

January 15, 2001
MedGene Bioscience, Inc.
Daiichi Pharmaceutical Co., Ltd.

**MedGene and Daiichi Pharmaceutical Have Entered
into Collaboration to Distribute HGF Gene Drug**

MedGene Bioscience, Inc. (Osaka, Japan) and Daiichi Pharmaceutical Co., Ltd. (Tokyo, Japan) have signed the agreement that both parties cooperate to distribute a new pharmaceutical product named hepatocyte growth factor (HGF) gene drug. MedGene Bioscience plans to conduct fundamental and clinical studies of the HGF gene drug in Japan to develop the drug for the treatment of peripheral artery disease. Daiichi Pharmaceutical will exclusively distribute the drug for peripheral artery disease in Japan.

The HGF gene drug will become the first domestically developed gene drug using the gene coding the HGF, which is an angiogenic protein, for gene therapy. Since the use of the HGF gene drug in the ischemic lesion induces the regeneration of blood vessels and thereby increases blood flow, the drug is expected to be effective for peripheral artery disease such as arteriosclerosis obliterans and Buerger's disease. The unique mechanism of action of HGF medicine could also be helpful in patients who are resistant to conventional drug therapy or who are not candidates for any surgical procedure.

MedGene Bioscience was founded in December 1999 to contribute to better healthcare through the R&D of gene drugs, nucleic acid drugs, and novel vector technology. This bioventure company and Osaka University have cooperated to seek commercialization of the fundamental technology for gene drugs established by the university.

Under the terms of the agreement, MedGene Bioscience grants Daiichi Pharmaceutical the exclusive rights to distribute the HGF gene drug in Japan, with expectation of big sales based on Daiichi Pharmaceutical's rich marketing experience of cardiovascular agents. Daiichi Pharmaceutical intends to take its first step into the regenerative medicine business and to add new products to its ticlopidine hydrochloride (PanaldineR) and argatroban (SlonnonR) for peripheral artery disease.

For more information, please call or fax inquiries to:

AnGes MG, Inc. Tokyo Office

Phone: +81-3-5730-2630 Fax: +81-3-5730-2635

Public Relations Office, Daiichi Pharmaceutical

Phone: +81-3-3273-7107 Fax: +81-3-3281-8427

Reference

Clinical Advantages and Significance of the HGF Gene Drug

Hepatocyte growth factor (HGF) has been shown to be a potent angiogenic protein acting on hepatic cells. The HGF gene drug will become the first domestically developed gene drug using the HGF gene to produce HGF. The drug uses naked DNA technology in which no viral vectors are used, resulting in avoidance of adverse reactions associated with the vectors. The use of the HGF medicine in the ischemic lesion induces regeneration of blood vessels and thereby increases blood flow. The unique mechanism of action of this innovative drug could be helpful in patients with peripheral artery disease resistant to conventional treatment.

Glossary

1. Gene drug

A pharmaceutical produce containing the partial or entire gene as an active ingredient.

2. Hepatocyte growth factor (HGF)

A growth factor found in hepatic cells that plays a role in angiogenesis, organogenesis in embryonic development, and regeneration of damaged organs or tissues.

3. Peripheral artery disease

Any of a group of ischemic disorders resulting from ischemia of muscles and skin due to constriction or obstruction of the arteries in the extremities, which may cause numbness, coldness, intermittent claudication, rest pain, and ulceration; it includes arteriosclerosis obliterans and Buerger's disease.

4. Naked DNA

Cyclic plasmid DNA. The HGF gene drug uses this type of DNA as a vector (vehicle) that carries the HGF gene into a host cell for gene expression (naked DNA delivery technology).

Conventional methods for introducing a foreign gene into a host cell use recombinant viruses or liposomes containing the therapeutic gene as a vector. Since plasmid DNA alone cannot penetrate through the cell membrane, gene expression does not occur with simple adherence of the DNA to the cell surface. Intramuscular administration of the DNA enables the gene to enter into the cells and express HGF. The naked DNA delivery technology is considered highly safe because of no concerns about cytotoxicity or infectivity of viruses or liposomes used as a vector.

Company Profile

MedGene Bioscience, Inc.

Head office : 1-24 Kamishinden #C-1101, Toyonaka, Osaka

President : Kensuke Tomita

Establishment : December 1999

Capital : 11 million yen(as of November 2000)

Employees : 12 persons (as of January 1, 2001)

Business line : Research, development, and manufacture of gene drugs

Daiichi Pharmaceutical Co., Ltd.

Head office : 3-14-10 Nihonbashi, Chuo-ku, Tokyo

President : Kiyoshi Morita

Establishment : January 1918

Capital : 45,246 million yen (as of September 2000)

Employees : 3894 persons (as of September 2000)

Sales : 247,506 million yen (for the March term 2000)

Business line : Business lineResearch, development, import, manufacture, and distribution of pharmaceutical products.