



Intellectual Property Report **2009**

Intellectual Property Report

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Intellectual Property Report

1 Introduction

Welcome to the Intellectual Property Report 2009 to be issued by AnGes MG, Inc. (hereafter, AnGes MG).

A company is a member of society. As such, our company is committed to actively responding to the government policy of strengthening the intellectual property nation. Further, as part of our broad corporate responsibility to society, we are committed also to responding to the demand for greater information disclosure.

This demand for information disclosure is not directed only at large corporations. It is also desirable for start-up companies, as their activities become more widely recognized throughout society, to make efforts to gain understanding of their importance. In particular, it is essential for biotech start-up companies, which are regarded as high-risk/high-return businesses and require substantial investment for early-stage research and development, to publicly disclose a variety of corporate information to investors and analysts so that their goals and present status can be accurately conveyed and evaluated. For AnGes MG, as a pioneer university-launched start-up company that went public, this is one important mission of our company.

The disclosure of information concerning intellectual property plays an important role. In response to the increasing recognition in this country of the significance of intellectual property to corporate strategy, 16 companies released intellectual property reports in 2004. Twenty companies released the reports in 2005, 26 companies in 2006 and 27 companies in 2007. However, most of these were major corporations. Considering the significance of intellectual property to corporate strategy, it could be said that start-up companies should take the lead and actively strive for greater information disclosure. This constitutes the background for the release of our Intellectual Property Report.

This Intellectual Property Report was the first issued by a start-up company such as ourselves, and since its first publication in 2005, it has been revised each year. We have produced this report from our own unique standpoint with contents that differ from the intellectual property reports previously published by major corporations.

While the number of intellectual property cases held by our company is of a small scale when compared to major corporations, the relative importance and weight of each individual case to our corporate strategy and corporate value are significant, which makes our intellectual property greatly different from those of major companies. It is our hope, by this Intellectual Property Report, that we will be able to gain your understanding of our company's fundamental stance and recognition of intellectual property as well as of our corporate activities based on AnGes MG's unique policies and intellectual property strategies.

March 27, 2009



AnGes MG, Inc.
Ei Yamada, Ph.D.
President & CEO

2 Intellectual Property for Drug Manufacturing Start-up Companies

It is typical for large drug manufacturers to initiate research projects based on promising candidates obtained at their own laboratories. Consequently, the substance patents and medical use patents that support their research projects are most often based on their own inventions. Further, to obtain comprehensive protection of their rights, it is typical for such manufacturers to construct a web of patents based on their own technologies and inventions by obtaining patents on drug preparations, drug substance manufacturing methods, and second medical uses (supplementary indications). Further, to support and develop their giant organizations, they should avoid the pressure on or the reduction of profits resulting from use of the patent rights of others.

However, in the gene/nucleic acid medicine field which we target:

- (1) There is a history of research and development at universities and start-up companies being ahead of major drug manufacturers;
- (2) Unlike the conventional low-molecular medicines, accurate assessment of development risk is difficult in this new field, and therefore the major drug manufacturers have been slow to participate; and
- (3) Since this is a cutting edge field, the development of examination standards at the Patent Offices of various countries is still in catch-up mode, so various competing rights conflict and overlap.

Consequently, the circumstances surrounding intellectual property in this field differ completely from the case of conventional medicines.

Under such circumstances, even a major drug manufacturer, for example, would find it difficult to secure all the intellectual property rights necessary for development completely by themselves, and could only begin development and commercialization after extensive efforts expended in obtaining assignment of or licenses over the rights of other companies.

In contrast, it is no overstatement to say that start-up companies are more strategically skilled than big pharmaceutical companies in the sense that they are obliged to make the best use of the intellectual property rights of theirs as well as others, in combination with the limited number of their in-house technologies. Taking advantage of the particular characteristics of a start-up company which specializes in the development of medicines in a particular field, our strategy of combining the extensive application of indications (medical uses), improvement of drug formulation and their delivery methods, and business partnership and alliances enables the construction of an intricate web of patents.

The business style and approach of such start-up companies aiming at new drug development provide hope to patients who eagerly await new therapeutic agents of high efficacy and safety, contributing in various ways to the improvement of their quality of life (QOL). This is also true for all those patients who suffer from rare diseases for which there is little incentive for development of treatments.

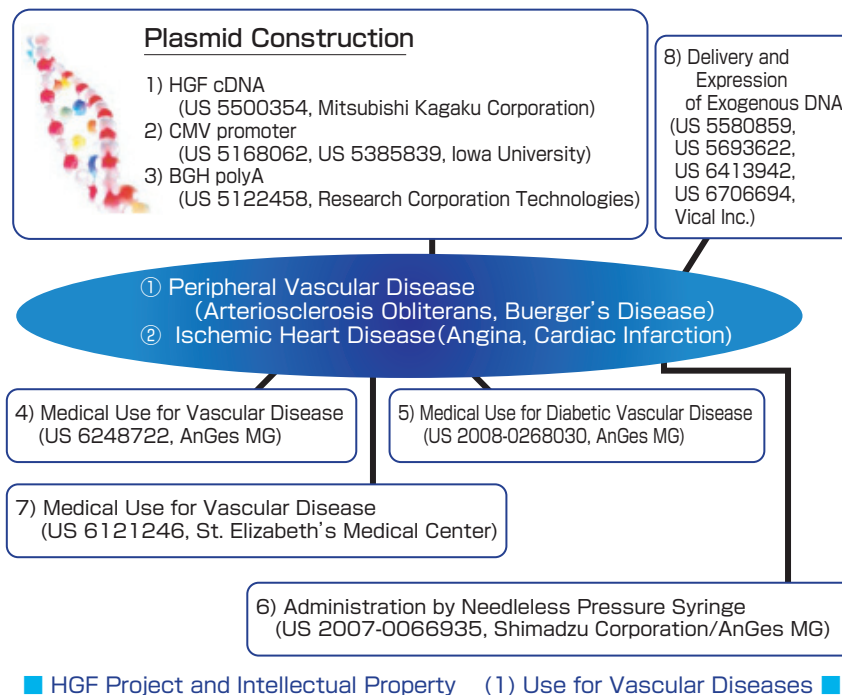
Our intellectual property strategy is illustrated in the following sections with examples of the three major projects of our company; HGF (Hepatocyte Growth Factor) Project, NF- κ B Decoy Project, and HVJ-E (Envelope) Vector Project.

(Only published patent application numbers of each project are indicated.)

3 HGF Project and Intellectual Property

Firstly, we explain the intellectual property covering our HGF project under the following three headings: (1) use for vascular diseases; (2) other diseases and forms of administration; and (3) current status of angiogenic gene therapy patents in Japan.

(1) Use for Vascular Diseases



The HGF gene therapy currently under clinical development is applicable to the following vascular diseases:

- i) Peripheral Vascular Disease (Arteriosclerosis Obliterans, Buerger's Disease)
- ii) Ischemic Heart Disease (Angina, Cardiac Infarction)

These projects are covered by the following group of patents and patent applications: (Only published patent applications are indicated both here and throughout.)

- 1) US 5500354 (HGF cDNA, Mitsubishi Kagaku Corporation)
- 2) US 5168062, US5385839 (CMV Promoter, Iowa University)
- 3) US 5122458 (BGH Poly A, Research Corporation Technologies)
- 4) US 6248722 (Medical Use for Vascular Disease, AnGes MG)
- 5) US 2008-0268030 (Medical Use for Diabetic Vascular Disease, AnGes MG)
- 6) US 2007-0066935 (Administration by Needleless Pressure Syringe, Shimadzu Corporation/AnGes MG)
- 7) US 6121246 (Medical Use for Vascular Disease, St. Elizabeth's Medical Center)
- 8) US 5580859, US 5693622, US 6413942, US 6706694 (Delivery and Expression of Exogenous DNA, Vical Inc.)

As is clear from the above, this project cannot be realized relying only on the intellectual property held by one corporation. Development has only become possible through the

establishment of broad alliances.

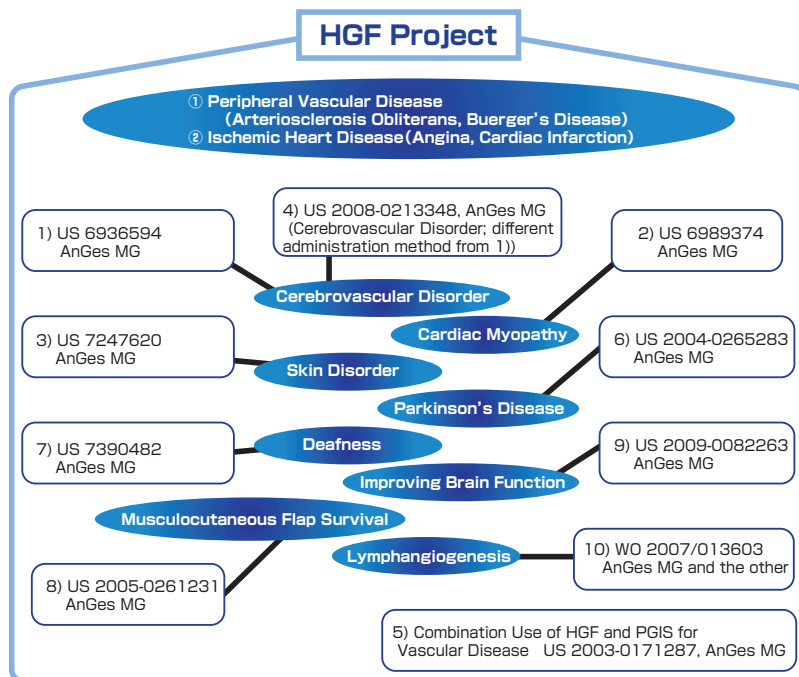
Further, since we respect the intellectual property of others, and from the standpoint of preemptively avoiding unnecessary conflict, we regularly monitor the patents and patent applications of other companies relating to HGF gene therapy on a global basis.

In addition, we are pursuing a basic company policy of providing greater benefits to patients. We seek to develop bio-medicines which are safer, more effective, and less-invasive, and which realize better quality of life (QOL). To this end, we are examining and pursuing broader alliances and partnerships in relation to intellectual property.

We have global patent rights covering the basic medical use of HGF related to angiogenesis.

- US; US6248722 (granted)
- Japan; JP3431633 (granted)
- Europe; EP0847757 (granted in Great Britain, Germany, France, Italy, Austria, Belgium, Switzerland, Denmark, Spain, Greece, Ireland, Liechtenstein, Luxembourg, Monaco, Netherlands, Portugal, Sweden and Finland)
- Canada; CA2230819 (granted)
- Australia; AU745887 (granted)
- New Zealand; NZ315769 (granted)
- China; CN1198675 (granted)
- Korea; KR725199 (granted)
- Taiwan; TW1236373 (granted)

(2) Other Diseases and Forms of Administration



■ HGF Project and Intellectual Property (2) Other Diseases and Forms of Administration ■

HGF possesses a diverse range of pharmacological actions apart from those described above. Thus, there is the possibility that it can contribute to the improvement of the QOL of patients suffering from diseases for which no effective therapeutic agents yet exist.

From such a standpoint, we have been concentrating our efforts on expanding the applicable indications (medical uses) of the HGF gene. As a result, we have the following patent applications covering these indications:

- 1) US 6936594 (Cerebrovascular Disorder, AnGes MG)
- 2) US 6989374 (Cardiac Myopathy, AnGes MG)
- 3) US 7247620 (Skin Disorder, AnGes MG)
- 4) US 2008-0213348 (Cerebrovascular Disorder; a different administration method from 1), AnGes MG)
- 5) US 2003-0171287 (Combination Use of HGF and PGIS for Vascular Disease, AnGes MG)
- 6) US 2004-0265283 (Parkinson's Disease, AnGes MG)
- 7) US 7390482 (Deafness [Hearing Impairment], AnGes MG)
- 8) US 2005-0261231 (Musculocutaneous Flap Survival, AnGes MG)
- 9) US 2009-0082263 (Improving Brain Function, AnGes MG)
- 10) WO 2007/013603 (Lymphangiogenesis, AnGes MG and the other)

We will continue actively to conduct pre-clinical/clinical research aiming at expanding the list of indications to which the HGF gene can be applied, and at the same time seek to establish further intellectual property rights pertaining thereto.

It is generally difficult to win patent rights for the medical application of a known gene due to a substantial amount of publications and related references which already exist. However, our intellectual property division through their ingenuity and determination continues to strongly support our development projects, and consequently we are committed to achieving our targets.

Avoiding the situation where failure to establish intellectual property rights would result in termination of development - this is what we, the intellectual property division of a start-up company, regard as our duty, entrusted to us by the many patients eagerly awaiting new medicines.

(3) Current Status of Angiogenic Gene Therapy Patents in Japan

To date, many physiological proteins of angiogenic action have been reported. The main proteins that have been identified as subjects for angiogenic gene therapy are mainly as follows: (1) HGF, (2) VEGF (VEGF165, VEGF121), (3) VEGF-2, (4) VEGF-C, (5) b-FGF (FGF-2), (6) a-FGF (FGF-1), (7) FGF-4, (8) HIF-1 α , (9) EGF, (10) TGF- α .

The status of the basic patents covering the project on the basis of these proteins together with their pharmacological characteristics/developmental stage is outlined below.

Protein Encoded by Gene	Pharmacological Characteristics	Gene Therapy Development Stage	Related Japanese Basic Patents and Patent Applications	Date of Application	Expiration Date
(1) HGF Hepatocyte Growth Factor	·high efficacy ·high stability	Japan: Clinical Phase III [United States: Clinical Phase II]	Patent No. 3431633 - granted	1996/8/22	2016/8/22 ^{*1}
(2) VEGF (VEGF165, VEGF121) Vascular Endothelial Growth Factor	·high efficacy ·edema due to increased vascular permeability	Japan: clinical tests for the purpose of new drug application are not being conducted. [United States: Clinical Phase II]	Patent No. 3117992 - granted	1990/5/9	2010/5/9
(3) VEGF-2 Vascular Endothelial Growth Factor	As above	Japan: clinical tests for the purpose of new drug application are not being conducted. [United States: Clinical Phase II]	Pub. No. 09-510093 - Decision of Rejection→Appeal against Decision of Rejection→Application withdrawn Pub. No. 11-513883 - Decision of Rejection→Appeal against Decision of Rejection Pub. No. 2007-106593 (divisional) -Request for Examination Pub. No. 2002-505873 -Withdrawn without Request for Examination Pub. No. 2004-000267 (divisional) -Notice of Reasons for Rejection →Application withdrawn Pub. No. 2006-238893 (divisional) -Request for Examination Pub. No. 2006-333865 (divisional) -Notice of Reasons for Rejection	1994/5/12 1996/6/6 1996/6/6 1999/3/10 1994/5/12 1994/5/12 1994/5/12	(2016/6/6) (2016/6/6)
(4) VEGF-C Vascular Endothelial Growth Factor	As above	Japan: clinical tests for the purpose of new drug application are not being conducted. [United States: Clinical Phase II]	Pub. No. 2001-523951 - Notice of Reasons for Rejection	1998/2/2	(2018/2/2)
(5) b-FGF (FGF-2) basic Fibroblast Growth Factor	·promotes the growth of endothelial cells and smooth muscle cells (but requires high concentration).	Japan: gene therapy not being developed. (Only the protein preparation is on the market.)	Pub. No. 7-089936 - granted Pub. No. 8-029097 - granted	1986/9/11 1986/6/18	2006/9/11 ^{*2} 2006/6/18 ^{*2}
(6) a-FGF (FGF-1) acidic Fibroblast Growth Factor	·promotes the growth of endothelial cells and smooth muscle cells.	Japan: clinical tests planned. [United States: Clinical Phase III]	Patent No. 3961019 - granted Pub. No. 2002-514908 - Decision of Rejection Pub. No. 2002-515065 - Notice of Reasons for Rejection Pub. No. 2002-502885 - Request for Examination Pub. No. 2003-513942 - Request for Examination	1996/2/27 1997/9/5 1998/4/30 1999/2/9 2000/11/3	2016/2/27 ^{*3} (2017/9/5) ^{*3} (2018/4/30) ^{*3} (2019/2/9) ^{*3} (2020/11/3) ^{*3}

Protein Encoded by Gene	Pharmacological Characteristics	Gene Therapy Development Stage	Related Japanese Basic Patents and Patent Applications	Date of Application	Expiration Date
(7) FGF-4 Fibroblast Growth Factor 4		Japan: clinical tests for the purpose of new drug application are not being conducted. [United States: Suspended at Clinical Phase II—III]	None		
(8) HIF-1 α Hypoxia Inducible Factor -1 α		Japan: clinical tests for the purpose of new drug application are not being conducted. [United States: Clinical Phase II]	Pub. No. 11-507541- Appeal against Decision of Rejection Pub. No. 2001-525173 - Decision of Rejection→Appeal against Decision of Rejection Pub. No. 2007-195555 (divisional) - Notice of Reasons for Rejection Pub. No. 2002-523028 - Request for Examination	1996/6/6 1998/12/4 1998/12/4 1999/8/25	(2016/6/6)* ³ (2018/12/4)* ³ (2018/12/4)* ³ (2019/8/25)* ³
(9) EGF Epidermal growth factor		In Japan and U.S.: clinical tests for the purpose of new drug application are not being conducted.	None		
(10) TGF- α Transforming Growth Factor -1 α		In Japan and U.S.: clinical tests for the purpose of new drug application are not being conducted.	None		
Notes	*1: Can be extended for up to a maximum of five years after approval. *2: Date of patent expiry of gene therapy patent. Extended until 2010/10/4 regarding protein composition. *3: Respective Expiration Dates where Patent is Granted.				

As indicated above, at present, the basic patent rights for gene therapy that have been established domestically are limited to HGF, VEGF and b-FGF. Of these, only HGF has actually progressed to clinical development. (Note that the patent right covering b-FGF gene therapy has already expired.) On the other hand, in relation to VEGF-2, VEGF-C, a-FGF and HIF-1 α gene therapy, clinical tests appear to be underway in the United States, but these are the subjects of patent applications in Japan at present and the patent rights have not yet been established. So, from the viewpoint of patent protection, there are a number of uncertain factors.

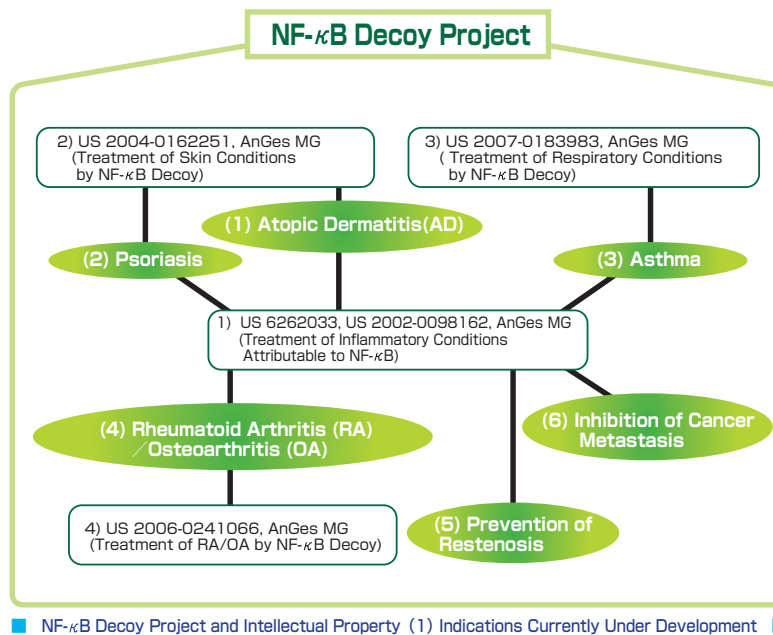
Further, with regard to FGF-4, EGF and TGF- α , there is no basic patent relating to gene therapy, and it is generally thought that commercialization will be difficult.

Under these circumstances, the period of patent protection for HGF is longer than that of the basic patent for VEGF, and after approval, a further extension of up to five years can be expected. Therefore, in addition to the superior pharmacological efficacy and safety of HGF gene therapy, its patent protection is more complete.

4 NF- κ B Decoy Project and Intellectual Property

Next, we explain the intellectual property covering the NF- κ B Decoy Project, in the following order: (1) NF- κ B decoy project currently under development, (2) other indications and modified (improved) NF- κ B decoy.

(1) NF- κ B Decoy Project Currently Under Development



We are currently undertaking clinical development of the NF- κ B decoy project in respect of the following indications:

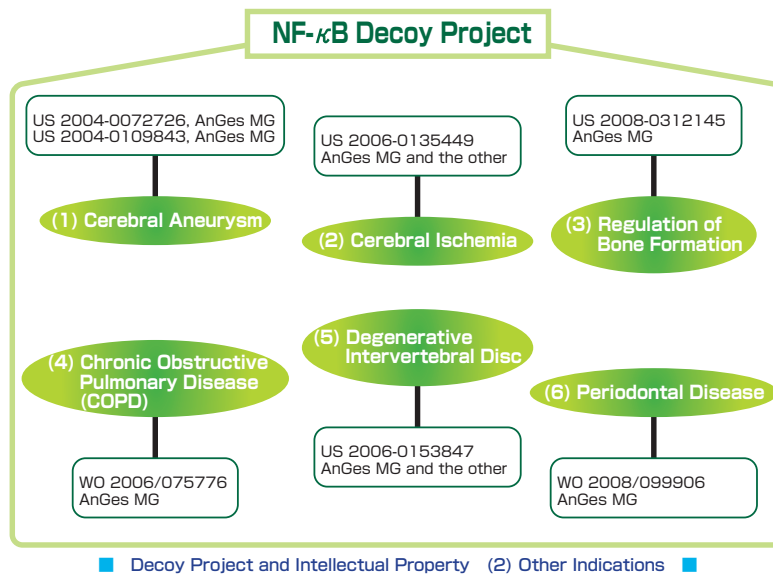
- (1) Atopic Dermatitis (AD)
- (2) Psoriasis
- (3) Asthma
- (4) Rheumatoid Arthritis (RA)/Osteoarthritis (OA)
- (5) Prevention of Restenosis
- (6) Inhibition of Cancer Metastasis

The development projects above are covered by the following patents and patent application groups in relation to each indication:

- (1) Atopic Dermatitis (AD) and (2) Psoriasis
 - 1) US 6262033, US 2002-0098162 (Covering Inflammatory Diseases Attributable to NF- κ B, AnGes MG)
 - 2) US 2004-0162251 (Treatment of Skin Diseases by NF- κ B Decoy, AnGes MG)
- (3) Asthma
 - 1) US 6262033, US 2002-0098162 (Covering Inflammatory Diseases Attributable to NF- κ B, AnGes MG)
 - 3) US 2007-0183983 (Treatment of Respiratory Diseases by NF- κ B Decoy, AnGes MG)

- (4) Rheumatoid Arthritis (RA)/Osteoarthritis (OA)
 - 1) US 6262033, US2002-0098162 (Covering Inflammatory Diseases Attributable to NF- κ B, AnGes MG)
 - 4) US 2006-0241066 (Treatment of RA/OA by NF- κ B Decoy, AnGes MG)
- (5) Prevention of Restenosis and (6) Inhibition of Cancer Metastasis
 - 1) US 6262033, US2002-0098162 (Covering Inflammatory Diseases Attributable to NF- κ B, AnGes MG)

(2) Other Indications



The following patent applications cover indications other than those described in (1) above:

- (1) Cerebral Aneurysm (US 2004-0072726, US 2004-0109843, AnGes MG)
- (2) Cerebral Ischemia (US 2006-0135449, AnGes MG and the other)
- (3) Regulation of Bone Formation (US 2008-0312145, AnGes MG)
- (4) Chronic Obstructive Pulmonary Disease (COPD) (WO 2006/075776, AnGes MG)
- (5) Degenerative Intervertebral Disc (US 2006-0153847, AnGes MG and the other)
- (6) Therapeutic Agent for Periodontal Disease And Alveolar Bone Loss Due to Surgery (WO 2008/099906, AnGes MG)

(3) New NF- κ B Decoy

1) Modified (Improved) NF- κ B Decoy

Since the original NF- κ B decoy is prone to degradation in the bloodstream, we have developed a next-generation NF- κ B decoy with improved stability, which is covered by the following patents:

- (1) Dumbbell-type Decoy (US 2007-0014840, AnGes MG and the other)
- (2) Staple-type Decoy (US 2006-0276421, AnGes MG)

In addition, new decoys with advanced pharmacological properties are covered by the following patent applications.

- (3) Chimeric (Double) Decoy (US 2007-0259826, AnGes MG)
- (4) Transcription Factor Decoy (WO 2006/132204, AnGes MG)

(5) Novel Oligonucleotide and NF- κ B Decoy (WO 2007/072909, AnGes MG and the other)

(6) Novel Cyclic Staple - type Oligonucleotide, And NF- κ B Decoy Comprising the Same (WO 2008/123231, AnGes MG)

Further, we continue to make an effort to develop next generation decoys of improved pharmaceutical effect and better stability.

2) The First-Generation Transcriptional Decoys and Product Patents

- Patent strategy for next generation decoy -

Inflammatory transcriptional factors including NF-kappa B function to regulate expression of a variety of genes involved in inflammation and to enhance production of inflammatory cytokines. Decoys inhibit the function of transcriptional factors by directly binding to them and thus preventing the transcriptional factors from attaching to the chromosome.

The first-generation decoy is characterized by its structure of double-stranded oligonucleotides consisting of a sense strand and an anti-sense strand. (See the table below to find some typical decoy structures.)

As a general strategy in the pharmaceutical field, a group of compounds under development is usually protected by a "product patent," which renders the most potent and universal right. In particular, low molecule medicines have a long history of being protected by product patents in accordance with this general strategy, because most of them were new compounds synthesized in the laboratories of the pharmaceutical companies.

The situation of nucleic acid medicines such as a decoy, however, is very different from that of low molecule medicines. For example, there exist only a few potent decoys that are protected by product patents so far. This is because novelty as a product cannot be asserted for decoys contain a part of a known nucleic acid sequence of a gene, and also because academic publications and academic presentations have preceded patent applications due to the historical background of research and development in universities and start-up companies taking the lead, as described earlier.

Under such circumstances, each company has sought patent protection of decoys by obtaining medical use patent for each particular disease. This strategy, however, requires many patent applications to be filed, as new medical indications are discovered, and thus substantial manpower and cost. In addition, the strategy involves the dilemma that newer applications have to overcome a higher criteria for inventive step in order to be granted.

Furthermore, this strategy holds potential risks in patent protection, that the indication for which a new drug is actually approved by the regulatory authorities via clinical development, often differs from the indications which are concretely described in the application filed at the very early stage of the development.

Thus, for the development of next generation decoy, establishment of the patentability requirements of novelty and inventive steps for a product patent is required, in addition to improved properties of pharmacological activity, safety, tissue transition, metabolic property, stability of drug substance, and reduction of manufacturing cost. These are essential requirements for the prompt protection of drugs developed by our company, after placing them on the market, and for educating and utilizing maximally the potential of the next generation decoy as our key project.

Based on this vision, we, as the leading company in the gene medicine, are exercising our ingenuity to obtain strong product patents, as well as continuously advancing our research toward development of a superior decoy.

List of the major decoys presently known

PP : Product patent

PPA : Product patent application

MUP : Medical use patent

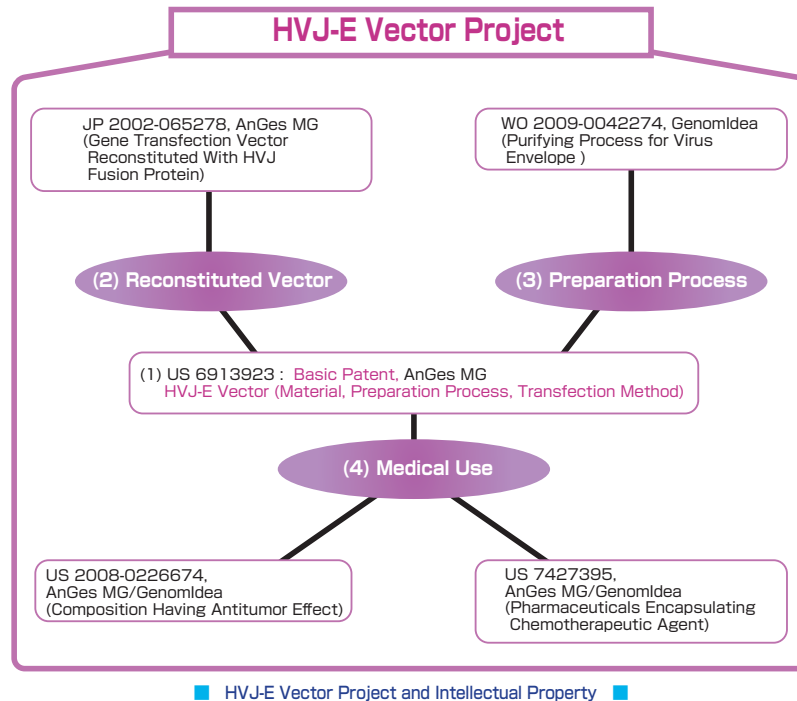
MUPA : Medical use patent application

Transcriptional factors	Development stage	Sequences	Patents and applications
NF- κ B	Anges MG PhII (Japan)	5'-CCTTGAAGGGATTTCCCTCC-3' 3'-GGAACCTTCCCTAAAGGGAGG-5'	PP - NO MUP - YES
	Not conducted	5'-AGTTGAGGGGACTTTCCCAGGC-3' 3'-TCAACTCCCCTGAAAGGGTCCG-5'	No patent exists
	Information not available	5'-AGTTGAGGACTTTCCAGGC-3' 3'-TCAACTCCTGAAAGGTCCG-5'	PPA - YES MUPA - YES
AP-1	Not conducted	5'-AGCTTGTGAGTCAGAAGCT-3' 3'-TCGAACACTCAGTCTTCGA-5'	PP - No MUPA - YES
	Not conducted	5'-GCTTGATGAGTCAGCCGGA-3' 3'-CGAACTACTCAGTCGGCCT-5'	No patent exists
CRE	Not conducted	5'-TGACGTCATGACGTCATGACGTCA-3' 3'-ACTGCAGTACTGCAGTACTGCAGT-5'	PP - NO MUPA - YES
E2F	Currently suspended	5'-CTAGATTTCCCGCG-3' 3'-TAAAGGGCGCCTAG-5'	PP - NO MUP - YES
	Not conducted	5'-CTAGATTTCCCGCGGATC-3' 3'-GATCTAAAGGGCGCCTAG-5'	PPA - YES MUPA - YES
	Not conducted	5'-ATTTAAGTTTCGCGCCCTTTCTCAA-3' 3'-TAAATTCAAAGCGCGGGAAAGAGTT-5'	No patent exists
	Not conducted	5'-CTAGTTTTTCGCGCTTAGTTTTTCGCGCTTAG-3' 3'-GATCAAAGCGCGAATCAAAGCGCGAATC-5'	No patent exists
Ets-1	Not conducted	5'-AATTCACCGGAAGTATTCGA-3' 3'-TTAAGTGGCCTTCATAAGCT-5'	PP - NO MUPA - YES
GATA-3	Not conducted	5'-AGCTTGAGATAGAGCT-3' 3'-TCGAACCTCTATCTCGA-5'	PP - NO MUPA - YES
	Not conducted	5'-GAGGCCTCATTATCTTCATTCAATTTCTC-3' 3'-CTCCGGAGTAATAGAAGTAAGTAAAGAG-5'	PPA in the past, but withdrawn and currently no patent exists.
		5'-GTTAGAGATAGCATCGCCCCA-3' 3'-CAATCTCTATCGTAGCGGGGT-5'	
		5'-GAGGTGTCTCTATCTGATTGTTAGCAA-3' 3'-CTCCACAGGAGATAGACTAACAATCGTT-5'	
		5'-AAGCCCCATTATCTTCATTCAATTTCTCA-3' 3'-TTCGGGGTAATAGAAGTAAGTAAAGAGT-5'	

Transcriptional factors	Development stage	Sequences	Patents and applications
HIF-1	Not conducted	5'-GCCCTACGTGCTGTCTCA-3' 3'-CGGGATGCACGACAGAGT-5'	PP - NO MUPA - YES
	Not conducted	5'-CACCAGCGTACGTGCCTCAGG-3' 3'-GTGGTCGCATGCACGGAGTCC-5'	PPA - YES
		5'-CCAGCGTACGTGACTCAGG-3' 3'-GGTCGCATGCACTGAGTCC-5'	MUPA - YES
STAT-1	Not conducted	5'-GATCTAGGGATTTCGGGAAATGAAGCT-3' 3'-ATCCCTAAAGGCCCTTTACTTCGACTAG-5'	PP - YES MUP - YES
	Ph II (abroad)	5'-TGTGAATTACCGGAAGTG-3' 3'-ACACTTAATGGCCTTAC-5'	PPA - YES MUPA - YES
STAT-3	Not conducted	5'-CATTTCCTCGTAAATC-3' 3'-GTAAAGGGCATTTAG-5'	PP - NO MUPA - YES
STAT-5	Not conducted	5'-GATCAAGACCTTTTCCCAAGAAATCTAT-3' 3'-CTAGTTCTGGAAAAGGGTTCTTTAGATA-5'	PP - NO MUPA - YES
	Not conducted	5'-AGATTTCTAGGAATTCAAATC-3' 3'-TCTAAAGATCCTTAAGTTTAG-5'	PP - NO MUPA - YES
	Not conducted	5'-GATCGCATTTTCGGAGAAGACG-3' 3'-CTAGCGTAAAGCCTCTTCTGC-5'	No patent exists
STAT-6	Not conducted	5'-GATCAAGACCTTTTCCCAAGAAATCTAT-3' 3'-CTAGTTCTGGAAAAGGGTTCTTTAGATA-5'	No patent exists
Chimeric (Double) Decoy	Not conducted NF- κ B+Ets-1	5'-ACCGGAAGTATGAGGGATTTCCCTCC-3' 3'-TGGCCTTCATACTCCCTAAAGGGAGG-5'	No patent exists
	Not conducted NF- κ B+E2F	5'-GAAGGGATTTCCCTCCATTTCCCGCGGA-3' 3'-CTTCCCTAAAGGGAGGTAAAGGGCGCCT-5'	PPA - YES MUPA - YES
	Not conducted NF- κ B+STAT3+E2F	5'-TCTGAGCTTCTGGGAACCTTGGGGACTTTCGCGCCCTA-3' 3'-AGACTCGAAGACCCTTGAACCCCTGAAAGCGCGGGAT-5'	PPA - YES MUPA - YES
	Not conducted Ets-1+AP-1	5'-AAAGGATATGACTTATCTC-3' 3'-TTTCCTATACTGAATAGAG-5'	PPA - YES MUPA - YES
5'-TAGAAAGGATATGACTTATCTC-3' 3'-ATCTTTCTATACTGAATAGAG-5'			
5'-AAAGGATATGACTTATCTCA-3' 3'-TTTCCTATACTGAATAGAGT-5'			

5 HVJ-E (Envelope) Vector Project and Intellectual Property

Next, we explain our intellectual property covering the HVJ-E Vector Project.



The HVJ-E Vector project incorporates the following patent and patent application groups relating to the virus envelope vector itself, a reconstituted vector, preparation process, and use such as medical applications and gene function analysis:

- (1) HVJ-E Vector Basic Patent (Product, Preparation Process, Transfection Method)
US 6913923 (AnGes MG)
- (2) Reconstituted Vector
JP 2002-065278 (AnGes MG)
- (3) Preparation Process
US 2009-0042274 (GenomIdea)
- (4) Medical Use (Pharmaceuticals Encapsulating Chemotherapeutic Agent)
US 7427395 (AnGes MG/GenomIdea)
US 2008-0226674 (AnGes MG/GenomIdea)

We have globally obtained the HVJ-E basic patents in the following countries:

- Japan; JP 3942362 (granted)
- US; US 6913923 (granted) US 2005-0239188 (in application)
- Europe; EP 1170363 (granted)
granted in; Britain, Germany, France, Switzerland, Finland
- Canada; CA 2369491 (granted)
- Australia; AU 769385 (granted)
- China; CN 1365388 (in application)
- Korea; KR 10-0776475 (granted)
- Taiwan; TW I303663 (granted)

6 Active Overseas Patenting

It is well known that development of medicines involves substantial costs. With domestic development alone it would be difficult to recover the development costs let alone provide funding to support future development projects.

In fact, the numbers of patients to whom gene therapy or nucleic acid medicine therapy would be appropriate varies from country to country. Therefore, in order to achieve the prompt supply of new therapeutic medications to patients worldwide, early development and speedily placing on the market outside Japan are also important.

Given this background, we are filing foreign applications quite actively for a start-up company. Specifically, we have been pursuing a strategy of filing international applications (PCT) based on US provisional applications or domestic applications, and then actively effecting national/regional phase entry in Japan, the United States, Europe, Australia, Canada, China, and other countries where necessary.

7 Intellectual Property Management

Based on the fundamental policies 1 to 6 above, our company is constructing a more elaborate web of patents covering our three main projects: (1) HGF gene therapy, (2) NF- κ B decoy nucleic acid medicine, and (3) HVJ-E vector. Moreover, for the purpose of securing a platform for our company's future development we are pursuing a policy of actively filing applications and obtaining rights for improvement patents also. (A list of the published patent applications and a list of the registered patents in the US, Japan, and Europe are attached at the end of this report.) As a result, we have secured, on an application basis, 100 patent assets, and we are increasing this number year by year. When foreign applications are included, this number is more than several times greater.


However, the cost increases as our patent assets expand. Considering the maintenance costs and the handling charges, the total amount is substantial. As a start-up company, having fewer resources to draw on compared to major drug manufacturers, the proper management of our intellectual property portfolio becomes a significant business issue. From the standpoint of business management, we are at a stage where measures need to be adopted.

For this reason, we conduct a regular evaluation of our intellectual property assets, with a focus on patents, and review our budget distribution on a stage-by-stage basis depending on relative importance, so that we manage and maintain our intellectual property at an appropriate level corresponding to our corporate strength.

8 Collaboration with External Research Organizations

When considering intellectual property in the biotechnology field, the existence of research organizations such as university and regional TLOs (Technology Licensing Organizations) that possess the promising candidates of high technologies is very important.

However, there is a limit to which such research organizations are capable of performing pre-clinical and clinical trials. Further, there are cases where precious technologies have



gone unexploited due to a lack of intellectual property specialists. Previously in most cases, such research organizations have simply handed over their technologies to drug manufacturers for commercialization by way of simple assignment or license.

In working with such external research organizations, however, we have redesigned this conventional relationship between research organizations and drug manufacturers, and through a novel business style that takes advantage of the particular characteristics of both parties, we are working towards the fostering and commercialization of promising drug candidates which might otherwise remain buried.

For example, we are able to provide our intellectual property knowledge and experiences to external research organizations when they seek to establish strong, broad intellectual property rights. By building a cooperative relationship with them soon after the original patent application (the first application), we have contributed to the establishment of stronger and more substantial patent rights. During the process, we also help those research organizations to find new collaborators and partners beyond the demarcation lines of the university or region for the purpose of the acquisition of firm patent rights and, as a result, they are now able to inject resources and energy into their own specialized fields.

The division of labor described above enables our company to establish intellectual property rights of high enforceability and strong effectiveness, which subsequently lead to the commercialization of the rights, whether or not we receive the assignment or the license. All of the above brings excellent results and substantial profit to both of our company and the external research organizations.


We are committed to contributing to society by the practical application of superior cutting-edge technologies through collaboration with external research organizations.

9 Proposal for an Intellectual Property Nation

The importance of intellectual property to business activity cannot be overstated. We have already mentioned the importance of intellectual property to start-up companies at the start of this report. Start-up companies in particular are mostly businesses seeking to commercialize cutting-edge technologies and brimming with novelty and ingenuity that go beyond and break away from established concepts. The establishment of new forms of intellectual property will greatly influence the growth and development of such businesses.

However, there is a substantial lack of uniformity in terms of the intellectual property protection afforded to cutting-edge technology under the patent systems of various jurisdictions. In particular, when compared to the United States, the scope of protection available in Japan is quite narrow. For example, regenerative medical techniques including “custom-made” treatment, i.e. treatment using cells taken from a patient, processed in vitro and then returned to the same patient, is not patentable at present in Japan.

As a result, the commercialization of ingenious inventions employing such advanced technologies is not progressing and technological innovation is stalling. In order to lead us out of the present circumstance, powerful and practical suggestion from the business community is awaited.



Bearing the international competitions and standards in mind, we will continue to send our message to protect and strengthen the intellectual property of cutting-edge technologies in the field of biotechnology and medicine, through various activities including business and academia.

10 Toward Realization of Cutting-edge Therapy

In contrast to the conventional drug therapy, in the field of gene therapy which we are targeting, there are often cases where the treatment with nucleotides alone would not show satisfactory results and the nucleotides are perfectly effective only when they are administrated with supplementary drug or in combination with devices (medical instruments). In other words, a single invention depends on technologies of several industrial fields, and in such a case, the conventional intellectual property strategy which is limited to a single industrial field is no longer adequate.

Patents for medical devices are particularly intricate, and therefore it is essential to examine comprehensive patent-risk confirmation and verification thoroughly with the supplier. For example, device manufacturers examine the patents surrounding their devices or apparatuses but are unfamiliar with the pharmaceutical uses and therapeutic methods of their products. Also for the purpose of avoiding unnecessary conflicts, we do not rely heavily on the device manufacturers for the intellectual property strategy, but we are responsible for the confirmation and verification of the documentation.

11 Contribution to the Advancement of Our Business

Generally speaking, foreign star-up companies which mostly focus on the US market have limited understanding and experience of the patent systems and legal procedures in Japan and Europe.

For example, an invention, to which a patent has been granted in the United States, may not be allowable in Japan or in Europe as a patent unless a separate strategy is employed. Even a granted patent may possibly be found invalid for some reason later on. In such cases, early evaluation and attention are required.

Consequently, in cases where we are in alliance with other companies for their products or pipeline development, or where we are investing in other companies, our intellectual property division not only focuses on our own pipeline development but also works on subjects such as the evaluation of patent portfolios of other companies, introductions of suitable domestic patent agents, and support the domestic applications by foreign partners.

12 Measures to the Legal System

The amended patent law took effect from January 2005. One of the main amendments was the revision of the system relating to employee inventions, in reflection of the controversy over remuneration for inventions.

Since we started as a university-launched company, there were almost no in-house inventions at the beginning. Recently, however, the number of in-house inventions is increasing along with the expansion and development of our research department.

To deal with these internal and external changes, we have newly established AnGes MG's employee invention regulations, which came into effect in January 2006.

Further, in response to the Supreme Court decision of October 17, 2006, we partially amended these regulations to include operations performed overseas in the calculation of the remuneration for the invention. These revisions were brought into operation on January 1, 2007.

In the meantime, we started the legal checks by attorneys-at-law and held seminars at the 3 Japanese branches for all employees (researchers and the administrative including temporary workers and contract workers). We aim to deepen the understanding of the contents and the purpose of the system among our employees, as well as to incorporate their views and demands. In addition, on the internal computer server to which employees are permitted to access, we load (1) the employee invention regulations, (2) invention notification forms, (3) standards for determining inventorship, (4) records of the proceedings of the major internal meetings, and (5) documentation concerning the treatment of inventor remuneration under the taxation system. We take a stance of promptly responding to further questions, views and demands from our employees.

Moreover, as a result of the diversification of employment patterns in society in recent years, and due to our situation as a start-up company, there is a trend away from the conventional simple relationship of company and employee. The noticeable features of our regulations are that all employees are subjects and all employees are dealt with on the same conditions, and thus we accordingly revised our contracts and the affiliations of our temporary workers and contract employees.

13 IP Management Orientation and the Appointment of a CIPO

In view of the government policy to establish an intellectual property nation, the importance of intellectual property management directed to corporate competitiveness, technical superiority, originality and enhancement of profitability, has become more deeply recognized.

The understanding and interpretation of "intellectual property management" varies widely from company to company depending on factors such as the type of industry the company is engaged in, its size, region where the company is located, its history, and its cultural background.

There seems to be even some trend toward too much licensing and litigation for the purpose of "making money from IP". As far as we stay within the "effective utilization of intellectual property", however, there is a little chance that such extreme actions contribute to the continuity and development of the business, even if there is a short-term increase in profit, but rather they may threaten the dynamism and energy of the company in the long run.

Our intellectual property management aims to strengthen and support our business and our significance in the aspect of the intellectual property, working towards the further development of our company.

This policy forms the basis for our company since the establishment. Our business model,

which is to build up rights assigned or licensed from other companies for the purpose of development and commercialization of our products, well reflects our standpoint.

In order to engage in intellectual property management, however, even in a start-up company where top-down management is relatively easy and adaptive to new circumstances, top management has its limits, and sufficient measures and effects cannot be anticipated. Nor can the intellectual property department, with its conventional modes of task performance and the traditional concept of IP, be expected to provide strong support. What is required is an intellectual property expert who can assist the CEO and who can strategically plan, formulate, propose, and follow-up on concrete measures directed to intellectual property management. A person in such a position is expected to think always from a management viewpoint, and to possess a good perspective in business. This person must not only have knowledge and experience relating to intellectual property, but also have multi-faceted/cross-bordering ideas, judgment and a sense of balance in research and development, pharmaceutical affairs, finance and investor relations.

Thus, in April 2006, we appointed a Chief Intellectual Property Officer (CIPO) to reinforce the intellectual property management with the characteristics and distinctiveness of our company.

A number of large companies have appointed CIPOs recently. Among start-up companies with a limited number of employees and possibly with not many specialists appointed for intellectual property, we are quite unique and we are eager to advance our intellectual property management under the new CIPO.

14 Cultivation of Human Resources Appropriate for a Start-up Company

[Importance of intellectual property staff of high competence and versatility]

In order to respond to the rapid technological innovation and new business models of recent times, the intellectual property laws mostly about patents in Japan and also in other major countries are almost annually revised.

Constant changes are made every year in the examination standards of the patent office and the state of their practical implementation, to which applicants are required to respond accordingly.

The changes in the intellectual property in biotechnology, which consists of cutting-edge technologies and forms the basis of gene medicines, are particularly striking.

As stated above, our company has adopted an active patent application filing policy both in Japan and abroad, and meticulous responses to the current patent system in operation in each country is indispensable to the gains of truly effective patent rights which assist our business.

Under these circumstances, the intellectual property staff who have wide and deep knowledge and experience, prompt and accurate decision making ability and timely and appropriate adaptability to the changes in the environment are vital to our company.

We aim to specialize in the clinical development of gene medicines, and our company's policy addresses the importance of the prompt decision making/responsiveness and highly efficient and agile management by small number of elite employees.

Our Intellectual Property Department is no exception, and it must react to any occasion and demand that may arise, with as small number of personnel as possible.

In the intellectual property department of the major pharmaceutical companies, the members are expected to become specialists of each small area of intellectual property. This management approach, however, tends to cause compartmentalization of the department, for example: patent office response group handling patent application/prosecution, patent information/technical search group, trademark group, litigation response group, patent licensing group, planning/strategy group, management group. The compartmentalization would make the communication and the activity within the department less dynamic. Such a large organization is not realistic to medium/small size companies in the first place and it does not match our principle, either.

Our company, in contrast, came to a conclusion that educating the members of our intellectual property department to become versatile is the best and ideal way to accomplish our business model. Therefore, the first propriety of our intellectual property department is to educate the staff, so that they are able to undertake several works of different specialities, and hopefully cover all the major areas of the intellectual property in the end.

Such education is mostly based on the ordinary on-the-job trainings (OJT), and we also encourage the staff of the intellectual property department to participate in various courses held both in Japan and abroad if necessary, in order to collect useful and timely information.

As to the cases of great importance but less frequency such as United States re-examination, Examiner/Appeal Examiner interviews, and appeals against trial decisions overseas, all of which require high-leveled techniques, experience, and judgment, we also encourage the staff of the intellectual property department who are not in charge of the matter to accompany to learn the procedures and solutions.

15 Importance of News Releases

In the pharmaceutical industry, patents are used as a base for licensing/alliances or for monopolistic exclusive rights. In this respect, the pharmaceutical industry does not differ greatly from other industries.

Start-up companies, especially those of drug discovery which requires substantial development funds to bring a product to market, raise such funds by public finance, investment from venture capitalists, initial public offering, new stock issues, issuing of bonds, and so forth. Any of such funds is, however, conditional upon positive evaluations of the company's asset value, potential, and competitiveness.

Further, even after going public, it is the duty of a company to its shareholders to augment the value of the company through the progress of the business and to further increase the share price. In addition, effort must be continuously made to gain trust and expectations by information disclosure in an appropriate manner and at appropriate times, thereby obtaining further funds.

In this respect, intellectual property centered on patents, is the most fundamental and important item for evaluation of the company itself and its potential/competitiveness, and also for the confirmation of the mission/vision of the company.

Based on the opinion just stated above, our company has a policy of active disclosure of information including our intellectual property facts. As a part of this principle, we issue news releases relating to changes in our patent portfolio which supports the business, and other related topics. The major items of the information disclosure in the past are indicated below. (The specific content of each is available on our corporate website: [http:// www.anges-mg.com](http://www.anges-mg.com))

We view these news releases as an important activity to gain understanding of our company's mission and uniqueness, not only from investors and stock analysts but also from society at large.

Records of news releases relating to intellectual property

2008

- October 2; New Medical Use Patent Granted in Europe - Covering Severe Diabetic Peripheral Artery Occlusive Diseases –
- October 1; Substance Patent for a NF- κ B Decoy-Oligonucleotide Granted in Japan - Covering AnGes MG's Decoy Sequence Currently Under Development -
- August 6; A Medical Use Patent Granted in Europe for Angiogenesis Targeting a New Gene, Endothelial Nitric Oxide Synthase (eNOS)
- July 8; New Medical-Use Patent for HGF Gene Therapy Granted in USA - Covering Treatment and Prophylaxis of Auditory Dysfunction -
- July 2; New Medical Use Patent for HGF Granted in Japan - Covering the Treatment of Lymphedema -
- May 26; Medical Use Patent for the Combination Use of HGF and PGIS Granted in Europe - Covering Angiogenic Therapy -
- May 15; New Medical-Use Patent for HGF Gene Granted in Europe - Covering Cardiomyopathy -
- April 7; Medical Use Patent on NF- κ B Decoy-Oligo Granted in Europe - Covering Its Use for Atopic Dermatitis

2007

- August 29; Basic Patent of HGF Gene Therapy is Granted in Korea
- July 11; Basic Patent for HVJ-E Granted in Japan: A Patent Covering HVJ-E Vector (Product Patent)
- March 30; Intellectual Property Report 2007 was Issued.
- February 7; New Medical Use Patent for HGF Gene Granted in Japan - Covering Intractable and Diabetes-related Peripheral Arterial Occlusive Diseases -
- January 10; New Medical Use Patent for HGF Gene Granted in Japan - Covering Cardiomyopathy -

2006

- June 1; Completion of Reexamination of the Basic US Patent on NF- κ B Decoy Oligonucleotide - Decision to Maintain Patent -

- May 24; A Japanese Medical-Use Patent is Granted for NF- κ B Decoy Oligonucleotide
- Covering Treatment for Atopic Dermatitis -
- April 3; AnGes MG, Inc. Announces Newly Establishing a Position of CIPO (Chief Intellectual Property Officer)
- March 30; Intellectual Property Report 2006 was Issued.

2005

- October 4; Medical Use Patent for HGF (VEGF) Gene Granted in the U.S.
- Covering Cerebrovascular Disorders -
- August 15; Basic Patent for HVJ-E is Granted in the U.S. Covering HVJ-E as a Foreign Gene Transferring Vector
(Patent for material, usage/transfection method and preparation process of HVJ-E)
- June 13; Basic Patent of HGF Gene Therapy is Granted in Europe
- Our foundation of HGF gene therapy international development is strengthened. -
- May 24; Execution of License Agreement with Vical (USA) related to Non-viral Gene Delivery Technology
-Obtained an exclusive right for HGF gene's delivery -
- February 21; New Medical Use Patent for HGF Gene Granted in China
- Covering Intractable and Diabetes-related Peripheral Arterial Occlusive Diseases -

2003

- December 8; Japanese Medical Use Patent issued for NF- κ B Decoy Oligo
-Covering treatment and preventive drugs for ischemic diseases, organ transplantations and cancers -
- July 28; Key Japanese Patent Issued Covering HGF Gene Therapy

(1) Patent Application List (as of March 27, 2009)


No.	Publication No.	Title of the Invention
1	WO 2008/123231	NOVEL CYCLIC STAPLE-TYPE OLIGONUCLEOTIDE, AND NF- κ B DECOY COMPRISING THE SAME
2	WO 2008/099906	THERAPEUTIC AGENT FOR PERIODONTAL DISEASE AND ALVEOLAR BONE LOSS DUE TO SURGERY
3	WO 2007/072909	NOVEL OLIGONUCLEOTIDE AND NF- κ B DECOY COMPRISING THE SAME
4	WO 2007/013603	LYMPHANGIOGENESIS PROMOTER
5	WO 2006/132204	TRANSCRIPTION FACTOR DECOY
6	WO 2006/086105	METHODS AND COMPOSITIONS FOR TREATING, INHIBITING AND REVERSING DISORDERS OF THE INTERVERTEBRAL DISC
7	WO 2006/075776	THERAPEUTIC AGENT FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE(COPD), CYSTIC FIBROSIS OR PULMONARY HYPERTENSION
8	WO 2006/064886	AGENT FOR REGULATING BONE FORMATION
9	WO 2006/059777	REMEDY FOR ALZHEIMER'S DISEASE
10	WO 2006/046766	GENE THERAPY FOR THE TREATMENT OF HEART FAILURE
11	WO 2006/043722	CHIMERIC (DOUBLE) DECOY
12	WO 2006/011600	DRUG AND METHOD FOR IMPROVING BRAIN FUNCTION
13	WO 2005/095958	ASSAY METHOD OF IDENTIFYING CANDIDATE FOR DRUG
14	WO 2005/094878	COMPOSITION HAVING ANTITUMOR EFFECT
15	WO 2005/030960	STAPLE TYPE OLIGONUCLEOTIDE AND DRUG COMPRISING THE SAME
16	WO 2005/021045	GENE THERAPY FOR SKIN DISEASES USING NEEDLE FREE SYRINGE
17	WO 2005/004914	MEDICINAL COMPOSITION CONTAINING NF-kappaB DECOY FORTREATING AND PREVENTING RESPIRATORY DISEASES AND METHOD OF USING THE SAME
18	WO 2005/004913	PHARMACEUTICAL COMPOSITION CONTAINING DECOY AND METHOD OF USING THE SAME
19	WO 2004/110533	NEEDLELESS SYRINGE HAVING MEDICAL AGENT ACCOMMODATED THEREIN
20	WO 2004/084967	BLOOD VESSEL-SPECIFIC ORGANOGENESIS FROM EMBRYONIC STEM CELLS ON THREE-DIMENSIONAL MATRIGEL LAYER
21	WO 2004/078786	COMPOSITIONS AND METHODS FOR INHIBITING INFLAMMATION OF VESSEL WALLS AND FORMATION OF NEOINTIMAL HYPERPLASIA
22	WO 2004/050865	METHOD FOR CULTURING NEURAL STEM CELLS USING HEPATOCYTE GROWTH FACTOR
23	WO 2004/050126	METHODS FOR TREATING OR PREVENTING ANGIOGENESIS-DEPENDENT SYMPTOMS
24	WO 2004/039406	MEDICINAL PREPARATION HAVING CHEMOTHERAPEUTIC ENCAPSULATED THEREIN
25	WO 2004/035779	BIOMOLECULE TRANSFER METHOD USING VIRUS ENVELOPE AND COMPOSITION AND SYSTEM THEREFOR
26	WO 2004/030702	DRUG FOR AUDITORY DYSFUNCTION
27	WO 2004/026342	AGENT CONTAINING NFkappaB DECOY FOR PROTECTING GRAFT AGAINST NEOINTIMAL THICKENING

No.	Publication No.	Title of the Invention
28	WO 2004/022753	NOVEL ACTIN-ASSOCIATED CYTOSEKELTON PROTEIN LACS
29	WO 03/103721	GENE THERAPEUTIC FOR CEREBROVASCULAR DISORDERS
30	WO 03/099339	DECOY COMPOSITION FOR TREATING AND PREVENTING INFLAMMATORY DISEASE
31	WO 03/091432	CIRCULAR DUMBBELL DECOY OLIGODEOXYNUCLEOTIDES (CDODN) CONTAINING DNA BINDINGS SITES OF TRANSCRIPTION
32	WO 03/082331	DECOY COMPOSITIONS FOR TREATING AND PREVENTING BRAIN DISEASES AND DISORDERS
33	WO 03/080123	COMPOSITIONS FOR DELIVERING BIOLOGICALLY ACTIVE DRUG AND METHOD OF USING THE SAME
34	WO 03/063911	DECOY-CONTAINING PHARMACEUTICAL COMPOSITIONS AND METHOD OF USING THE SAME
35	WO 03/045439	GENETIC REMEDIES FOR NEURODEGENERATIVE DISEASES
36	WO 03/043663	COMPOSITIONS INHIBITING REJECTION IN ORGAN TRANSPLANTATION AND METHOD OF USING THE SAME
37	WO 02/089854	GENE TRANSFER OF ANGIOGENIC FACTOR FOR SKIN DISEASE
38	WO 02/066070	PHARMACEUTICAL COMPOSITIONS CONTAINING DECOY AND METHOD OF USING THE SAME
39	WO 02/000258	MEDICINAL COMPOSITIONS FOR ANGIOGENIC THERAPY
40	WO 01/032220	GENE THERAPY FOR DIABETIC ISCHEMIC DISEASE
41	WO 01/026694	GENE THERAPY FOR CARDIOMYOPATHY
42	WO 01/021214	GENE THERAPY FOR CEREBROVASCULAR DISORDERS
43	WO 99/001155	BRAIN-PROTECTIVE AGENT
44	US 2009-0061007	PHARMACEUTICAL PREPARATION
45	JP 2008132303	BIOLOGICAL MEMBER
46	US 2005-0261231	HEPATOCTE GROWTH FACTOR NUCLEIC ACID SEQUENCE TO ENHANCE MUSCULOCUTANEOUS FLAP SURVIVAL
47	US 2004-0087535	PHARMACEUTICAL COMPOSTION FOR ANGIOGENESIS
48	JP 2006089475	NUCLEIC ACID EXTERNAL PREPARATION FOR SKIN
49	JP 2006045204	THERAPEUTIC AGENT, AMELIORANT AND PROPHYLACTIC FOR ALLODYNIA
50	JP 2005336081	REEXPRESSION INHIBITOR AGAINST NR2B-NMDA RECEPTOR
51	JP 2005314381	PROPHYLACTIC/THERAPEUTIC/AMELIORATING AGENT FOR PROLIFERATIVE NEPHROPATHY
52	JP 2004358234	NEEDLELESS SYRINGE WITH A PLURALITY OF NOZZLE HOLES
53	JP 2004307427	THERAPEUTIC/IMPROVING/PREVENTING AGENT FOR RENAL ISCHEMIA REPERFUSION INJURY
54	JP 2002065278	GENE TRANSFER VEHICLE CONTAINING HVJ FUSION PROTEIN

(2) Registered Patents in Japan, USA and Europe

Country	Product	Patent No.	Title	Expiration Date *
Japan	HGF	JP 4111993	Lymphangiogenesis promoter	2026.7.28
	HGF	JP 3877148	Gene Therapy For Diabetic Ischemic Disease	2020.10.26
	HGF	JP 3865632	Gene Therapy For Cardiomyopathy	2020.10.5
	HGF	JP 4021286	Medicine comprising HGF gene	2016.8.22
	HGF	JP 3431633	Medicine comprising HGF gene	2016.8.22
	NF- κ B Decoy	JP 4215219	Brain-protective agent	2018.7.3
	NF- κ B Decoy	JP 3778357	Pharmaceutical Compositions Containing Decoy and Method of Using the Same	2022.2.6
	NF- κ B Decoy	JP 4159836	Remedy and preventive for diseases caused by NF- κ B	2016.5.10
	NF- κ B Decoy	JP 3474879	Remedy and preventive for diseases caused by NF- κ B	2016.5.10
	HVJ-E	JP 4219957	Virus envelope vector for gene transfer	2021.2.1
	HVJ-E	JP 3942362	Virus envelope vector for gene transfer	2021.2.1
	Other	JP 3847366	Fixed Post Mitotic Cell Proliferating Agent Using Antisense Oligonucleotide	2016.2.22
	Other	JP 4033502	Ribozyme, liposome preparation and use thereof	2016.2.8
USA	HGF	US 7390482	Drug for auditory dysfunction	2023.10.2
	HGF	US 7259149	Methods for treating or preventing angiogenesis-dependent symptoms	2023.12.2
	HGF	US 7247620	Method of treating skin wounds with vectors encoding hepatocyte growth factor	2022.5.9
	HGF	US 6989374	Gene therapy for cardiomyopathy	2020.10.5
	HGF	US 6936594	Gene therapy for cerebrovascular disorders	2020.9.18
	HGF	US 6248722	Medicament comprising HGF gene	2016.8.22
	NF- κ B Decoy	US 6890909	Brain-protective agent	2018.7.3
	NF- κ B Decoy	US 6262033	Remedy for diseases associated with NF- κ B	2016.5.10
	HVJ-E	US 7427395	Chemotherapeutic agent-incorporated pharmaceutical preparation	2023.10.29
HVJ-E	US 6913923	Virus envelope vector for gene transfer	2021.2.2	
Europe	HGF	EP 1300158	Pharmaceutical compositions for angiogenic therapy	2021.6.27
	HGF	EP 1142590	Gene therapy for diabetic ischemic disease	2020.10.26
	HGF	EP 1136083	HGF for gene therapy of cardiomyopathy	2020.10.5
	HGF	EP 0847757	Medicine comprising HGF gene	2016.8.22
	NF- κ B Decoy	EP 1362600	Topical use of NF- κ B decoys for treating atopic dermatitis	2022.2.6
	NF- κ B Decoy	EP 0824918	Remedy and preventive for diseases caused by NF- κ B	2016.5.10
	HVJ-E	EP 1170363	Virus envelope vector for gene transfer	2021.2.2
	Other	EP 1391514	Pharmaceutical composition for treatment of angiogenesis-dependent conditions	2023.8.8
	Other	EP 1570052	Method for culturing neural stem cells using hepatocyte growth factor	2023.12.2

*; Extendable up to five years, in the event of New Drug Approval in each country



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