# **Teaser Memorandum**

AnyGen Co.,Ltd.

December 2007

## **Executive Summary**

Incorporated on the May, 2000 by three faculties at Gwang-ju Instutute of Science & Technology (GIST), AnyGen Co., Ltd. is a company focusing on development of highly valuable bio-material and bio-pharmaceuticals. With fame for custom peptide synthesis, We have extensive experience in the production of Peptide & Enzyme.

Anygen is seeking for the potential partner for novel analgesic peptide,  $\omega$ conopeptide FVIA. Terms of the Transaction are not set, and interested parties may further discuss the parameters should they wish to enter into an agreement.

ω-conopeptide FVIA we recently have developed is the innovative pharmaceutical composition for preventing or treating diseases, disorders or conditions associated with N-type calcium channel activity. Having little or no side effect in the sense that it has greatly improved binding reversibility and specificity to N-type calcium, FIVA can be highlighted as a promising drug candidate, *inter alia*, analgesic drug candidate.

## Key Technology Highlights

#### □ Low Risk and high efficiency for treating nociceptive pains

ω-conopeptide presently available(ex. GVIA, MVIIA, CVID et. al) are not ideal therapeutics, despite their selectivity and potency and the dominant role of N-type VSCCs(voltage-sensitive calcium channels) at synapses in carrying nociceptive information in the spinal cord. For example, GVIA dissociates slowly from N-type VSCCs and, accordingly, may be difficult to administer in a clinical settling. MVIIA cause a variety of neurological side effects of unknown origin. Other ω-conotoxins are less selective for N-type VSCCs.

However, a novel  $\omega$ -conopeptide FVIA having high specificity to N-type calcium channel and high reversibility can overcome problems associated with conventional  $\omega$ -conotoxin.

#### □ Promising analgesic drug candidate

Nociceptive pains are one of defense mechanisms against outside harmful stimuli, it is not desirable to excessively inhibit nociceptive pains. It is generally known that excellent analgesic drug candidates exhibit pain relief potency selectively on inflammatory and neuropathic pains, one of pathologic pains. The FVIA peptide could be appreciated to have relatively weaker analgesic effects on nociceptive pains and proves to be considerable drug candidates inflammatory pains. Furthermore, the FVIA peptide is elucidated to exert significant analgesic effect on allodynia in animal test.

Based on the experiment result, the FVIA peptide or its analogue originated from Korean cone snails is a promising analgesic drug candidate.

#### Strong Patent Protection

AnyGen has registered patents for a variety of peptides and enzymes. The drug composition and method of preparation for FIVA has been filed for application in PCT as well as Korea. With strategy patents, AnyGen can cooperate with your coperation in doing your business without any concern.

#### Company Information Summary

#### **Company Description:**

- CEO: Jae II KIM
- Established: May. 2000
- No. of Employees: 26
- Capital: US\$ 787,000
- Market Cap : US\$ 1.2 Milion

#### **Business Field:**

- Biotechnology R & D
- Peptide & Peptide API Synthesis
- Drug Discovery

#### **Company History**

2000.05	Company established		
2000. 08.	Certified as 'Hi-Tech Venture Company' by Korean Gov.		
2000. 10.	R&D Center established and approved by Korean		
2001. 10.	Selected as a 'Company with Advanced Technology' by Technology Credit Evaluation Center		
2001.12	"Certificate of Superior Technology Company" Awarded by Korea Technology Credit Guarantee Fund.(KTCGF)		
2001. 12.	Awarded Grand Prize fo Company Incubation		
2005. 08.	Qualified as Innobiz Company by the Department of Small- Medium Industry		
2006. 02	Certified 'ISO 9001/14000'		
2006. 02	Selected as A <sup>+</sup> Member by the Technology Credit Evaluation Center		

## **Technology Overview**

The venoms from the cone snails are made up of a very diverse variety of toxins (conotoxins) which is divided into five major classes( $\alpha, \delta, \kappa, \mu, \omega$ ) depending on the target receptor. Among them,  $\omega$ -Conotoxin –MVIIA (or Ziconitide,Prialt) belongs to the  $\omega$ -class and has very high affinity for the N-type calcium channels. For this reason MVIIA has been approved as a analgesics for severe and chronic pain by FDA approved in 2004. However, the severe side effects and administration mode of MVIIA make its administration restrictive. For example, MVIIA has been reported to have adverse effects associated with (i) nerve system caused by inhibiting N-type VSCCs of central nerve system and (ii) cardiovascular system caused by inhibiting autonomic nerve system to affect blood pressure and pulse rate.

Novel analgesic peptide,  $\omega$ -conotoxin – FVIA, AnyGen recently developed, can overcome problems associated with conventional  $\omega$ -conotoxin, in particular, low specificity to N-type calcium channel and low reversibility. The FVIA peptide or its anlogues are an excellent analgesic drug candidate in the sense that they have a calcium channel blocking potency similar to MVIIA and a much less side effects than MVIIA. Furthermore, FVIA can be used as a pharmaceutical composition for preventing or treating diseases, disorders or conditions associated with N-type calcium channel activity





#### KEY FEATURE

- Overcoming problems associated with low specificity to N-type calcium cannel and low reversibility
- Identifying the structures and functions of FVIA, thereby elucidating pivotal amino acid residues to reversibility of ωconotoxin
- Preventing or treating for disease, disorder or condition which compring as following :

chronic pain conditions, acute pain, post-operative pain, mood disorders, anxiety disorders, depression, addiction disorders, gastrointestinal disorders, genitourinary disorders, neurotoxic injury associated with hypoxia, anoxia or ischemia, or schizophrenia

Filing for application in PCT and Korea about the ω-conotoxin – FVIA related invention.

#### MARKET POTENTIAL

More than 75 million Americans suffer from chronic pain. Although pain acts as a warning sign of disease or injury, chronic pain is not protective and can be debilitating. In the United States alone, medical treatment and lost workdays due to chronic pain cost an estimated \$70 billion per year.

According to CEO Kelly Martin of Elan (which gained ownership of Prialt), annual sales for Prialt could lie between \$150 million and \$250 million, based on a total potential market of 300,000 patients with chronic pain who are considered suitable candidates for intrathecal treatment.

## **Company Overview**

AnyGen Co.,Ltd is a bio venture established by three professor of Department of Life Science, Gwangju Institute of Scien ce and Technology (GIST). Our company, famous for custom peptide synthesis in Korea, has extensive experience in the production of Peptide & Enzymes.

Vision/ Mission	AnyGen's Vision is to become a new model of bio venture in Korea and extended to become a globally cometitive corporation, supplying a service to facilitate the research effort of investigators at both academic institution and pharmaceutical/biotechnology companies.
--------------------	--



## Patent

AnyGen has international/overseas patents registered or filed for application in PCT, Europe and Korea.

Nation	Appl Number	Pub/Reg Number	Status	Description
	(Appl date)			
РСТ	PCT/KR03/02564	WO04/048563	Publication	DNA POLYMERASE ISOLATED FROM AEROPYRUM PERNIX AND ITS PREPARATION METHOD
	(2003.11.25)	(2004.06)		
РСТ	PCT/KR05/00209	WO05/070416	Publication	INDIRUBIN DERIVATIVES HAVING ANTICANCER
(EUROPE)	(2005.01.26)	(2005.08.04)		PROPERTY AGAINST HUMAN CANCER CELL ME
РСТ	PCT/KR06/00855	WO06/096030	Publication	POTASSIUM CHANNEL OPENER HAVING
(KOREA)	(2006.03.10)	(2006.09.14)		BENZOFUROINDOLE SKELETON
PCT	PCT/KR2007/005519		Pending	
(KOREA)	(2007.11.2)	-		
KOREA	2002-0073402	0562688	Registration	MUTATED DNA POLYMERASE ISOLATED FROM
	(2002.11.25)	(2006.03.14)		PREPARING THE SAME
KOREA	2003-0034015	2003-0047954	Publication	METHOD FOR DETECTING HIV-1, HEPATITIS E
	(2003.05.28)	(2003.06.18)		VIRUS
KOREA	2003-0033751	2003-0061718	Publication	ANTIMICROBIAL PEPTIDES HAVING ALPHA-HELIX
	(2003.05.27)	(2003.07.22)		STRUCTURE

## **Contact Point**

KHIDI (the Korea Health Industry Development Institute) is currently receiving inquiries from interested parties in this transaction. If you are interested, please contact any of the KHIDI professionals below:

Researcher	Young-Kyun Jung	E-mail: jyktop@khidi.or.kr