EMBARGOED FOR RELEASE UNTIL 13:30 EDT ON 25 JUNE

Contact: **Kara Dress; kara@ibmsonline.org**

24-29 June: **IBMS Media Room, 519 B**
Palais des congrès de Montréal, Québec, Canada

IMMUNE SYSTEM CELLS LINKED TO ENHANCED BONE FORMATION

Montréal (25 June 2007)—White blood cells responsible for normal tissue maintenance and immune responses, known as macrophages, have been shown to enhance the function of bone-building cells (osteoblasts) that is necessary for bone formation. This new research reveals that macrophages play an important role in directing bone building, which may aid in the development of anabolic (bone building) therapies. Allison R. Pettit, PhD, reported these findings today at the 17th Scientific Meeting of the International Bone & Mineral Society (IBMS).

Currently, there is a high demand for effective anabolic agents to treat musculoskeletal diseases, such as osteoporosis. Existing information on bone biology and bone formation is not sufficient to develop new anabolic treatments. Macrophages have been implicated in many bone diseases, but their precise role in bone cell function is poorly understood.

Dr. Pettit and her team determined that there is a significant population of macrophages intimately associated with bone, which is a previously unrecognized role in normal bone biology. After recognizing this relationship, the team examined the effect of macrophages on osteoblast responses to elevated extracellular calcium ions (eCa2+). eCa2+ is unique to the bone environment and is important for regulating bone formation.

(continued)

Using a cell culture composed of macrophages and osteoblasts, the team demonstrated that bone forms in response to eCa2+ only in the presence of macrophages. The results suggest that macrophages can detect changes in eCa2+ and therefore drive the process of bone formation.

“Prevention and treatment of many diseases of bone loss currently is inadequate,” says Dr. Pettit. “Our observations provide greater understanding on the role of macrophages, which ultimately may lead to new therapies to improve the lives of people with bone diseases.”

For more information about Dr. Pettit’s study, please visit www.ibmsonline.org.

###

The International Bone & Mineral Society (IBMS) is the first and the largest international network of researchers, clinicians, companies and societies dedicated to promoting the generation and dissemination of knowledge of basic biology and clinical science of the skeleton and mineral metabolism. To learn more about IBMS, visit www.ibmsonline.org.