

Product Data Sheet

Product Name: Vitexin
Cat. No.: GN10806

Chemical Properties

Cas. No. 3681-93-4

Chemical Name 5,7-dihydroxy-2-(4-hydroxyphenyl)-8-[(2S,3R,4R,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)oxan-2-yl]chromen-4-one

SMILES C1=CC(=CC=C1C2=CC(=O)C3=C(O2)C(=C(C=C3O)O)C4C(C(C(C(O4)CO)O)O)O)O

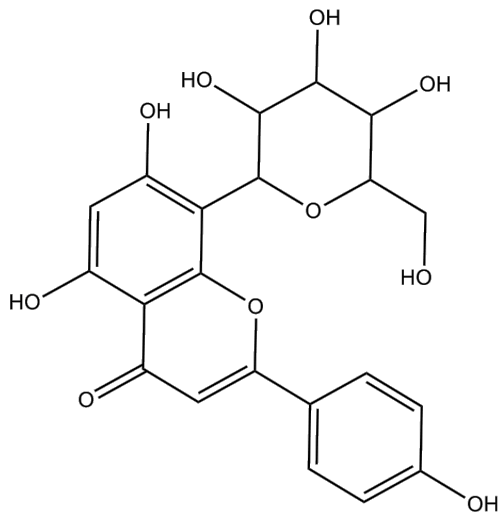
Formula $C_{21}H_{20}O_{10}$ M.Wt 432.38

Solubility DMSO : 47 mg/mL (108.7 mM) Storage Store at 4°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



Protocol

Cell experiment [1]:

Cell lines Human oral cancer cell line (OC2)

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

Product Data Sheet

A total of 1000 cells were seeded in a 96-well plate for 24 h before treatment with vitexin (0, 12.5, 25, 50, 100 μ M). At the end of incubation, add alamarBlue Preparation Method reagent in an amount equal to 10% of the volume in the well. Cultures were incubated for 4 h, and then cytotoxicity was measured by using spectrophotometry at 570 and 600 nm.

Reaction Conditions 0, 12.5, 25, 50, 100 μ M for for 48 h.

Applications Increasing concentration of vitexin drastic decreased cell viability of OC2 cells.

Animal experiment [2]:

Animal models male adult Sprague-Dawley (SD) rats

rats were randomly divided into the following six groups with 16 rats in each group: (1) sham group, sham-operated without occludes the artery, (2) I/R group, I/R alone with normal saline (NS) treatment, (3) I/R + puerarin group, puerarin was administered intravenously at a dose of 30 mg/kg, beginning at coronary ischemia and again at reperfusion, (4) I/R + vitexin 6 mg/kg group, vitexin was Preparation Method administered intravenously at a dose of 6 mg/kg, beginning at coronary ischemia and again at reperfusion, (5) I/R + vitexin 3 mg/kg group, vitexin was administered intravenously at a dose of 3 mg/kg, beginning at coronary ischemia and again at reperfusion, (6) I/R + vitexin 1.5 mg/kg group, vitexin was administered intravenously at a dose of 1.5 mg/kg, beginning at coronary ischemia and again at reperfusion.

Dosage form Intravenous injection, 1.5, 3, 6 mg/kg

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

Product Data Sheet

Applications The elevation of the ST segment was significantly enhanced in I/R group 30 min after ischemia, 30 and 60 min after reperfusion compared with sham group. Vitexin 6 mg/kg and puerarin have a significant inhibiting effect against the elevation of the ST segment 30 and 60 min after reperfusion compared with I/R group.

References:

- [1]: Yang S H, Liao P H, Pan Y F, et al. The novel p53-dependent metastatic and apoptotic pathway induced by vitexin in human oral cancer OC2 cells[J]. Phytotherapy Research, 2013, 27(8): 1154-1161.
- [2]: Dong L Y, Li S, Zhen Y L, et al. Cardioprotection of vitexin on myocardial ischemia/reperfusion injury in rat via regulating inflammatory cytokines and MAPK pathway[J]. The American Journal of Chinese Medicine, 2013, 41(06): 1251-1266.

Background

Vitexin is an active components of many traditional Chinese medicines, and were found in various medicinal plants. Vitexin (apigenin-8-C-glucoside) has recently received increased attention due to its wide range of pharmacological effects, including but not limited to anti-oxidant, anti-cancer, anti-inflammatory, anti-hyperalgesic, and neuroprotective effects [1]. vitexin has recently received increased attention due to its wide range of pharmacological effects, including anti-cancer, anti-oxidant, anti-inflammatory, anti-nociceptive, anti-AD (AD, Alzheimer's disease), anti-hypertensive, anti-spasmodic, anti-hypoxia/ischemia injury, anti-depressant-like actions and anti-viral activities [1].

Vitexin (20 μ M, 24h) significantly reduced the HIF-1 α level in rat pheochromocytoma PC12 cells, not in human hepatocellular carcinoma HepG2 or in human osteosarcoma HOS cells under hypoxia [2]. Vitexin reduced the levels of VEGF (the major angiogenic factor) protein and mRNA in a dose-dependent manner [2]. 20 μ M of vitexin inhibited PC12 cells invasion by approximately 66% [2]. Vitexin-induced (100 μ M, 48h) apoptosis was p53 dependent in human oral cancer OC2 cells [3]. Vitexin (100 μ M, 48h) induced the expression of ERK 1/2 in OC2 cells [3].

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

Product Data Sheet

Vitexin (40 mg/kg i.g.) increased the brain weights of D-galactose-aged mice [4]. vitexin (10-40 mg/kg i.g.) increased the activity of the antioxidase system and levels of ATPase in the serum and tissue of D-galactose-aged mice [4]. Vitexin (0.3-10 mg/kg, i.p.) inhibits the mice writhing response induced by acetic acid and phenyl-p-benzoquinone (PBQ) [5]. Vitexin (1-10 mg/kg, i.p.) inhibits carrageenan-, capsaicin-, and CFA-Induced mechanical and thermal hyperalgesia [5]. Vitexin (10 mg/kg, ip, 30 min before the ipl injection of carrageenan) inhibits pro-inflammatory cytokine (TNF- α , IL-1 β , IL-6, and IL-33) and enhances anti-inflammatory cytokine (IL-10) production induced by carrageenan [5].

References:

- [1]. He M, Min J W, Kong W L, et al. A review on the pharmacological effects of vitexin and isovitexin[J]. Fitoterapia, 2016, 115: 74-85.
- [2]. Choi H J, Eun J S, Kim B G, et al. Vitexin, an HIF-1 α Inhibitor, Has Anti-metastatic Potential in PC12 Cells[J]. Molecules & Cells (Springer Science & Business Media BV), 2006, 22(3).
- [3]. Yang S H, Liao P H, Pan Y F, et al. The novel p53-dependent metastatic and apoptotic pathway induced by vitexin in human oral cancer OC2 cells[J]. Phytotherapy Research, 2013, 27(8): 1154-1161.
- [4]. Dong L Y, Li S, Zhen Y L, et al. Cardioprotection of vitexin on myocardial ischemia/reperfusion injury in rat via regulating inflammatory cytokines and MAPK pathway[J]. The American Journal of Chinese Medicine, 2013, 41(06): 1251-1266.
- [5]. Borghi S M, Carvalho T T, Staurengo-Ferrari L, et al. Vitexin inhibits inflammatory pain in mice by targeting TRPV1, oxidative stress, and cytokines[J]. Journal of Natural Products, 2013, 76(6): 1141-1149.

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