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Ipratropium/Albuterol

National Cancer Institute

Source

National Cancer Institute. *Ipratropium/Albuterol*. NCI Thesaurus. Code C29129.

A combination of albuterol and ipratropium with a bronchodilatory effect. Albuterol stimulates beta-2 adrenergic receptors in the lungs, thereby activating the enzyme adenylate cyclase that catalyzes the conversion of adenosine triphosphate (ATP) to cyclic-3',5'- adenosine monophosphate (cAMP). This results in the relaxation of bronchial smooth muscle, relieve of bronchospasms, and reduction of inflammatory cell mediator release. Ipratropium is a synthetic quaternary ammonium compound and a competitive muscarinic acetylcholine (ACh) receptor antagonist. This agent inhibits vagally mediated reflexes by antagonizing the action of ACh and consequently, prevents the increase in intracellular cyclic guanosine monophosphate, which is a result of ACh interacting with the muscarinic receptor on bronchial smooth muscle.