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# Alendronic Acid

National Cancer Institute

## Source

National Cancer Institute. *Alendronic Acid*. NCI Thesaurus. Code C61625.

A second generation bisphosphonate and synthetic analog of pyrophosphate with anti-bone-resorption activity. Alendronic acid binds to and inhibits the activity of farnesyl pyrophosphate synthetase, an enzyme involved in terpenoid biosynthesis. Inhibition of this enzyme prevents the biosynthesis of isoprenoid lipids, donor substrates of farnesylation and geranylgeranylation during the post-translational modification of small GTPase signalling proteins, which are important in the process of osteoclast turnover. As a result, bone resorption and turnover are reduced.