

Product Data Sheet

Product Name: Gitogenin

Cat. No.: GC38046

Chemical Properties

Cas. No. 511-96-6

SMILES C[C@@H]1[C@@]2(CC[C@@H](C)CO2)O[C@]3([H])[C@@]1([H])[C@@]4([C@@]([C@@]5([H])[C@]([C@@]6([C@@](C[C@@H](O)[C@H](O)C6)([H])CC5)C)([H])CC4)([H])C3)C

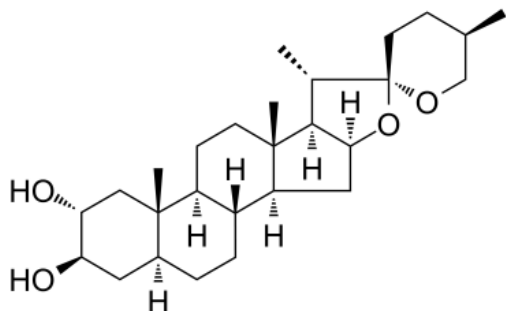
Formula $C_{27}H_{44}O_4$ M.Wt 432.64

Solubility Soluble in DMSO Storage Store at -20°C

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

Gitogenin is a natural steroid isolated from the whole plant of *Tribulus longipetalus*. Gitogenin is a selective inhibitor of UDP-glucuronosyltransferase 1A4 (UGT1A4) and enzyme α -glucosidase with IC₅₀ values of 0.69 μ M (use trifluoperazine as a substrate) and 37.2 μ M, respectively, and does not inhibit the activities of major human cytochrome P450 isoforms[1][2].

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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When tamoxifen is used as the substrate metabolized by UGT1A4 in HLMs, Gitogenin exhibits potent inhibition of tamoxifen, with an IC₅₀ value of 6.13 μ M. Similarly, for midazolam as the substrate of UGT1A4, the IC₅₀ value is 5.7 μ M. In addition, when olanzapine is used as a substrate of UGT1A4, the IC₅₀ value is determined as 6.0 μ M. Finally, we also evaluate Gitogenin for asenapine glucuronidation mediated by UGT1A4, and similar inhibition effect is observed, with an IC₅₀ value of 22.0 μ M[1].

Stimulation of growth hormone release is investigated on rat pituitary cells in vitro. Gitogenin (20 μ g/mL) shows rat growth-hormone (rGH) release stimulating activities (26.1 ng/mL)[3].

[1]. Xu M, et al. Drug interaction study of natural steroids from herbs specifically toward human UDP-glucuronosyltransferase (UGT) 1A4 and their quantitative structure activity relationship (QSAR) analysis for prediction. *Pharmacol Res.* 2016 Aug;110:139-150. [2]. Naveed MA, et al. Longipetalosides A-C, new steroidal saponins from *Tribulus longipetalus*. *Steroids.* 2014 May;83:45-51. [3]. Shim SH, et al. Rat growth-hormone release stimulators from fenugreek seeds. *Chem Biodivers.* 2008 Sep;5(9):1753-61.

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