical Engineering Division  
IHI Plant Engineering Corporation  
Tel: + 81-3-6204-0039
- Masahiro Hayashi, Director, Business Development  
UMN Pharma Inc.  
Tel: + 81-3-5728-5420    e-mail: [press@umnpharma.com](mailto:press@umnpharma.com)