

主办单位：生命科学与技术学院



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主持人：岳锐 教授

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地点：医学楼二楼报告厅

报告题目：

The impact of bone on whole organism physiology

报告人简介：

In the last 20 years, the Karsenty laboratory has studied every aspect of skeletal biology ranging from development to physiology. His laboratory deciphered the molecular bases of osteoblast-specific gene expression, a work that culminated in his identification of Runx2 as the master gene of osteoblast differentiation. This was followed by the identification of an entire cascade of transcription factors regulating osteoblast differentiation and of Gm2 as the master gene of parathyroid gland development. In approaching bone physiology, and in searching for novel functions of the skeleton Karsenty proposed that there is a coordinated control endocrine in nature, of bone mass, energy metabolism and fertility. The Karsenty lab has verified in the mouse and whenever possible in humans all tenets of this hypothesis. One of them is that bone should be an endocrine organ regulating energy metabolism and reproduction. This led to the identification of osteocalcin as a bone-derived hormone needed for insulin secretion, glucose homeostasis, testosterone secretion by Leydig cells of the testes and male fertility, brain development and cognition and adaptation to exercise. Currently his work focuses through the definition of all functions of osteocalcin in understanding why would bone be an endocrine organ.

代表著作：

1. Endocrine regulation of energy metabolism by the skeleton. **Cell**. 2007
2. Insulin signaling in osteoblasts integrates bone remodeling and energy metabolism. **Cell**. 2010
3. Endocrine regulation of male fertility by the skeleton. **Cell**. 2011
4. Maternal and offspring pools of osteocalcin influence brain development and functions. **Cell**. 2013
5. Glucose uptake and Runx2 synergize to orchestrate osteoblast differentiation and bone formation. **Cell**. 2015

