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Levalbuterol

National Cancer Institute

Source

National Cancer Institute. *Levalbuterol*. NCI Thesaurus. Code C74196.

A short-acting sympathomimetic beta-2 adrenergic receptor agonist with bronchodilator activity. Levalbuterol binds to beta-2 adrenergic receptors in bronchial smooth muscle and activates intracellular adenylyl cyclase, an enzyme that catalyzes the conversion of adenosine triphosphate (ATP) to cyclic-3',5'-adenosine monophosphate (cAMP). Increased cAMP levels lead to the activation of protein kinase A, which inhibits the phosphorylation of myosin and lowers intracellular ionic calcium concentrations, resulting in relaxation of bronchial smooth muscles. The increased cAMP concentrations also inhibit the release of inflammatory mediators, especially from mast cells.