

時間訂正版

腫瘍生物学講座 公開セミナー

**ACTIONS OF PARATHYROID HORMONE  
ON BONE IN VIVO**

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**日時 :** 平成 22 年 3 月 29 日 (月) 16:30~18:00

**場所 :** 医学研究科A棟 セミナー室 103・107

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Parathyroid hormone has complicated and superficially contradictory effects on bone, causing a net increase or decrease in bone mass depending on the pattern of delivery. Our approach to determining the pathways involved in these complicated actions has been a genetic one: manipulating responses to PTH in genetically altered mice. We have made mice with a mutation “knocked-in” to the PTH receptor gene, such that the receptor is expressed normally and can respond normally with a cyclic AMP response, but the receptor cannot activate phospholipase C. As a consequence the resultant mice have mild abnormalities in bone growth and in bone mass. Strikingly, when PTH levels are elevated either through dietary manipulation or PTH infusions, the expected fibroproliferative response (“osteitis fibrosa”) fails to occur through a defect in proliferation of stromal cells. We have also studied the role of Gs signaling in bone by making mice missing Gs  $\alpha$  in osteoblastic cells. These mice have dramatic abnormalities that lead to fractures at the time of birth. Thus, both major signaling pathways activated by PTH in bone cells have important effects on skeletal homeostasis. These models and others should allow the evaluation of specific actions of PTH in the in vivo setting.

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主催 : 京都大学医学研究科腫瘍生物学講座 (753-4426)