LKT Laboratories, Inc.

(±)-Equol

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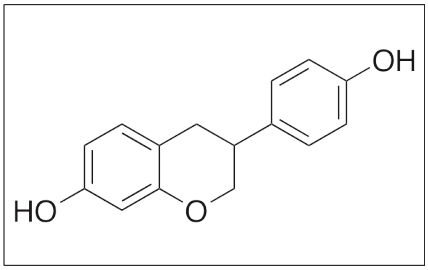
Product Information

Product ID E6781
CAS No. 94105-90-5
Chemical Name

Synonym (R,S)-Equol; 3,4-Dihydro-3,(4-hydroxyphenyl)-2H-1-benzopyran-7-ol; 4',7-Dihydroxyisoflavane

Formula $C_{15}H_{14}O_3$
Formula Wt. 242.27
Melting Point 151.0-153.0
Purity ≥98%
Solubility Soluble in DMSO, ethanol, dilute aqueous base. Insoluble in water.



Bulk quanitites available upon request

Product ID	Size
E6781	10 mg
E6781	25 mg
E6781	100 mg

Store Temp -20°C
Ship Temp Ambient

Description Equol is a soy isoflavone and phytoestrogen used in veterinary medicine that acts as an agonist at estrogen receptors. Equol is the major metabolite of daidzein and 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.

Muñoz Y, Garrido A, Valladares L. Equol is more active than soy isoflavone itself to compete for binding to thromboxane A(2) receptor in human platelets. Thromb Res. 2009 Mar;123(5):740-4. PMID: 18786699.

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