BDR SEMINAR via Zoom

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Wednesday, September 2, 2020

15:00-16:00

Meeting URL will be announced on the event day by e-mail.

※This seminar is open only to BDR members.

Exploring the Mysteries of Mammalian Hibernation: Old Questions, New Approaches

This seminar is a part of the QMIN project seminar series.

Summary

Mammalian hibernation is an adaptive strategy to survive during the cold period with little food by dramatic suppression of thermogenesis. In small-bodied mammals, the hibernation period involves multiday hypothermic deep torpor and normothermic periodic arousal. Deep torpor is characterized by the profound suppression of metabolism, body temperature, heart rate, and locomotive activity. The drasticalterations in physiology associated with hibernation can lead to multiple organ dysfunction and death in non-hibernators such as mice and humans, whereas hibernators tolerate these physiological extremes. Successful hibernation requires cold adaptation at the systemic and cellular levels. However, little is known about molecular mechanisms of hibernation.

Syrian hamster (Mesocricetus auratus) is a good experimental animal model to study hibernation in the laboratory. When transferred from summer-like conditions to winter-like conditions, the animals begin to hibernate after several months of the pre-hibernation period. During this period, they undergo systemic body remodeling for hibernation. In this seminar, I will give a brief introduction about hibernation and introduce our recent studies to address mechanisms of hibernation in Syrian hamsters.

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