

[Open Peer Review on Qeios](#)

# Aminophylline

National Cancer Institute

## Source

National Cancer Institute. *Aminophylline*. NCI Thesaurus. Code C47393.

A methylxanthine and derivative of theophylline. Aminophylline relaxes smooth muscles, particularly bronchial muscles. This xanthine most likely exerts its effect by inhibiting cAMP or cGMP phosphodiesterases, thereby increasing levels of the second messenger cAMP or cGMP intracellularly. Other mode of actions include an adenosine antagonistic effect on the activity of CD4 lymphocytes and mediator release from mast cells thereby decreasing lung sensitivity to allergens and other substances that cause inflammation. Aminophylline also acts as a CNS stimulant and exerts a positive chronotropic and inotropic effect on the heart.