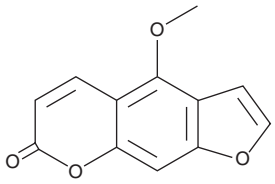
PRODUCT INFORMATION

Bergapten

Item No. 26254

CAS Registry No.:	484-20-8
Formal Name:	4-methoxy-7H-furo[3,2-g][1]benzopyran-7-one
Synonyms:	5-Methoxypsoralen, 5-MOP, Heraclin, NSC 95437
MF:	$C_{12}H_8O_4$
FW:	216.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 222, 250, 260, 268, 310 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Apium leptophyllum*



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

Laboratory Procedures

Bergapten is supplied as a crystalline solid. A stock solution may be made by dissolving the bergapten in the solvent of choice, which should be purged with an inert gas. Bergapten is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of bergapten in ethanol is approximately 1 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Bergapten is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, bergapten should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Bergapten has a solubility of approximately 0.5 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

Bergapten is a furanocoumarin derivative that has been found in grapefruit peel oil and has diverse biological activities.[1-4] It decreases the viability of DLD-1 and LoVo colorectal cancer cells in a concentration-dependent manner, halts the cell cycle at the G_0/G_1 and sub-G_1 phases, and induces apoptosis when used at a concentration of 50 µM.[2] Bergapten has photosensitizing activity and increases the number of sunburn cells in guinea pig skin in response to UVA radiation.[3] It increases the pain threshold in assays for mechanical, cold, and hot allodynia, as well as mechanical hyperalgesia, in a rat model of vincristine-induced neuropathic pain when administered at a dose of 10 mg/kg.[4] Bergapten inhibits vincristine-induced increases in plasma TNF-α and IL-1β levels and decreases in glutathione (GSH) levels in the spinal cord and sciatic nerve in rats. It also inhibits the cytochrome P450 (CYP) isoform CYP3A4 with IC_{50} value of approximately 25 µM in human liver microsomes.[1]

References

1. Ho, P.C. and Saville, D.J. *J. Pharm. Pharm. Sci.* **4(3)**, 217-227 (2001).
2. Lin, C.P., Lin, C.S., Lin, H.H., *et al. Environ. Toxicol.* **34(3),** 303-311 (2019).
3. Yasui, Y. and Hirone, T. *J. Dermatol.* **21(5),** 319-322 (1994).
4. Singh, G., Singh, A., Singh, P., *et al. ACS Chem. Neurosci.* **10(6)**, 3008-3017 (2019).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM