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For Immediate Release

UMN Pharma Inc.  
IHI Corporation  
UNIGEN Inc.

## **UNIGEN Commences Construction of World-Class Biopharmaceutical Manufacturing Plant**

UNIGEN Inc. (Headquarters: Akita-shi, Akita, Japan; CEO: Yasuo Amatsuji), a joint venture company of UMN Pharma Inc. (Headquarters: Akita-shi, Akita, Japan; President & CEO: Shu-ichi Kanazashi) and IHI Corporation (Headquarters: Koto-ku, Tokyo; President & CEO: Kazuaki Kama), today announced the commencement of construction of a new commercial biopharmaceutical manufacturing plant.

The cost of construction will be covered by a FY 2011 “Subsidy Fund for Domestic Location Promotion Projects” administered by the Ministry of Economy, Trade and Industry ([link](#)), as well as a syndicate loan provided by Sumitomo Mitsui Banking Corporation.

The new plant, to be built in Ikeda, Ibi district, Gifu prefecture, will be a 5-story, steel-frame building with total floor space of 14,000 m<sup>2</sup>, and will be used to house multiple 21,000-L bioreactors. This plant will be one of the world’s largest facilities used to produce recombinant proteins using the Baculovirus Expression Vector System\*. UNIGEN Inc. already operates a pilot plant in Akita, which is currently being used for internal process development. The new plant will provide UNIGEN with the capacity to provide outsourcing services to leading biopharmaceutical companies for the manufacturing of their products, from drug development stage to commercial production. Cell-based influenza vaccines, currently under joint development by UMN Pharma Inc. and Astellas Pharma Inc., will be one of the first products manufactured at the new plant.

\* Protein expression system to produce only an objective protein. The target gene coding for the objective protein is incorporated into the baculovirus which

specifically infects arthropods such as insects. The host insect cell line is propagated and infected with recombinant baculovirus to produce the objective protein. In addition to its high level of safety, one of the biggest advantages of this system is that there is no need to optimize culture conditions in different genes. As the system can efficiently produce membrane proteins and virus like particles, it is the most appropriate technology for manufacturing the next generation of vaccines.

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