Clotrimazole is an imidazole antifungal that also exhibits anti-parasitic, antimalarial, and anticancer chemotherapeutic activities. Clotrimazole inhibits synthesis of ergosterol and other sterols, preventing fungal cell wall formation; it also inhibits the H+/K+ ATPase and the Na+/K+ ATPase. In vivo and in vitro, clotrimazole induces G0/G1 cell cycle arrest, decreases the Bcl-2:Bax ratio, stimulates apoptosis, and inhibits proliferation and tumor growth. Additionally, this compound inhibits degradation of heme, inducing hemolysis and suppressing growth of Plasmodium in vitro.

References