



November 8, 2011  
RIKEN, Japan  
Astellas Pharma Inc.

## **Collaborative Research Launched to Explore Novel Drug Targets for Alzheimer's Disease**

### **RIKEN Brain Science Institute and Astellas Pharma Form Strategic Alliance for New Drug Discovery**

RIKEN, Japan (President: Ryoji Noyori) and Astellas Pharma Inc. (President: Yoshihiko Hatanaka, hereafter called "Astellas") have signed a five year joint research agreement for the purpose of "deciphering the pathogenic mechanism for and identifying novel drug targets for Alzheimer's disease".

With the goal of conquering the social burdens of Alzheimer's disease, synergies between the fundamental research function of RIKEN Brain Science Institute (RIKEN BSI, Director: Susumu Tonegawa) and drug discovery capabilities of Astellas will be leveraged to develop revolutionary new drugs.

#### 1. Background

The number of patients within Japan suffering from Alzheimer's disease and other forms of dementia is expected to rise along with the aging of the Japanese society and reach 3.25 million by the year 2020 (Source: "Everyone's Mental Health" of the Ministry of Health, Labor and Welfare). About half of patients with dementia suffer from Alzheimer's disease, and the burden upon their families and society is heavy. Consequently, the conquering of Alzheimer's disease at an early stage is an important issue for Japan as a medically advanced country. However at the current time there are no fundamental treatments or preventative measures that have been established, and there are only symptomatic treatments. In order to establish fundamental treatments, it is critical to fully understand the pathogenic mechanisms of the disease and to translate the findings on important mechanisms into discovery of novel drugs for the disease.

Laboratory for Proteolytic Neuroscience at the RIKEN BSI conducts research designed to acquire fundamental knowledge for mechanisms of proteolysis responsible for pathological cascade in neurodegenerative diseases that can be used in the diagnosis, prevention, and treatment of patients with neurodegenerative disorders. In particular, the top priority given to Alzheimer's disease has led to the acquisition of new information on the important causative agent (amyloid beta peptide) in July 2011.

(Related press release issued on July 4, 2011:

<http://www.riken.jp/engn/r-world/info/release/press/2011/110704/index.html>)

According to the agreement concluded with the cooperation of RIKEN Program for Drug Discovery and Medical Technology Platforms, the two organizations will conduct joint research for the deciphering of the pathogenic mechanism of Alzheimer's disease and subsequent search for and validation of new drug targets by strategically leveraging the fundamental technology and results of basic research of RIKEN BSI and the research platform for drug discovery of Astellas.

## 2. Joint Research Overview

Alzheimer's disease model animals and patient samples will be thoroughly analyzed and candidate molecular targets will be identified. The involvement of the resulting candidate molecules in the pathogenic mechanism of Alzheimer's disease will be investigated by using state-of-the-art technologies, and their potential as drug discovery targets will be validated.

## 3. Responsible Research Team

RIKEN Brain Science Institute,

Laboratory for Proteolytic Neuroscience

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Reference:

1. RIKEN, Japan (Independent Administrative Institution)

RIKEN is Japan's flagship research institute devoted to basic and applied research. Over 2500 papers by RIKEN researchers are published every year in reputable scientific and technical journals, covering topics ranging across a broad spectrum of disciplines including physics, chemistry, biology, medical science and engineering. RIKEN's advanced research environment and strong emphasis on interdisciplinary collaboration has earned itself an unparalleled reputation for scientific excellence in Japan and around the world.

2. RIKEN Brain Science Institute

The RIKEN Brain Science Institute (BSI) was established as an institute at RIKEN in October, 1997 to answer a growing need in society for cutting-edge brain science research. Since its establishment, BSI has attracted promising scientists domestically and internationally and brought together diverse research and human resources, and today enjoys an international reputation as an innovative center for brain science.

Research at BSI integrates a wide range of disciplines including medicine, biology, physics, technology, information science, mathematical science, and psychology. BSI's research objectives cover individual organisms, behavior, microscopic molecular structures of the brain, neurons, neurocircuits, cognition, memory, learning, language acquisition, and robotics.

3. Astellas Pharma Inc.

Astellas Pharma Inc. was created from the merger of Yamanouchi Pharmaceutical Co., Ltd. and Fujisawa Pharmaceutical Co., Ltd. in April 2005 and is a global pharmaceutical company with ethical pharmaceuticals as its core business. Astellas has already established its position as the world's leading company in the fields of urology and transplantation. In addition, Astellas Pharma has identified the five realms of "urology," "immunology (transplantation) and infectious diseases," "oncology," "neuroscience," and "DM complication and metabolic diseases" as focused areas of research, and is promoting research to develop revolutionary new drugs that are called for in the treatment of diseases in these five realms. In order to continually create promising discovery projects and enrich research pipeline, close collaborative research will be aggressively pursued with external leading edge research institutions in addition to promotion of Astellas' own research.

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