

Ursolic acid

Ursolic acid is a pentacyclic triterpene acid, used in cosmetics, that is also capable of inhibiting various types of cancer cells by inhibiting the STAT3 activation pathway and human fibrosarcoma cells by reducing the expression of matrix metalloproteinase-9 by acting through the glucocorticoid receptor. As medicine, it is well tolerated and can be used topically and orally.

Ursolic acid is present in many plants, including apples, basil, bilberries, cranberries, elder flower, peppermint, rosemary, lavender, oregano, thyme, hawthorn, prunes. Apple peels contain high quantity of ursolic acid and related compounds which are responsible for the anti-cancer activity of apple. Ursolic acid can also serve as a starting material for synthesis of more potent bioactive derivatives, such as anti-tumor agents.

Other names for ursolic acid include 3- β -hydroxy-urs-12-en-28-oic acid, urson, prunol, and malol.

Ursolic acid has medicinal action, both topically and internally. Ursolic acid is used in many cosmetic preparations for its anti-inflammatory, antitumor and antimicrobial properties. Ursolic acid has antibacterial and antifungal activity. Tests have shown that Ursolic acid inhibits the growth of *Candida albicans* and *Microsporium lenosum*.

Ursolic acid has anti-inflammatory properties and is used in ointments to treat burns.

Topical application of ursolic acid inhibited TPA-induced initiation and promotion of tumor growth.