Alendronate is a second generation bisphosphonate that exhibits anti-resorptive, anti-inflammatory, immunomodulatory, and anticancer chemotherapeutic activities. Alendronate inhibits bone resorption but does not have any effects on bone mineralization; it also inhibits osteoclast formation and decreases phosphorylation of Akt and ERK1/2 in vitro. In animal models, alendronate decreases production of Th2 and Th17 cytokines and eotaxin-2, suppressing antigen-induced pulmonary immune responses. Additionally, this compound increases δγ T cell activation and inhibits tumor growth in vivo.

References


