

# Produktinformation



Forschungsprodukte & Biochemikalien



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# **Product Information**



## (S)-Equol

Item No. 10010173

**CAS Registry No.:** 531-95-3

Formal Name: (S)-3,4-dihydro-3-(4-hydroxyphenyl)-

2H-1-benzopyran-7-ol

Synonyms: 4'7-Dihydroxyisoflavan, (-)-Equol,

4',7-Isoflavandiol

MF:  $C_{15}H_{14}O_3$ FW: 242.3 **Purity:** ≥98%

Stability: ≥2 years at -20°C Supplied as: A crystalline solid  $\lambda_{max}$ : 225, 283 nm UV/Vis.:

## **Laboratory Procedures**

For long term storage, we suggest that (S)-equol be stored as supplied at -20°C. It should be stable for at least two

(S)-Equol is supplied as a crystalline solid. A stock solution may be made by dissolving the (S)-equol in an organic solvent purged with an inert gas. (S)-Equol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of (S)-equol in these solvents is approximately 15 mg/ml.

(S)-Equol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (S)-equol should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. (S)-Equol has a solubility of approximately 0.1 mg/ml in a 1:10 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Equol is a non-steroidal estrogen produced from the metabolism of the isoflavonoid phytoestrogen daidzein by human intestinal microflora.  $^{1,2}$  The estrogen receptor (ER) agonist activity of the naturally occurring (S)-enantiomer (EC<sub>50</sub> = 85) and 65 nM for human ER $\alpha$  and ER $\beta$ , respectively) is similar to that of genistein but exceeds that of daidzein.<sup>2</sup> (S)-Equol preferentially binds ER $\beta$  (K<sub>i</sub> = 0.73 nM) and demonstrates approximately 9-fold lower affinity for ER $\alpha$  (K<sub>i</sub> = 6.41 nM). (S)-equol is also a potent antagonist of dihydrotestosterone, which has important implications for prostate cancer and other androgen-mediated pathologies.3

#### References

- 1. Setchell, K.D.R., Clerici, C., Lephart, E.D., et al. S-equol, a potent ligand for estrogen receptor β, is the exclusive enantiomeric form of the soy isoflavone metabolite produced by human intestinal bacterial flora. Am. J. Clin. Nutr. 81, 1072-1079 (2005).
- 2. Muthyala, R.S., Ju, Y.H., Sheng, S., et al. Equol, a natural estrogenic metabolite from soy isoflavones: Convenient preparation and resolution of R- and S-equols and their differing binding and biological activity through estrogen receptors α and β. *Bioorg. Med. Chem.* **12**, 1559-1567 (2004).
- Lund, T.D., Munson, D.J., Haldy, M.E., et al. Equol is a novel anti-androgen that inhibits prostate growth and hormone feedback. Biol. Reprod. 70, 1188-1195 (2004).

### Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10010173

WARNING: This product is for laboratory research only: not for administration to humans. Not for human or veterinary DIAGNOSTIC OR THERAPEUTIC USE.

## MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all. of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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