

Introduction – Control of bone resorption: Six different topics related to osteoclast activity

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Dr. G. David Roodman will discuss the mechanisms of bone resorption in myeloma. In particular, he will focus on the important question of whether bone resorption is required for the growth of myeloma cells and new targets for controlling the bone destructive process in myeloma.

Dr. Joseph Lorenzo will discuss the characteristics of osteoclast precursors in murine bone marrow and will focus on what is the lineage of osteoclast precursors. He will explore the important question whether B cell precursors play an important role in bone destruction in estrogen deficiency.

Dr. John Chirgwin will discuss the interactions between tumor cells and bone, and how these interactions result in changes in the phenotype of both types of these cells. Tumor bone interactions may result in critical changes in both the

microenvironment and tumors, which impede the cure of bone metastasis.

Dr. Paddy Ross will review the role of the cytoskeleton in osteoclast function and the molecular mechanisms by which re-organization of this key element of the cell is regulated. He will then examine the role of Vavs, regulators of selected small GTPases, in osteoclast biology.

Dr. Steve Goldring will then discuss bone resorption in chronic inflammatory conditions, which cytokines appear to be important in this process, and how to best reverse the bone destructive process in chronic inflammatory conditions such as rheumatoid arthritis.

Dr. Jörn Rittweger will discuss the effects of immobilization on bone resorption. These studies will be directly applicable to bone loss during space travel as well as immobilization.

The author has served as a consultant with Novartis, Scios, Inc. and MedImmune, Inc.

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