



March 18, 2019
TRANS GENIC INC.
(Code No.2342 TSE Mothers)

TRANS GENIC to Enter into Collaborative Research Agreement
with HAINAN JINGANG BIOTECH CO. LTD.

TRANS GENIC INC. (CEO: Kenji Fukunaga, Fukuoka-city, Fukuoka, Japan, “TRANS GENIC”) hereby announces that, it has entered into the collaborative research agreement with HAINAN JINGANG BIOTECH CO. LTD. ^{*1} (President: Li Ping Yung, Hainan Province, China, “HAINAN JINGANG BIOTECH”) on the production of genetically modified primate.

Since the technological introduction of “Trap vector and gene trap method” developed by Dr. Kenichi Yamamura (CTO of TRANS GENIC, Senior Professor at Yamamura Project Laboratory, Institute of Resource Development and Analysis, Kumamoto University) in April 2000, TRANS GENIC has been expanding the business by innovating cutting-edge technologies continuously as a leading company of genetically modified mouse production.

We have the track record of 1800 strains of genetically modified mouse production, and based on the extensive experience, conduct business using genome editing technology (CRISPR/Cas9) ^{*2} as a core technology in recent years.

On the other hand, HAINAN JINGANG BIOTECH is a large-scale contract research organization that runs the breeding and distribution of primates and animal testing. It has 48 AAALAC^{*3} (The Association for Assessment and Accreditation of Laboratory Animal Care International)-certified primate rearing facilities in about 24 hectares of site area (the rearing scale of laboratory primate is 20 thousand, the amount of production is about 4 thousand primates in a year), and exports laboratory primates to Japan, the United states, and EU member nations. New Drug Research Center, the subsidiary company of TRANS GENIC, performs experiments and technical guidance in local facilities.

The purpose for the collaborative research with HAINAN JINGANG BIOTECH is the introductory investigation whether the genetic modification technology is applicable to the production of laboratory primates of human disease as a new development method: in particular, in vitro investigation whether the genome editing technology (CRASPR/Cas9) of TRANS GENIC is applicable to the production of the laboratory primates of certain central nervous system disease.

Since it is difficult for rodent model to reproduce human cognitive ability and higher-order functional disorder, TRANS GENIC and HAINAN JINGANG BIOTECH believe that the establishment of genetically modified primates will considerably contribute to the research and development pertaining to central nervous system diseases that still have no effective remedies.

TRANS GENIC does not expect the signing of this collaborative research agreement to have a material impact on the consolidated financial results of FY2018 at this stage.

TRANS GENIC will actively promote the research and development to produce innovative laboratory animals.

[Message from Dr. Ken-ichi Yamamura, CTO of TRANS GENIC INC.]

“Humans have sacrificed many laboratory animals to develop medical science. I believe that genetically modified mice provided by TRANS GENIC have helped researchers to promote variety of basic research and contributed to the medical development.

Since the number of patients of central nervous system disease, such as the Alzheimer’s disease, is increasing dramatically in an aging society, there is an urgent need to develop the treatment agent, and enormous number of non-clinical study using rodent model of human disease has been conducted. However, despite the effective data acquired in non-clinical study using conventional animal model, the effectiveness is hardly reproduced in clinical trial, and most of the candidate agents cannot achieve the practical use. This fact indicates that, in order to develop the treatment agents for higher-order functional disorder, it is important to use more human-like animals as well as mouse models. Therefore, I consider that the development of human-like animal models is needed to achieve the treatment agents for higher-order functional disorder and central nervous system disease.

I believe that this collaborative research is the first step to deal with this challenge. However, I acknowledge that research and development of genetically modified primate has to be undertaken with careful attention to an ethical problem, laws and regulations, as is the case with academic research institutes and overseas countries.

We will consider the continuation of this research in the ethics committee consisting of TRANS GENIC, HAINAN JINGANG BIOTECH, and experts in different fields according to the progress of research, while carefully monitoring the trend in society.

We sincerely ask for the understanding and continuous support for our effort.”

◆ Reference:

^{*1} HAINAN JINGANG BIOTECH CO. LTD.

President: Li Ping Yung

Established: August, 2003

Location: Nayang Xintan, Fucheng Town, Qiongsan District, Haikou City,
Hainan Province, 571100, China

Capital: 111 million Chinese yuan

(equivalent to 1,848,150,000 yen, at the rate of 16.65 yen per
yuan as of March 15, 2019)

Business content: breeding and distribution of laboratory primate,
animal testing

^{*2} Genome editing technology (CRISPR/Cas9)

CRISPR/Cas9 system is an adaptive immune mechanism in bacteria. In recent years, it is widely applied as an efficient targeted genome editing technology. Mutagenesis by CRISPR/Cas9 system is specific and with high frequency, so genetically modified mouse can be produced efficiently in a short period.

^{*3} AAALAC International (The Association for Assessment and Accreditation of Laboratory Animal Care International)

AAALAC International is the only third-party organization that promotes the humane treatment of animals in science. The activity of AAALAC International is based on the 3Rs principle: Reduction (methods which minimize the number of animals used per experiment), Replacement (methods which avoid or replace the use of animals), and Refinement (methods which minimize animal suffering and improve welfare). AAALAC accreditation has been earned by

more than 900 pharmaceutical/biotech companies, universities, hospitals and other research institutions in the world, and recognized as the proof of ethical animal care and use.

Contact for inquiries and additional information :

TRANS GENIC INC.

Yutaka Funabashi, Director

Telephone +81-(0)3-6551-2601