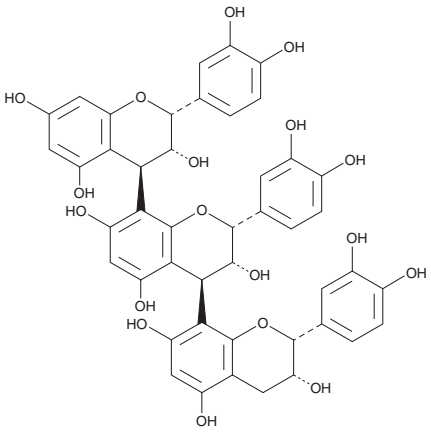
PRODUCT INFORMATION

Procyanidin C1

Item No. 25201



CAS Registry No.:	37064-30-5
Formal Name:	(2R,2'R,2''R,3R,3'R,3''R,4R,4'S)-2,2',2''-*tris*(3,4-dihydroxyphenyl)-3,3',3'',4,4',4''-hexahydro-[4,8':4',8''-ter-2H-1-benzopyran]-3,3',3'',5,5',5'',7,7',7''-nonol
Synonyms:	Proanthocyanidin C1, Procyanidol C1
MF:	$C_{45}H_{38}O_{18}$
FW:	866.8
Purity:	≥98%
UV/Vis.:	λ_{max}: 282 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Crataegi fructus*

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

Laboratory Procedures

Procyanidin C1 is supplied as a crystalline solid. A stock solution may be made by dissolving the procyanidin C1 in the solvent of choice. Procyanidin C1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of procyanidin C1 in these solvents is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of procyanidin C1 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of procyanidin C1 in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Procyanidin C1 is a polyphenol flavonoid trimer of (–)-epicatechin (Item No. 11807) that has HIV-related and antioxidant activities.[1,2] It activates latent HIV-1 provirus in JLR2 cells when used at concentrations ranging from 12.5 to 50 µM and increases NF-κB-dependent transcriptional activity in Jurkat T cells.[1] Procyanidin C1 also scavenges 2,2'-diphenyl-1-picrylhydrazyl (DPPH) radicals (IC_{50} = 3.2 µg/ml) and inhibits the activity of α-glucosidase (IC_{50} = 3.8 µg/ml) and 15-lipoxygenase (15-LO; IC_{50} = 57.6 µg/ml).[2] Procyanidin C1 (10 µg/ml) prevents phosphorylation of ERK1/2 and the production of reactive oxygen species (ROS) in THP-1 cells.[3]

References

1. Hori, T., Barnor, J., Huu, T.N., *et al.* Procyanidin trimer C1 derived from *Theobroma cacao* reactivates latent human immunodeficiency virus type 1 provirus. *Biochem. Biophys. Res. Commun.* **459(2)**, 288-293 (2015).
2. Bräunlich, M., Slimestad, R., Wangensteen, H., *et al.* Extracts, anthocyanins and procyanidins from *Aronia melanocarpa* as radical scavengers and enzyme inhibitors. *Nutrients* **5(3)**, 663-678 (2013).
3. Terra, X., Palozza, P., Fernandez-Larrea, J., *et al.* Procyanidin dimer B1 and trimer C1 impair inflammatory response signalling in human monocytes. *Free Radic. Res.* **45(5)**, 611-619 (2011).

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