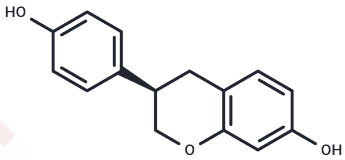
Data Sheet (Cat.No.T13443)

TargetMol

(R)-Equol

Chemical Properties



CAS No. : 221054-79-1

Formula: C15H14O3

Molecular Weight: 242.27

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	(R)-Equol ((+)-Equol) is an ERα and ERβ agonist with Kis of 27.4 and 15.4 nM, respectively.
Targets(IC50)	Estrogen Receptor/ERR,Estrogen/progestogen Receptor
In vitro	(R)-Equol produced a dose-dependent inhibitory effect on the invasive ability of MDA-MB-231 cells, and this inhibitory effect was obvious at the highest test concentration (50 μM).Following 48-h exposure to (R)-Equol, invasion is reduced by 62% (p=0.009, versus untreated cells) with 50 μM (R)-Equol. Matrix metalloproteinase-2 (MMP-2) expression is significantly down-regulated following treatment with 50 μM (R)-Equol (p=0.035) [2].
In vivo	In animals, (R)-Equol significantly reduces the number of palpable tumors over time compared to controls (P=0.002). The number of palpable tumors per rat in the (R)-Equol-fed group is significantly lower than in rats treated with S-(-)equol (P=0.008). (R)-Equol-fed animals exhibit 43% fewer tumors than the control group, with this difference being highly statistically significant (P=0.004). The number of tumors per tumor-bearing animal is significantly lower in (R)-Equol-fed animals compared to controls (3.3±0.4 versus 5.5±0.5, P=0.004). At necropsy, the mean (±SEM) tumor weight per animal for (R)-Equol-fed rats (5.3±1.1 mg) is significantly reduced (P=0.04) compared to controls (9.9 ±1.4 mg). Feeding the (R)-Equol diet also results in significantly increased tumor latency (P=0.003) [3].

Solubility Information

Solubility	DMSO: 100 mg/mL (412.76 mM),Sonication and heating are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (16.51 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.1276 mL	20.6381 mL	41.2763 mL
5 mM	0.8255 mL	4.1276 mL	8.2553 mL
10 mM	0.4128 mL	2.0638 mL	4.1276 mL
50 mM	0.0826 mL	0.4128 mL	0.8255 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Setchell KD, et al. S-equol, a potent ligand for estrogen receptor beta, is the exclusive enantiomeric form of the soy isoflavone metabolite produced by human intestinal bacterial flora. Am J Clin Nutr. 2005 May;81(5):1072-9.
Magee PJ, et al. Daidzein, R-(+)equol and S-(-)equol inhibit the invasion of MDA-MB-231 breast cancer cells potentially via the down-regulation of matrix metalloproteinase-2. Eur J Nutr. 2014 Feb;53(1):345-50.
Brown NM, et al. The chemopreventive action of equol enantiomers in a chemically induced animal model of breast cancer. Carcinogenesis. 2010 May;31(5):886-93.

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