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Givinostat

National Cancer Institute

Source

National Cancer Institute. *Givinostat*. NCI Thesaurus. Code C71716.

An orally bioavailable hydroxamate inhibitor of histone deacetylase (HDAC) with potential anti-inflammatory, anti-angiogenic, and antineoplastic activities. Givinostat inhibits class I and class II HDACs, resulting in an accumulation of highly acetylated histones, followed by the induction of chromatin remodeling and an altered pattern of gene expression. At low, nonapoptotic concentrations, this agent inhibits the production of pro-inflammatory cytokines such as tumor necrosis factor- (TNF-), interleukin-1 (IL-1), IL-6 and interferon-gamma. Givinostat has also been shown to activate the intrinsic apoptotic pathway, inducing apoptosis in hepatoma cells and leukemic cells. This agent may also exhibit anti-angiogenic activity, inhibiting the production of angiogenic factors such as IL-6 and vascular endothelial cell growth factor (VEGF) by bone marrow stromal cells.