

第 592 回 難 研 セ ミ ナ ー

第 165 回 難治疾患共同研究拠点セミナー

The 592th Medical Research Institute Seminar
The 165th Joint Usage/Research Program of Medical
Research Institute Seminar

日 時 (Date) : 2019 年 4 月 25 日 (木) 16:00 ~ 18:00

場 所 (Venue) : M&D 7-2F 共用講義室 2

演 者 (Lecturer): Professor James E. Haber

Rosenstiel Basic Medical Science Research Center
Brandeis University

Member of US national Academy of Science (NAS)

演 題 (Title) : The DNA damage response and autophagy in
budding yeast

要 旨 (Summary) : In budding yeast, even a single double-strand break will trigger the DNA damage response, which includes both an arrest of cell cycle progression prior to metaphase and the induction of a DNA damage-specific pathway of autophagy. We are interested in how the damage signal is established, maintained and turned off. Interestingly, the same PP2C phosphatases that turn off damage signaling to allow resumption of cell cycle progression, are needed to turn on autophagy. We show that these phosphatases are needed to dephosphorylate the key Atg13 protein. We also find that DNA damage-induced autophagy is triggered through inactivation of the protein kinase A (PKA) pathway and, unlike starvation-induced macroautophagy, requires the adaptor protein, Atg11.

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