

Product Data Sheet

Product Name: Genistein-d4

Cat. No.: GC47398

Chemical Properties

Cas. No. 187960-08-3

SMILES O=C1C(C2=C([2H])C([2H])=C(O)C([2H])=C2[2H])=COC3=CC(O)=CC(O)=C31

Formula C₁₅H₆D₄O₅

M.Wt 274.3

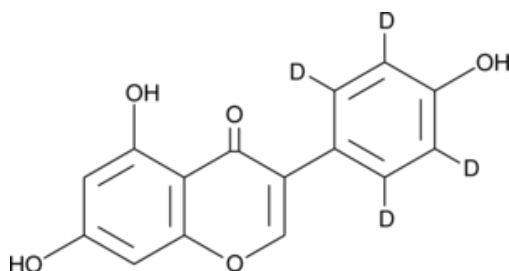
Solubility DMF: 30 mg/ml, DMSO: 30 mg/ml, DMSO:PBS (pH 7.2) (1:6): 1 mg/ml

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

Genistein-d₄ is intended for use as an internal standard for the quantification of genistein by GC- or LC-MS. Genistein is an isoflavonoid phytoestrogen that has been found in soybeans (*G. max*/S. *hispid*a) and has kinase inhibitory, anticancer, pro-cancer, hepatoprotective, and antiviral properties.¹ It inhibits the tyrosine kinases EGFR, pp50^v-Src, and pp110^{gag}-fes (IC₅₀ = 6, 7-8, and 6.5 µg/ml, respectively) and decreases EGF-induced serine, threonine, and tyrosine phosphorylation of EGFR in A431 cells when used at a concentration of 20 µg/ml.² Genistein inhibits proliferation and induces apoptosis in a variety of cancer cells, including Bel 7402 hepatocellular carcinoma cells when used at a concentration of 10 µg/ml.^{1,3} It reduces tumor invasion and angiogenesis in a Bel 7402 mouse

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

subrenal capsule xenograft model when administered at a dose of 50 mg/kg per day.³ However, when administered at the same dose on postnatal days 1-5, genistein increases the incidence of uterine adenocarcinoma in a mouse model of cancer induced by the estrogen receptor agonist diethylstilbestrol.⁴ It reduces lipid accumulation and inflammation in the liver of ovariectomized (OVX) and non-OVX female rats in a model of high-fat high-fructose diet-induced nonalcoholic hepatosteatosis (NASH) when administered at a dose of 16 mg/kg per day.⁵ Genistein (10 μ M) also inhibits HIV-1 DNA synthesis in resting CD4⁺ T cells.⁶

1.Spagnuolo, C., Russo, G.L., Orhan, I.E., et al.Genistein and cancer: Current status, challenges, and future directionsAdv. Nutr.6(4)408-419(2015) 2.Akiyama, T., Ishida, J., Nakagawa, S., et al.Genistein, a specific inhibitor of tyrosine-specific protein kinasesJ. Biol. Chem.262(1)5592-5595(1987) 3.Gu, Y., Zhu, C.-F., Iwamoto, H., et al.Genistein inhibits invasive potential of human hepatocellular carcinoma by altering cell cycle, apoptosis, and angiogenesisWorld J. Gastroenterol.11(41)6512-6517(2005) 4.Newbold, R.R., Banks, E.P., Bullock, B., et al.Uterine adenocarcinoma in mice treated neonatally with genisteinCancer Res.614325-4328(2001) 5.Pummoung, S., Werawatganon, D., Klaikeaw, N., et al.Genistein-attenuated hepatic steatosis and inflammation in nonalcoholic steatohepatitis with bilateral ovariectomized ratsPharmacogn. Mag.14(55)20-24(2018) 6.Guo, J., Xu, X., Rasheed, T.K., et al.Genistein interferes with SDF-1- and HIV-mediated actin dynamics and inhibits HIV infection of resting CD4 T cellsRetrovirology1062(2013)

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