HOKKAIDO UNIVERSITY

～講演会のご案内～

モントリオール大学の James G. Omichinski 教授による講演会を企画いたしました。今回は、『**PML body 形成制御に対する SUMO-SIM 相互作用におけるリン酸化―アセチル化の役割**』について，構造的視点より大変興味深いお話をしていただきます。

演 題: “Structural studies to define the role that phosphorylation and acetylation play in regulating key SUMO-SIM interactions required for PML-nuclear body formation”

講 師: **Prof. James G. Omichinski**

(Université de Montréal, Canada)

日 時: **2019 年 12 月 9 日（月）13:30～**

場 所: 北海道大学 理学部本館 N-308 室

共 催: 生命分子化学セミナー，日本生化学会北海道支部，北海道大学物質科学フロンティアを開拓する Ambitious リーダープログラム，フロンティア化学教育研究センター

要 旨:

The interactions between SUMO-family proteins and SUMO-Interacting Motif (SIM) in nuclear bodies formed by the promyelocytic leukemia (PML) protein (PML-NBs) have been shown to be modulated by both phosphorylation SIM-containing proteins and acetylation of SUMO proteins. Given the potential role that these post-translational modifications play in regulating SUMO/SIM interactions in PML-NBs, we have characterized the interactions between the phosphorylated SIMs of key proteins found in PML-NBs and acetylated variants of SUMO1 using a combination of biophysical and X-ray crystallography studies. Our results demonstrate that SUMO-SIM interaction can be fine-tuned by discrete acetylation and/or phosphorylation events targeting either SUMO proteins or SIM-containing proteins to regulate protein transit in and out of PML-NBs.

In addition, the structures of the complexes suggest that there is considerable plasticity at the SUMO-SIM binding interface and this would provide for a robust mechanism to regulate proteins that transit in and out of PML-NB using various combinations of signaling mechanisms that function to regulate phosphorylation and acetylation of these factors.

連絡先：北海道大学大学院理学研究院化学部門 生物化学研究室
坂口 和靖（011-706-2698）