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# Tanezumab

National Cancer Institute

## Source

National Cancer Institute. *Tanezumab*. NCI Thesaurus. Code C71522.

A humanized monoclonal antibody directed against nerve growth factor (NGF), a modulator of nociceptor function, with potential analgesic activity. Tanezumab binds to NGF and prevents NGF binding to its high affinity, membrane-bound, catalytic receptor tropomyosin-related kinase A (TrkA), which is present on sympathetic and sensory neurons; reduced stimulation of TrkA by NGF inhibits the pain-transmission activities of these neurons. NGF, a neurotrophin, is critical to the growth and maintenance of sympathetic and sensory neurons. In addition, NGF may induce mast cells to release inflammatory proteins and may induce the upregulation of substance P and other pain-related peptides in sympathetic and sensory neurons. Upon neurotrophin binding, TrkA phosphorylates itself and members of the MAPK pathway, mediating the multiple neuronal effects of NGF.