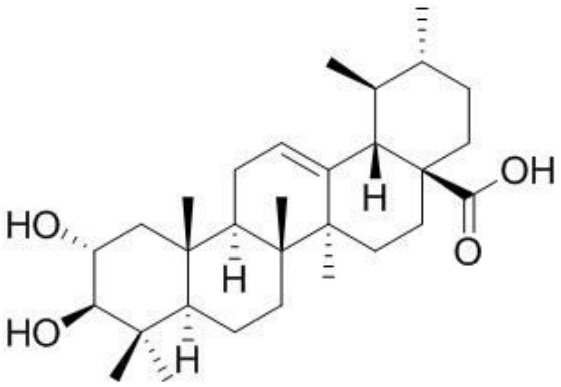
Natural Products

ChemFaces

Corosolic acid Datasheet

4th Edition (Revised in July, 2016)

[Product Information]



Name: Corosolic acid

Catalog No.: CFN98685

Cas No.: 4547-24-4

Purity: > 98%

M.F: $C_{30}H_{48}O_4$

M.W: 472.7

Physical Description: Powder

Synonyms:2α-Hydroxyursolic-acid;(1S,2R,4aS,6aR,6aS,6bR,8aR,10R,11R,12aR,14bS)-10,11-dihydroxy-1,2,6a,6b,9,9,12a-heptamethyl-2,3,4,5,6,6a,7,8,8a,10,11,12,13,14b-tetradecahydro-1H-picene-4a-carboxylic acid.

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Synthetic precursor compounds;
4. Care and daily chemicals;
5. Intermediates & Fine Chemicals;
6. Ingredient in supplements, beverages;
7. Others.

[Source]

The barks of *Lagerstroemia speciosa.*

[Biological Activity or Inhibitors]

Corosolic acid (CRA), a constituent of banaba leaves, has been reported to have anti-inflammatory and hypoglycemic activities, it can ameliorate hypertension, abnormal lipid metabolism, and oxidative stress as well as the inflammatory state in SHR-cp rats, suggests CRA can be beneficial for preventing atherosclerosis-related diseases.[1]

Corosolic acid significantly inhibits cell viability in both a dose- and a time-dependent manner, induces apoptosis is associated with the activation of caspases via a mitochondrial pathway, suggests it could have strong potentials for clinical application in treating human cervix adenocarcinoma and improving cancer chemotherapy.[2]

Corosolic acid can suppress the M2 polarization of macrophages and tumor cell proliferation by inhibiting both STAT3 and NF-κB activation, thus, it might be a potential new tool for tumor prevention and therapy.[3]

Corosolic acid has antidiabetic effects(especially type 2 diabetes), can improve glucose metabolism by reducing insulin resistance, it inhibits the enzymatic activities of several diabetes-related non-receptor protein tyrosine phosphatases (PTPs) in vitro, such as PTP1B, T-cell-PTP, src homology phosphatase-1 and src homology phosphatase-2.[4,5]

Corosolic acid has antitumor effects in murine sarcoma model through significantly impairing subcutaneous tumor development and lung metastasis and targeting the immunosuppressive activity of myeloid-derived suppressor cells (MDSC), and can enhance the antitumor effects of adriamycin and cisplatin in in vitro.[6]

[Solvent]

Pyridine, DMSO, etc.

[HPLC Method][7]

Mobile phase: Methanol-Distilled H2O-Phosphoric acid=82:18:0.2 ;

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 205 nm.

[Storage]

2-8℃, Protected from air and light, refrigerate or freeze.

[References]

[1] Yu Y, Yamada K, Yoshikawa N, *et al. Life Sci., 2006, 79(26):2474-9.*

[2] Xu Y, Ge R, Du J, *et al. Cancer Lett., 2009, 284(2):229237.*

[3] Fujiwara Y, Komohara Y, Ikeda T, *et al. Cancer Sci., 2011, 102(1):206-11.*

[4] Miura T, Ueda N, Yamada K, *et al. Biol. Pharm.Bull., 2006, 29(3):585-7.*

[5] Shi L, Zhang W, Zhou Y Y, *et al. Eur. J. Pharmacol., 2008, 584(1):21-9.*

[6] Hasita Horlad, Yukio Fujiwara, Takemura K, *et al. Mol. Nutr. Food Res., 2013, 57(6): 1046-54.*

[7] Liu B, Yang Y F, Wu HZ . *Chinese Journal of Pharmaceutical Analysis, 2011, 31(12): 2217-9.*

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