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# Pentostatin

National Cancer Institute

## Source

National Cancer Institute. *Pentostatin*. NCI Thesaurus. Code C732.

A purine nucleotide analogue antibiotic isolated from the bacterium *Streptomyces antibioticus*. Also known as 2'-deoxycoformycin, pentostatin binds to and inhibits adenine deaminase (ADA), an enzyme essential to purine metabolism; ADA activity is greatest in cells of the lymphoid system with T-cells having higher activity than B-cells and T-cell malignancies higher ADA activity than B-cell malignancies. Pentostatin inhibition of ADA appears to result in elevated intracellular levels of dATP which may block DNA synthesis through the inhibition of ribonucleotide reductase. This agent may also inhibit RNA synthesis and may selectively deplete CD26+ lymphocytes. (NCI04)