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# Minocycline Hydrochloride

National Cancer Institute

## Source

National Cancer Institute. *Minocycline Hydrochloride*. NCI Thesaurus. Code C47622.

The hydrochloride salt of minocycline, a broad spectrum long-acting derivative of the antibiotic tetracycline, with antibacterial and anti-inflammatory activities. Minocycline binds to the bacterial 30S ribosomal subunit and interferes with the binding of tRNA to the ribosomal complex, thereby inhibiting protein translation in bacteria. In addition, minocycline inhibits the inflammatory enzyme 5-lipoxygenase (5LOX) and may impede T cell-microglia interactions; both activities may contribute to minocycline's neuroprotective effects. 5LOX catalyzes the synthesis of inflammatory mediators such as prostaglandins and leukotrienes.