

Young Scientist Seminar



Dr. Hiroshi Yamaguchi

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Dec 5th (Wed) 2018, 16:00~17:00

@ Kyoto University KUIAS/iCeMS Main Building
2F Seminar Room

Hypothalamic control of body temperature during daily torpor

Abstract

Hibernators save energy by entering torpor, a state characterized by active hypometabolism and low body temperature, to survive harsh environmental conditions in winter. Torpor can be found in a wide variety of homeothermic animals including bats, rodents and primates. Laboratory mice go into a short torpid state called daily torpor when they are fasted at cold ambient temperature. Although it is presumed that torpor is regulated by the central nervous system, the exact neuronal mechanism by which mice regulate daily torpor remains unclear. Using immediate early gene mapping and selective manipulation of neuronal circuits, we found that the activities of TRPM2 ion channel expressing neurons in the medial preoptic hypothalamus and VGAT-positive GABAergic neurons in the dorsomedial hypothalamus are required for the induction of daily torpor in mice.

Brief Introduction

Dr. Yamaguchi was an Assistant Professor of the Shigekazu Nagata lab at Department of Medical Chemistry, Graduate School of Medicine, Kyoto University (~3/2015). Now he is an Academic Scientist of the Luis de Lecea lab at Stanford University.

Spoken language: English

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