

Special Issue

Molecular Biology of Osteoporosis

Message from the Guest Editor

Osteoporosis is one of the most common metabolic bone diseases. Osteoporotic fractures, which represent a *growing economic burden* on global healthcare systems, impair quality of life and increase morbidity and mortality. In health, bone homeostasis encompasses coordinated dynamic equilibrium between bone-forming cells (osteoblasts) and bone-resorbing cells (osteoclasts). Mechanical stress is crucial for bone homeostasis and decreased mechanical loading is an established cause of bone loss and osteoporosis. Osteocytes, the most abundant and long-lived bone cells, are terminally differentiated osteoblasts that have a mechanosensory role and have emerged as a master regulator of bone homeostasis. Osteocytes produce endocrine and paracrine factors, and this activity is regulated by mechanical stress as well as osteotropic factors such as, oestrogen, vitamin D and parathyroid hormone. This Special Issue explores intricate intra- and intercellular molecular signalling in bone cells in health and osteoporosis.

Guest Editor

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