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# Terbutaline

National Cancer Institute

## Source

National Cancer Institute. *Terbutaline*. NCI Thesaurus. Code C61965.

An ethanolamine derivative with bronchodilating and tocolytic activities. Terbutaline selectively binds to and activates beta-2 adrenergic receptors, leading to intracellular adenylyl cyclase activation via a trimeric G protein and subsequent increase in cyclic AMP (cAMP) production. Increased cAMP levels result in relaxation of bronchial and vascular smooth muscle mediated through the activation of protein kinase A (PKA), which phosphorylates proteins in control of muscle tone. cAMP also inhibits calcium ion release from intracellular stores, reduces calcium entry into cells and induces the sequestration of intracellular calcium all of which aids in the relaxation of airway muscles. Terbutaline also increases mucociliary clearance and reduces release of inflammatory cell mediators.