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Clenbuterol

National Cancer Institute

Source

National Cancer Institute. *Clenbuterol*. NCI Thesaurus. Code C65335.

A substituted phenylaminoethanol and a long-acting beta-2 adrenergic agonist with sympathomimetic activity. Clenbuterol selectively binds to and activates beta-2 adrenergic receptors in bronchiolar smooth muscle, thereby causing stimulation of adenylyl cyclase, the enzyme that catalyzes the conversion of adenosine triphosphate (ATP) to cyclic-3',5'-adenosine monophosphate (cAMP). Increased intracellular cAMP levels cause relaxation of smooth muscle. In addition, clenbuterol also stimulates central nervous system (CNS), and causes an increase in blood pressure and heart rate due to both beta-2 and beta-1 adrenergic activities. This agent may also exert an anabolic or anti-catabolic effect due to as of yet unidentified mechanisms.