18β-Glycyrrhetinic Acid (enoxolone) is a triterpene glycoside found in Glycyrrhiza that exhibits anti-hyperlipidemic, anti-obesity, anti-inflammatory, anticancer, and anti-metastatic activities. Enoxolone is commercially used as a flavorant. Enoxolone inhibits 15-hydroxyprostaglandin dehydrogenase, altering the metabolism of prostaglandins E2 (PGE2) and F2 (PGF2). Enoxolone also modulates ion channel activity, inhibiting human ether-related-a-go-go (hERG) K+ channels and Kv1.3 K+ channels. In vitro, enoxolone prevents production of IL-2 and activation of T cells. In other cellular models, enoxolone decreases cellular invasion, expression of matrix metalloproteinase 9 (MMP9) and VEGF, and activity of NF-κB. This compound also induces apoptosis in non-small cell lung cancer (NSCLC) cells, decreasing expression of Bcl-2, Bcl-xl, cyclin D1, and cyclin E, increasing activation of caspases and PARP, and downregulating phosphorylation of JNK and PKC. In animal models, enoxolone inhibits anandamide-induced adipocyte differentiation, suppresses expression of fatty acid synthase, and decreases plasma lipid levels, fat weight, and body weight.

References


