



October 31, 2017

Shionogi & Co., Ltd.

UMN Pharma Inc.

Notice of signing a capital investment and business alliance agreement

Shionogi & Co., Ltd. (Headquarters: Chuo-ku, Osaka-shi, President & CEO: Isao Teshirogi; hereinafter referred to as "Shionogi") and UMN Pharma Inc. (Headquarters: Akita-shi, Akita prefecture, CEO: Tatsuyoshi Hirano; hereinafter referred to as "UMN Pharma") today announced that they have entered into a capital investment and business alliance agreement as follows.

1. Reason for capital investment and business alliance

Shionogi is dedicated to providing infectious disease medicines, which are necessary for people to protect their health, to patients around the world, and has specified the infectious disease field as one of its core therapeutic areas, in which it is engaged in the pursuit of new medicines based on small molecule drug discovery, one of Shionogi's key strengths. In the future, while further building its infectious disease pipeline from prevention to treatment, Shionogi is aiming to expand its foundation in drug discovery to include vaccines, nucleic acid technology, etc. UMN Pharma has been advancing research and development of next generation biopharmaceuticals focusing on vaccines for the prevention of infectious diseases, utilizing its specialized know-how and technology. We believe that we can contribute to human health around the world through the development, registration, and launch of state-of-the-art biopharmaceuticals, including vaccines for infectious disease, through this alliance between the two companies.

2. Structure of capital investment and business alliance

(1) Structure of business alliance

This alliance is comprised of two phases, Phase 1 and Phase 2, and the current capital investment and business alliance is considered Phase 1. In this first phase, we will collaboratively establish core technologies for drug discovery, including the discovery of vaccines for the prevention of infectious diseases in humans, utilizing UMN Pharma's research and production sites, and conduct basic research on development candidates agreed by both



companies. In the second phase, we will assess the progress in the development of core technologies, and will select development candidates based on the basic research results, which we will pursue jointly, progressing the candidates through research, development, registration, and launch.

(2) Terms of capital investment

In order to provide investment funds for research and development in the first phase of the business alliance, UMN Pharma will allocate 600,000 shares of common stock and a first issuance of convertible bonds with stock acquisition rights (providing rights to acquire 4,900,000 shares) to Shionogi. The capital investment associated with such acquisition is expected to be about 1.6 billion yen in total. With this capital investment and business alliance, we will establish a medium- to long-term strategic relationship, and we will progress the research, development, and commercialization of vaccines for the prevention of infectious diseases.

Please also see the news release from UMN Pharma on this capital investment and business alliance, titled "Notice of capital investment and business alliance, issuance of new shares allocated to third parties and the first issuance of unsecured convertible bonds with stock acquisition rights allocated to third parties".

[For inquiries regarding this matter](#)

Shionogi & Co., Ltd.: +81-6-6209-7885, Corporate Communications Department

UMN Pharma Inc.: +81-45-595-9840, Department of management, Yokohama headquarters