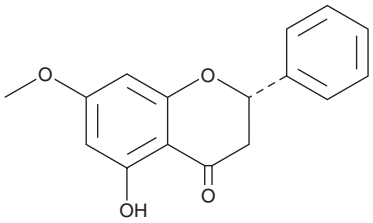
PRODUCT INFORMATION

Pinostrobin

Item No. 22436

CAS Registry No.:	480-37-5
Formal Name:	2,3-dihydro-5-hydroxy-7-methoxy-2S-phenyl-4H-1-benzopyran-4-one
MF:	$C_{16}H_{14}O_4$
FW:	270.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 213, 288 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Pinostrobin is supplied as a crystalline solid. A stock solution may be made by dissolving the pinostrobin in the solvent of choice. Pinostrobin is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of pinostrobin in these solvents is approximately 12 and 20 mg/ml, respectively.

Pinostrobin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, pinostrobin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Pinostrobin has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Pinostrobin is a flavonoid with diverse biological activities, including antioxidant, anti-inflammatory, and anticancer properties.[1] It induces quinone reductase (QR) in murine hepatoma cells with a QR doubling concentration of 500 nM.[2] Pinostrobin inhibits TNF-α and IL-1β production in RAW 264.7 macrophages (IC_{50}s = 17.28 and 23.5 µM, respectively) and in LPS-stimulated rats (48.6 and 55% reduction, respectively).[3] Pinostrobin also shows selective cytotoxicity for CCRF-CEM leukemia cells (IC_{50} = 10.2 µM) in a panel of eight cancer cell lines (IC_{50}s = >30 µM).[4]

References

1. Patel, N.K., Jaiswal, G., and Bhutani, K.K. A review on biological sources, chemistry and pharmacological activities of pinostrobin. *Nat. Prod. Res.* **30(18)**, 2017-2027 (2016).
2. Fahey, J.W. and Stephenson, K.K. Pinostrobin from honey and thai ginger (*Boesenbergia pandurata*): A potent flavonoid inducer of mammalian phase 2 chemoprotective and antioxidant enzymes. *J. Agric. Food Chem.* **50(25)**, 7472-7476 (2002).
3. Patel, N.K. and Bhutani, K.K. Pinostrobin and Cajanus lactone isolated from *Cajanus cajan* Millsp. leaves inhibits TNF-α and IL-1 production: *In vitro* and *in vivo* experimentation. *Phytomedicine* **21(7)**, 946-953 (2014).
4. Ashidi, J.S., Houghton, P.J., Hylands, P.J., *et al*. Ethnobotanical survey and cytotoxicity testing of plants of South-western Nigeria used to treat cancer, with isolation of cytotoxic constituents from *Cajanus cajan* Millsp. leaves. *J. Ethnopharmacol.* **128(2)**, 501-512 (2010).

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