

**EISAI TO ESTABLISH NEW RESEARCH FACILITY**  
**“EISAI CENTER FOR GENETICS GUIDED DEMENTIA DISCOVERY”**  
**IN CAMBRIDGE, MASSACHUSETTS IN THE UNITED STATES**  
*AIMING FOR DRUG DISCOVERY FOCUSED ON IMMUNO-DEMENTIA*  
*BASED ON HUMAN GENETICS*

Eisai Co., Ltd. (Headquarters: Tokyo, CEO: Haruo Naito, “Eisai”) has announced that it has decided to establish the Eisai Center for Genetics Guided Dementia Discovery (“G2D2”), a new exploratory research facility focused on immuno-dementia based on human genetics, aimed at innovative drug discovery in the field of dementia, in Cambridge, Massachusetts, the United States. Using genetic information as a starting point, G2D2 is aiming to control neural inflammation which is a primary cause of dementia along with amyloid beta (A $\beta$ ) and tau, and bring about further progress in defeating dementia. G2D2 is scheduled to commence operation in the first quarter of fiscal 2019, and the head of the new research facility will be Nadeem Sarwar, Ph.D., the current President of Andover innovative Medicines (AiM) Institute, which is also located in Massachusetts. Once G2D2 commences operation, the current AiM Institute will be closed down.

Integrating the various strengths in human genetics, neuro- and immune-biology as well as precision chemistry cultivated by the AiM Institute to date, G2D2 will take up a new drug discovery approach (immuno-dementia) to succeed A $\beta$  and tau. Specifically, G2D2 will make full use of functional genetic analysis of dementia, and will engage in immuno-dementia drug discovery research focusing on neural inflammation and the immune system based on strong human evidence, with multiple proteins expressed on microglia as drug discovery targets. G2D2 aims to introduce a compound identified through this immuno-dementia research into the clinic by 2020. G2D2’s structure will be primarily comprised of groups of Data Science, Immuno-Dementia Biology, Discovery Science, as well as Chemistry, and have approximately 70 employees.

Eisai possesses experience cultivated through over 30 years of drug creation activities in the dementia area, including the development of Aricept® as a standard treatment for Alzheimer’s disease, since 1983 when it began researching dementia, as well as a rich development pipeline. With Tsukuba Research Laboratories, which has strengths in organic chemical synthesis and abundant experience in small molecules for the central nervous system, as a hub, Eisai believes it can advance drug discovery with high probabilities of success based on human biology by operating G2D2 with strengths in human genetics in addition to the European Knowledge Center (United Kingdom), which is responsible for open innovation type drug discovery through partnerships with U.K. academia including the University College of London, and KAN Research Institute (Kobe), which is focused on the synapse micro-environment. Together with advancing organic collaboration with the Eisai-Keio Innovation Lab for Dementia, Eisai is working on exploratory research for dementia treatments using a multi-dimensional, comprehensive approach.

G2D2 will be established within the Alewife Research Center in the Alewife area, located in the north-west part of Cambridge, which is one of the world's leading biotechnology clusters where private research organizations in addition to academic institutions such as Harvard University, the Massachusetts Institute of Technology and Tufts University are concentrated. Leveraging the benefits of the location, a research space that can be used by external organizations will be set up at G2D2 to enhance collaboration with outstanding researchers and open innovation initiatives to promote immuno-dementia drug discovery.

By further enhancing drug discovery activities for dementia treatments through a comprehensive approach with the operation of G2D2, Eisai is striving to discover innovative medicines as soon as possible to further contribute to fulfilling unmet medical needs and increasing the benefits for patients and their families.

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**[Notes to editors]**

**1. About Immuno-Dementia**

Drug discovery targeting based on human genetics is linked to higher probabilities of success in drug discovery, and from large-scale human genetic and functional studies, attention has been focused on neuro-immune regulating factors of microglia which suggest a connection to the process behind the onset of dementia. Integrating the various strengths in human genetics, neuro- and immune-biology as well as precision chemistry cultivated by the AiM Institute to date, G2D2 will engage in drug discovery research focusing on immuno-dementia which looks at what comes after drug discovery targeting amyloid and tau. Under the medium-term business plan EWAY2025 currently in progress, immuno-dementia is a Ricchi (an area where real patient needs are unmet and Eisai can become a frontrunner) in neurology.

**2. About Eisai's Drug Discovery in the Dementia Area**

With over 30 years of knowledge and know-how of drug creation activities in the dementia area accumulated since 1983 when it began researching dementia at the Tsukuba Research Laboratories, Eisai is aiming to realize prevention and cure of dementia. Specifically, Eisai is working on the four keys of 1) the process of accumulation of aggressive factors, 2) transformation of symptoms over time, 3) immuno-dementia therapy and 4) the brain maintenance system. The following is a list of Eisai's development pipeline products currently being investigated in clinical studies.

<b>Generic Name, Development Code</b>	<b>Mechanism of Action</b>	<b>Indications</b>	<b>Development Stage</b>
Aducanumab* <sup>1</sup>	Anti-A $\beta$ antibody	Early Alzheimer's disease	Phase III
Elenbecestat* <sup>1</sup>	BACE inhibitor	Early Alzheimer's disease	Phase III
BAN2401* <sup>1</sup>	Anti-A $\beta$ protofibril antibody	Early Alzheimer's disease	Phase II
Lemborexant* <sup>2</sup>	Orexin receptor antagonist	Irregular Sleep-Wake Rhythm Disorder (ISWRD) and Alzheimer's disease	Phase II
E2027	PDE9 inhibitor	Dementia with Lewy bodies	Phase II/III
E2814	Anti-tau antibody	Alzheimer's disease / dementia	Preparing for Phase I

\*<sup>1</sup>: Joint development with Biogen Inc., \*<sup>2</sup>: Joint development with Purdue Pharma L.P.