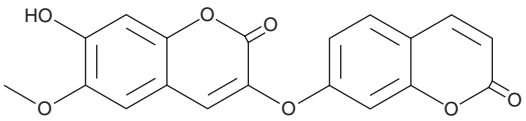
PRODUCT INFORMATION

Daphnoretin

Item No. 26408

CAS Registry No.:	2034-69-7
Formal Name:	7-hydroxy-6-methoxy-3-[(2-oxo-2H-1-benzopyran-7-yl)oxy]-2H-1-benzopyran-2-one
Synonym:	NSC 291852
MF:	$C_{19}H_{12}O_7$
FW:	352.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 267, 346 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years
Item Origin:	Plant/*Wikstroemia indica*



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

Laboratory Procedures

Daphnoretin is supplied as a crystalline solid. A stock solution may be made by dissolving the daphnoretin in the solvent of choice, which should be purged with an inert gas. Daphnoretin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of daphnoretin in these solvents is approximately 25 mg/ml. Daphnoretin is also slightly soluble in ethanol.

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 daphnoretin can be prepared by directly dissolving the crystalline solid in aqueous buffers. Daphnoretin is slightly soluble in PBS (pH >10.2). We do not recommend storing the aqueous solution for more than one day.

Description

Daphnoretin is a coumarin that has been found in *W. indica* and has diverse biological activities.[1-3] It induces aggregation of washed rabbit platelets (EC_{50} = 17.2 µM), an effect that is reversed by the protein kinase C (PKC) inhibitor staurosporine (Item No. 81590).[1] Daphnoretin is active against respiratory syncytial virus (RSV) in a plaque reduction assay using HEp-2 cells (IC_{50} = 5.87 µg/ml).[2] It halts the cell cycle at the G_2/M phase, induces apoptosis, and inhibits proliferation of human osteosarcoma (HOS) cells (IC_{50} = 3.89 µM).[3] Daphnoretin also reduces proliferation, invasion, and migration of HCT116 colon cancer cells in a concentration-dependent manner.[4]

References

1. Feng, N.K.O., Chang, Y.L., Kuo, Y.H., *et al.* Daphnoretin, a new protein kinase C activator isolated from *Wikstroemia indica* C.A. Mey. *Biochem J.* **295(Pt 1)**, 321-327 (1993).
2. Ho, W.-S., Xue, J.-Y., Sun, S.S.M., *et al.* Antiviral activity of daphnoretin isolated from *Wikstroemia indica*. *Phytother. Res.* **24(5)**, 657-661 (2010).
3. Gu, S. and He, J. Daphnoretin induces cell cycle arrest and apoptosis in human osteosarcoma (HOS) cells. *Molecules* **17(1)**, 598-612 (2012).
4. Yu, S., Guo, H., Gao, X., *et al.* Daphnoretin: An invasion inhibitor and apoptosis accelerator for colon cancer cells by regulating the Akt signal pathway. *Biomed. Pharmacother.* **111**, 1013-1021 (2019).

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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