



LKT Laboratories, Inc.

## S-Equol

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### Product Information

**Product ID** E6782

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

**Chemical Name** (S)-3-(4-Hydroxyphenyl)chroman-7-ol

**Synonym** (3S)-3,4-Dihydro-3-(4-hydroxyphenyl)-2H-1-benzopyran-7-ol, (S)-(-)-4',7-isoflavandiol, (S)-Equol, Equol

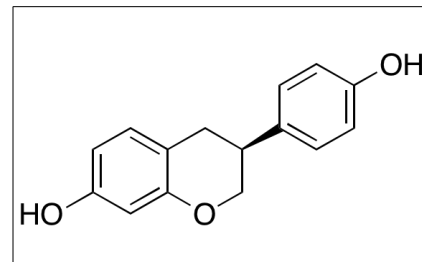
**Formula** C<sub>15</sub>H<sub>14</sub>O<sub>3</sub>

**Formula Wt.** 242.27

**Melting Point** 189.5°C

**Purity** ≥99%

**Solubility** Soluble in DMSO, ethanol, dilute aqueous base. Insoluble in water.



### Pricing and Availability

**Bulk quantities available upon request**

Product ID	Size	List Price
E6782	5 mg	\$77.90
E6782	25 mg	\$292.00

**Store Temp** -20°C

**Ship Temp** Ambient

**Description** (S)-Equol is a metabolite produced in humans and animals after consuming daidzein, a soy isoflavone. While equol exists in two enantiomeric forms S-equol and R-equol, it is the former that binds preferentially to the estrogen receptor beta. Equol exhibits anti-aging, antioxidative, estrogenic, anti-inflammatory, and chemopreventive activities. In vitro, equol increases expression of extracellular matrix proteins collagen and elastin as well as nerve growth factor (NGF) and decreases expression of aging genes and pro-inflammatory cytokines such as matrix metalloproteinases 1, 3, and 9 (MMP1/3/9), COX-1, IL-6, and IL-1α. In fibroblasts, equol inhibited ROS generation and oxidative stress. In animal models, equol increases activity of catalase, superoxide dismutase (SOD), glutathione peroxidase, and glutathione reductase. Additionally, equol inhibits TNF-α production, NF-κB activation, and IκB kinase degradation in macrophages. This compound increases activation of p53, caspase 3, and poly(ADP)-ribose polymerase (PARP), increases expression of p21 and Bax, and decreases expression of Bcl-2, resulting in apoptosis and inhibition of tumor formation in animal models.

**References** Lephart ED. Protective effects of equol and their polyphenolic isomers against dermal aging: microarray/protein evidence with clinical implications and unique delivery into human skin. *Pharm Biol.* 2013 Nov;51(11):1393-400. PMID: 23862588.

Richardson TE, Simpkins JW. R- and S-equol have equivalent cytoprotective effects in Friedreich's ataxia. *BMC Pharmacol Toxicol.* 2012 Oct 22;13:12. PMID: 23088310.

Choi EJ, Kim GH. Anticancer mechanism of equol in 7,12-dimethylbenz(a)anthracene-treated animals. *Int J Oncol.* 2011 Sep;39(3):747-54. PMID: 21667019.

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Kang JS, Yoon YD, Han MH, et al. Estrogen receptor-independent inhibition of tumor necrosis factor-α gene expression by phytoestrogen equol is mediated by blocking nuclear factor-κB activation in mouse macrophages. *Biochem Pharmacol.* 2005 Dec 19;71(1-2):136-43. PMID: 16288994.

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.