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日 時: 2016 年 6 月 28 日(火) 16 時 00 分～17 時 30 分

場 所: 実習館 2 階 総合歯科医学研究所セミナールーム

演 者: Reuben H. Kim 氏 (Division of Constitutive & Regenerative
Sciences UCLA School of Dentistry ・ Associate Professor)

タイトル: Autophagy - blue oceans in osteoclast biology?

オートファジー ―破骨細胞生物学における未開拓分野―

Osteoclasts are the only known bone resorbing cells that, upon stimulation by receptor activator of NF- κ B ligand (RANKL), become multi-nucleated, enlarged, vacuolized, and polarized to form ruffled borders through which the cells release hydrogen ions, hydrolytic enzymes, and matrix metalloproteases (MMPs) to resorb extracellular bone matrix. Autophagy is an important cellular recycling process that becomes activated under stress conditions such as starvation whereby macromolecules or organelles are encapsulated by autophagosome and degraded upon merging with lysosome. Recent studies suggest that autophagy plays an essential role in osteoclast biology; however, the extent to which autophagy contributes to osteoclast differentiation and function remains unclear. Here, we will report our recent findings on the role of the key players in autophagy including Beclin1 on osteoclast differentiation and functions. Clinical implications on targeting the autophagic pathway in osteoclasts for treating bone-related diseases will also be discussed.

担当: 硬組織疾患制御再建学講座 宇田川 信之