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Loxoribine

National Cancer Institute

Source

National Cancer Institute. *Loxoribine*. NCI Thesaurus. Code C1470.

A guanine ribonucleotide derivative with immunostimulatory and immunomodulatory activity. Loxoribine undergoes facilitated transport across the plasma membrane into the cytoplasmic compartment of the cell and acts intracellularly, bypassing the biochemical steps involved in the membrane signal transduction pathway used by Ag or anti-IgM Abs to activate B cells. This agent activates the Toll-like receptor 7 (TLR7), a member of the TLR family of pathogen-associated molecular pattern recognition receptors thereby activating the innate immune system. This activation requires endosomal maturation and recognition is restricted to TLR7. As a result, loxoribine induces cycling B cells to proliferate and differentiate non-specifically and recruit antigen-reactive B cells to undergo differentiation to antibody production, markedly amplifying the underlying response in the process.