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Eisai Co., Ltd.

# EISAI ENTERS INTO COLLABORATION RESEARCH AGREEMENT WITH UNIVERSITY OF DUNDEE ON TARGETED PROTEIN DEGRADATION TOWARD CANCER DRUG DISCOVERY

Eisai Co.,Ltd. (Headquarters: Tokyo, CEO: Haruo Naito, "Eisai") announced today that it has entered into a collaboration research agreement with the University of Dundee in Scotland, UK, regarding Proteolysis Targeting Chimeras (PROTACs)[1] toward drug discovery in oncology area.

PROTACs consist of two covalently linked protein-binding molecules: one capable of engaging an ubiquitin ligase (E3 ligase) and another that binds to a target protein meant for degradation. PROTACs work by recruiting an E3 ligase to tag the target protein for ubiquitination for degradation through the intracellular degradation system. It is hoped that research into PROTACs will lead to new drug discoveries for proteins present in cancer, which are difficult to treat with conventional small molecule inhibitors.

In this collaboration research, Professor Alessio Ciulli, one of the global pioneers in the field of PROTACs research, at the School of Life Sciences, University of Dundee is responsible for directing the research. The collaboration combines the world-leading expertise and technology of the Professor Alessio Ciulli laboratory in PROTACs research with Eisai's discovery researches and clinical development experiences in oncology area as well as findings of target protein degradation based on our basic researches to aim to create innovative new drugs.

Under this agreement, Eisai has the option rights to develop and commercialize the compounds resulted from this collaboration research. If Eisai exercises the options, an upfront, milestone payments, and royalties on sales will be paid.

Eisai positions oncology area as a key therapeutic area and is aiming to discover revolutionary new medicines with the potential to cure cancer. The company will continue to create innovative drugs based on the cutting-edge cancer research and will seek to contribute further to addressing the diverse needs of, and increasing the benefits provided to, patients with cancer, their families, and healthcare providers.

Media Inquiries:
Public Relations Department,
Eisai Co., Ltd.
+81-(0)3-3817-5120

**[Notes to editors]**

**1. About Proteolysis Targeting Chimeras (PROTACs)**

The conventional small molecule inhibitors bind to the active site of targeted enzymes and develops pharmacological actions by inhibiting its function. On the other hand, PROTACs are chimeric compounds with sites for binding targeted protein and for binding ubiquitin ligase and leads to degradation by proteolytic enzyme (proteasome) in cells. Since PROTACs exert their pharmacological effects by the degradation of target proteins, they can not only target proteins that do not have enzyme activity, which is difficult with conventional small molecule inhibitors, but also have pharmacological effects different from inhibitors Is also expected.

**2. About University of Dundee**

The University of Dundee is the top ranked university in the UK for biological science, according to the 2014 Research Excellence Framework. Dundee is recognized for the quality of its teaching and research and has a core mission to transform lives across society. More than 15,000 students are enrolled at Dundee, helping make the city Scotland's most student friendly. The university is the central hub for a multi-million-pound biotechnology sector in the east of Scotland, a major contributor to the local economy. For more information, please visit www.dundee.ac.uk.

[1] Gadd M.S. et al. "Structural basis of PROTAC cooperative recognition for selective protein degradation" *Nat. Chem. Biol.* 13, 514-521 (2017).