

# PRODUCT INFORMATION

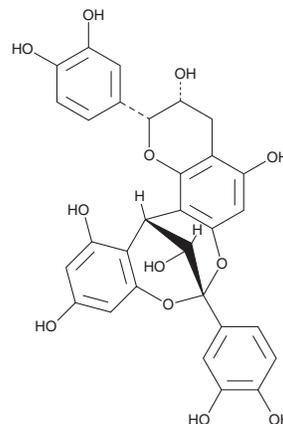


## Procyanidin A2

Item No. 25200

**CAS Registry No.:** 41743-41-3  
**Formal Name:** (2R,3R,8S,14R,15R)-2,8-bis(3,4-dihydroxyphenyl)-3,4-dihydro-8,14-methano-2H,14H-1-benzopyrano[7,8-d][1,3]benzodioxocin-3,5,11,13,15-pentol  
**Synonyms:** (+)-Epicatechin-(4β-8,2β-O-7)-epicatechin, Proanthocyanidin A2, Procyanidin dimer A2, Procyanidol A2

**MF:** C<sub>30</sub>H<sub>24</sub>O<sub>12</sub>  
**FW:** 576.5  
**Purity:** ≥95%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Plant/Grape seeds



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

### Laboratory Procedures

Procyanidin A2 is supplied as a solid. A stock solution may be made by dissolving the procyanidin A2 in the solvent of choice, which should be purged with an inert gas. Procyanidin A2 is soluble in ethanol, methanol, and DMSO.

### Description

Procyanidin A2 is a natural flavanol dimer of (-)-epicatechin (Item No. 11807) that is found in the horse chestnut (*A. hippocastanum*), mountain cranberry (*V. vitis-idaea*), and other fruits with antioxidant, anti-inflammatory, antibacterial, antiproliferative, and antidiabetic properties.<sup>1-5</sup> It scavenges 2,2-diphenyl-1-picrylhydrazyl (DPPH; Item No. 14805) radicals (IC<sub>50</sub> = 5.08 μM) and inhibits STAT3 activation induced by platelet derived growth factor (PDGF) in primary rat vascular smooth muscle cells (VSMCs) when used at a concentration of 30 μg/ml.<sup>3,4</sup> Procyanidin A2 inhibits growth of *S. aureus* and *E. coli* (MICs = 62.5 and 62.5 μg/ml, respectively) and proliferation of human HepG2 liver hepatocellular carcinoma and HeLa cervical cancer cells (EC<sub>50</sub>s = 62.19 and 66.07 μg/ml, respectively).<sup>3</sup> It also increases insulin secretion from primary mouse pancreatic islets when used at a concentration of 10 μM *in vitro* and inhibits bisphenol A-induced glucose increases in fasted mice when administered at a dose of 10 μmol/kg per day.<sup>5</sup>

### References

1. Jacques, D., Haslam, E., Bedford, G.R., et al. *J.C.S. Chem. Comm.* **15**, 518-520 (1973).
2. Ibrahim, S.R. and Mohamed, G.A. *J. Ethnopharmacol.* **174**, 492-513 (2015).
3. Wen, L., Wu, D., Jiang, Y., et al. *J. Funct. Foods* **6**, 555-563 (2014).
4. Zhang, L., Shao, J., Zhou, Y., et al. *Biomed. Pharmacother.* **98**, 847-855 (2018).
5. Ahangarpour, A., Afshari, G., Mard, S.A., et al. *J. Physiol. Pharmacol.* **67(2)**, 243-252 (2016).

#### 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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