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Title: “Growth Factor Signaling during Organogenesis:
Looking through the eye into the heart”

Date: Wednesday, March 10
Time: 16:00 P.M.〜17:00 P.M.
Place: 6th floor Conference Room of Building C, CDB

Summary:
Research in our laboratory is aimed at elucidating the molecular mechanisms
underlying inductive tissue interactions during embryonic organ formation. Using
transgenic and gene targeting approaches, we are investigating the in vivo function of
secreted signaling molecules that play central roles during organogenesis, which will
lead to our better understanding of the mechanisms underlying various birth defects.
One of the model systems we currently focus on is eye development. We have shown
that bone morphogenetic proteins (Bmps), members of the TGFβ superfamily of
secreted signaling molecules, play essential roles in multiple distinct aspects of eye
development in the mouse; during lens induction and differentiation, and patterning
and growth of the developing retina. Our recent studies also suggest potential
cooperation of Bmp signaling with other signaling pathways, including those of
fibroblast growth factors (Fgfs) during eye development. Finally, we will discuss our
recent study on the role of Fgf signaling pathways during the formation of the
embryonic heart. The study will potentially define a novel regulatory pathway to
control mammalian heart development, and thus to uncover novel mechanisms
underlying congenital heart disorders.

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