第68回日本細胞生物学会大会

飛び入り企画

京都は今、世界でもっとも人気のある観光都市です。それで、海外の研究者が学会開催中にたまたま京都にいるという僥倖にも恵まれることがあります。今回、マウス遺伝学の研究で有名なPhilippe Soriano博士が京都滞在中の予定と聞き、大トリの講演をお願いいたしました。御時間の許す方は是非ご参加ください。

2016年 6 月 17 日（金）

（18：05～18：50）

B会場（京都テルサ 東館2F セミナー室）

座長　斎藤通紀（京都大学大学院医学研究科）

Fgf signaling pathways in mouse development

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FGF signaling governs multiple processes important in development and disease. Many lines of evidence have implicated Erk1/2 as the predominant effector pathway downstream of Fgfrs, but these receptors can also signal through other mechanisms. To better understand the function of Erk1/2-independent signaling downstream of Fgfrs in the mouse, we have engineered allelic series of knock-in point mutations designed to disrupt Fgfr1 and Fgfr2 signaling functions individually and in combination. Multiple developmental contexts were affected including preimplantation, posterior outgrowth, limb patterning, skeletal development and craniofacial morphogenesis. Analysis of signaling mutants indicates that Frs2 binding to Fgfr1 and subsequent Erk1/2 engagement has the most pleiotropic functions in development, but that Crk proteins and Plcγ also contribute to Erk1/2 activation, providing a biochemical mechanism for additive signaling requirements. Frs2 engagement is surprisingly dispensable for Fgfr2 signaling. Genetic and biochemical evidence indicates that both receptors utilizes multiple pathways additively i*n vivo,* and that the kinetics of signaling differ according to the cell type.