SEMINAR

Pharmacologic Manipulation of Stem Cells and Cancer Stem Cells

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Date/Time: **Friday 4th November, 2016, 13:00-14:00**

Venue: **2nd Floor Seminar Room (Room A207)**
iCeMS Main Building (Bldg #77), Kyoto University

Abstract:
Long-lived somatic stem cells regenerate adult tissues throughout our lifetime. However, with aging, there is a significant deterioration in the function of stem and progenitor cells, which contribute to diseases of aging. Over the past 17 years, we have investigated the role of the differential usage of the highly similar Kat3 coactivators, CREB-binding protein (CBP) and p300, in stem cell biology.
During the course of our investigations, we discovered a very fundamental regulatory event, which controls a stem cell's decision to either maintain potency or initiate differentiation. This decision is governed by the choice of which of the two highly homologous Kat3 coactivators β-catenin utilizes to drive transcription. ICG-001 is a selective CBP/β-catenin antagonist, which my lab discovered and characterized. More recently, we developed the structurally related specific p300/β-catenin antagonist YH250. Utilizing these highly specific pharmacologic tools in conjunction with molecular and genetic strategies, we continue to dissect the Wnt signaling cascade with continued emphasis on somatic stem cells and cancer stem cells.
These studies, in a true bench-to-bedside research endeavor, led to a first in man clinical trial of the second generation CBP/catenin antagonist PRI-724 in 2011.

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