

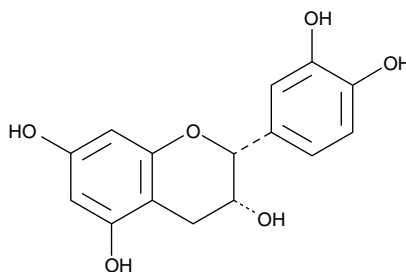
# Product Information



## (-)-Epicatechin

Item No. 11807

**CAS Registry No.:** 490-46-0  
**Formal Name:** 2R-(3,4-dihydroxyphenyl)-3,4-dihydro-2H-1-benzopyran-3R,5,7-triol  
**Synonyms:** *epi*-Catechin, NSC 81161  
**MF:** C<sub>15</sub>H<sub>14</sub>O<sub>6</sub>  
**FW:** 290.3  
**Purity:** ≥90%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:** λ<sub>max</sub>: 278 nm



### Laboratory Procedures

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

(-)-Epicatechin is supplied as a crystalline solid. A stock solution may be made by dissolving the (-)-epicatechin in the solvent of choice. (-)-Epicatechin is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of (-)-epicatechin in these solvents is approximately 12.5 mg/ml.

(-)-Epicatechin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (-)-epicatechin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. (-)-Epicatechin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Catechin is a polyphenolic flavonoid that has been isolated from a variety of natural sources including tea leaves, grape seeds, and the wood and bark of trees such as acacia and mahogany.<sup>1,2</sup> Catechin is a more potent antioxidant than ascorbate or α-tocopherol in certain *in vitro* lipid peroxidation assays.<sup>3</sup> (-)-Epicatechin is a 2R,3R stereoisomer of catechin. Like catechin, (-)-epicatechin is a powerful antioxidant.<sup>4</sup> It inhibits cyclooxygenase 1 (IC<sub>50</sub> = 3.2 μM).<sup>5</sup> Also, at 100 μM, (-)-epicatechin induces apoptosis in human adenocarcinoma PC-9 cells and stimulates the inhibition of tumor necrosis factor-α release from BALB-c/3T3 cells treated with epigallocatechin gallate.<sup>6</sup>

### References

1. Bonilla, F., Mayen, M., Merida, J., *et al. Food Chem.* **66**, 209-215 (1999).
2. Ravindranath, M.H., Ramasamy, V., Moon, S., *et al. Evid. Based Complement. Alternat. Med.* **6**(4), 523-530 (2009).
3. Zhao, J., Wang, J., Chen, Y., *et al. Carcinogenesis* **20**, 1737-1745 (1999).
4. Xu, J.Z., Yeung, S.Y.V., Chang, Q., *et al. Br. J. Nutr.* **91**(6), 873-881 (2004).
5. Waffo-Tégou, P., Hawthorne, M.E., Cuendet, M., *et al. Nutr. Cancer* **40**(2), 173-179 (2001).
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