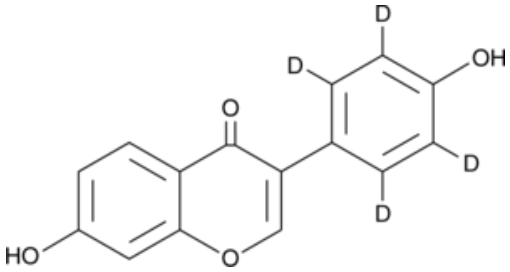
Product Data Sheet

Product Name: Daidzein-d4
Cat. No.: GC47168

Chemical Properties

Cas. No.	1219803-57-2		
SMILES	OC1=CC=C2C(OC=C(C3=C([2H])C([2H])=C(O)C([2H])=C3[2H])C2=O)=C1		
Formula	C15H6D4O4	M.Wt	258.3
Solubility	DMF: 10 mg/ml,DMSO: 30 mg/ml,Ethanol: 0.1 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

Daidzein-d_4 is intended for use as an internal standard for the quantification of daidzein by GC- or LC-MS. Daidzein is an isoflavone phytoestrogenic compound that has been found in soybeans and other legumes.[1] It binds to estrogen receptor β (ERβ; K_i = 2.8 µM) but not ERα at concentrations up to 1 mM.[2] It is estrogenic *in vitro*, increasing gene transcription mediated by the estrogen response element (ERE) in a reporter assay in an ERβ-dependent manner (EC_{50} = 2.8 µM for MCF-7 cells expressing ERβ).[1] Daidzein is an inhibitor of carbonic anhydrase (CA) that is selective for carbonic CAVII and CAXII (K_is = 4.2 and 56 nM, respectively) over CAI, II, and IV (K_is = >10,000, >10,000, and 718.7 nM, respectively).[3] It reduces tumor growth in a PC3 prostate cancer mouse orthotopic model when administered at a dose of 50 mg/kg per day and potentiates the effects of radiation

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

therapy.[4]

1.Harris, D.M., Besselink, E., Henning, S.M., et al.Phytoestrogens induce differential estrogen receptor alpha- or beta-mediated responses in transfected breast cancer cellsExp. Biol. Med. (Maywood)230(8)558-568(2005) 2.Zhao, L., and Brinton, R.D.Structure-based virtual screening for plant-based ERβ-selective ligands as potential preventative therapy against age-related neurodegenerative diseasesJ. Med. Chem.48(10)3463-3466(2005) 3.Karioti, A., Ceruso, M., Carta, F., et al.New natural product carbonic anhydrase inhibitors incorporating phenol moietiesBioorg. Med. Chem.23(22)7219-7225(2015) 4.Singh-Gupta, V., Zhang, H., Yunker, C.K., et al.Daidzein effect on hormone refractory prostate cancer in vitro and in vivo compared to genistein and soy extract: Potentiation of radiotherapyPharm. Res.27(6)1115-1127(2010)

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