Clodronate is a first-generation non-nitrogen-containing bisphosphonate that is used clinically for its anti-resorptive activity. Clodronate generates formation of a non-hydrolysable β-γ ATP analog that inhibits mitochondrial ADP/ATP translocase and prevents mitochondrial oxygen consumption and function; as a result, osteoblast calcium deposition is inhibited and apoptosis is induced in osteoclasts, inhibiting bone resorption. Clodronate also decreases expression of MMP9 and improves performance on the Rotarod test, decreasing severity of experimental autoimmune neuritis, an animal model of Guillan-Barre Syndrome. Additionally, clodronate exhibits anticancer chemotherapeutic and anti-angiogenic activities, decreasing vessel density in vivo and inhibiting cellular proliferation in models of renal cell carcinoma.

References


Caution: This product is intended for laboratory and research use only. It is not for human or drug use.