

[Open Peer Review on Qeios](#)

Theophylline

National Cancer Institute

Source

National Cancer Institute. *Theophylline*. NCI Thesaurus. Code C872.

A natural alkaloid derivative of xanthine isolated from the plants *Camellia sinensis* and *Coffea arabica*. Theophylline appears to inhibit phosphodiesterase and prostaglandin production, regulate calcium flux and intracellular calcium distribution, and antagonize adenosine. Physiologically, this agent relaxes bronchial smooth muscle, produces vasodilation (except in cerebral vessels), stimulates the CNS, stimulates cardiac muscle, induces diuresis, and increases gastric acid secretion; it may also suppress inflammation and improve contractility of the diaphragm. (NCI04)