

Product Data Sheet

Product Name: Idescarpin

Cat. No.: GC81839

Chemical Properties

Cas. No. 188557-53-1

Formula $C_{20}H_{24}O_{11}$

M.Wt 440.4

Solubility Storage Store at -20°C, protect from light

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Idescarpin is a phenolic glycoside compound isolated from *Idesia polycarpa* and exhibits an extremely bitter taste. Idescarpin possesses significant anti-inflammatory, antioxidant, and potent anti-adipogenic activities. Idescarpin reduces melanin biosynthesis by inhibiting tyrosinase activity. Idescarpin is applicable to research on obesity and type 2 diabetes, as well as related studies in food and cosmetics [1] [2] [3].

In Vitro, Idescarpin (25-50 μ M; 8 days) significantly reduces lipid droplet formation and inhibits preadipocyte-to-adipocyte differentiation in mouse preadipocytes (3T3-L1)[2]. Idescarpin (25-50 μ M;

Caution: Product has not been fully validated for medical applications. For research use only.

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4-8 days) significantly inhibits C/EBP α protein and mRNA expression in mouse preadipocytes (3T3-L1), downregulates the mRNA expression of adipogenesis-related genes (SREBP1c, SCD-1, FAS), but upregulates PPAR γ protein and mRNA expression^[2]. Idescarpin (2-10 μ g/mL; 24 h) is a key substance in the anti-inflammatory activity of defatted *Idesia polycarpa* extract, showing a negative correlation with inflammatory mediators (NO, iNOS, TNF- α , IL-6, ROS) and a positive correlation with CAT activity in LPS -stimulated RAW 264.7 cells^[1]. Idescarpin is predicted to activate 7 human bitter taste receptors (hTAS2R1, hTAS2R5, hTAS2R14, hTAS2R16, hTAS2R39, hTAS2R41, hTAS2R43), with activation probabilities ranging from 51.08% to 69.31%.

References:

- [1]. WANG X, et al. A comprehensive study of defatted *Idesia polycarpa* fruit: Phenolic profile and its relation with anti-inflammatory activity in seed, pulp, and whole fruit. *Food Chemistry*, 2022, 386: 132785.
- [2]. Lee M, et al. Anti-adipogenic activity of compounds isolated from *Idesia polycarpa* on 3T3-L1 cells. *Bioorg Med Chem Lett*. 2013 Jun 1;23(11):3170-4.
- [3]. Xiang X, et al. Characterization of key bitter compounds in *Idesia polycarpa* var. *vestita* Diels fruit by sensory-guided fractionation. *Food chemistry*. 2024 May 01;439:138103.

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