

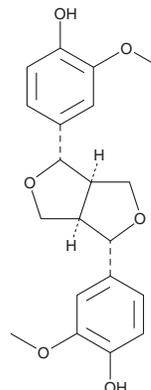
# PRODUCT INFORMATION



## (+)-Pinoresinol

Item No. 27700

**CAS Registry No.:** 487-36-5  
**Formal Name:** 4,4'-[(1S,3aR,4S,6aR)-tetrahydro-1H,3H-furo[3,4-c]furan-1,4-diyl]bis[2-methoxy-phenol]  
**Synonym:** NSC 35444  
**MF:** C<sub>20</sub>H<sub>22</sub>O<sub>6</sub>  
**FW:** 358.4  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 233, 278, 328 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Plant/*Eucommia ulmoides* Oliver



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

(+)-Pinoresinol is supplied as a crystalline solid. A stock solution may be made by dissolving the (+)-pinoresinol in the solvent of choice, which should be purged with an inert gas. (+)-Pinoresinol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of (+)-pinoresinol in ethanol and DMSO is approximately 1 mg/ml and approximately 10 mg/ml in DMF.

(+)-Pinoresinol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (+)-pinoresinol should first be dissolved in DMF and then diluted with the aqueous buffer of choice. (+)-Pinoresinol has a solubility of approximately 0.50 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

(+)-Pinoresinol is a lignan that has been found in *Forsythia* and virgin olive oils and has diverse biological activities, including antioxidant, anticancer, and anti-inflammatory properties.<sup>1-4</sup> It is an inhibitor of α-glucosidase and maltase (IC<sub>50</sub>s = 492 and 34.3 μM in Baker's yeast and rat small intestine, respectively).<sup>3</sup> (+)-Pinoresinol scavenges ABTS (Item No. 27317), but not 2,2-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805), radicals in cell-free assays (IC<sub>50</sub>s = 13.43 and >200 μg/ml, respectively).<sup>2</sup> It is cytotoxic to A549, HepG2, and MCF-7, but not U251 and Bcap-37, cells with IC<sub>50</sub> values of 29.35, 62.35, 75.32, >80, and >80 μM, respectively. (+)-Pinoresinol prevents cell death induced by glutamate in HT22 cells (EC<sub>50</sub> = 6.96 μM) and inhibits LPS-induced nitric oxide production in RAW 264.7 cells (IC<sub>50</sub> = 7.89 μM).<sup>4</sup>

### References

1. López-Biedma, A., Sánchez-Quesada, C., Delgado-Rodríguez, M., et al. *J. Funct. Foods* **26**, 36-47 (2016).
2. Li, D.-Q., Wang, D., Zhou, L., et al. *J. Asian Nat. Prod. Res.* **19(5)**, 519-527 (2017).
3. Wikul, A., Damsud, T., Kataoka, K., et al. *Bioorg. Med. Chem. Lett.* **22(16)**, 5215-5217 (2012).
4. In, S.-J., Seo, K.-H., Song, N.-Y., et al. *Arch. Pharm. Res.* **38(1)**, 26-34 (2015).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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