Web: www.taiclone.com
Tel: +886-2-2735-9682
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Bergapten

Catalog No: tcsc2234

Available Sizes

Size: 1g

Size: 5g

Specifications

CAS No:
484-20-8

Formula:
$C_{12}H_8O_4$

Pathway:
Autophagy;Metabolic Enzyme/Protease

Target:
Autophagy;Cytochrome P450

Purity / Grade:
>98%

Solubility:
DMSO : 10 mg/mL (46.26 mM; Need ultrasonic); H2O :

Alternative Names:
5-Methoxypsoralen

Observed Molecular Weight:
216.19

Product Description

Bergapten is a natural anti-inflammatory and anti-tumor agent isolated from bergamot essential oil, other citrus essential oils and grapefruit juice. Bergapten is inhibitory towards mouse and human **CYP** isoforms.

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IC50 & Target: CYP[1]

In Vitro: There is decreased N-acetyltransferase (NAT) activity in SC-M1 cells at concentrations of Bergapten (5-Methoxypsoralen, 5-MOP) from 0.05 mM to 25 mM, but no obvious dose-dependent effect is found between these doses (r=0.5687). In COLO 205 cells, there is decreased NAT activity at low doses of Bergapten (0.05 mM and 0.5 mM) and increased NAT activity at a high dose (50 mM). Bergapten induces a dosedependent effect in our experimental concentrations on COLO 205 cells (r=0.8912); a promotion effect at a higher dose (50 mM) and an inhibition effect at lower doses (0.05-0.5 mM), while the concentrations 5-25 mM has no significant difference compared with the control regimen[1]. Bergapten (5-Methoxypsoralen) exerts inhibitory effects on diabetes-related osteoporosis via the regulation of the PI3K/AKT, JNK/MAPK and NF-κB signaling pathways in osteoprotegerin knockout mice. Bergapten has also been shown to significantly inhibit the production of pro-inflammatory cytokines. Bergapten exhibits the ability to significantly inhibit RANKL-RANK signaling transduction, and to suppress the activation of the PI3K/AKT, JNK/MAPK and NF-κB signaling pathways, thus protecting trabecular structure and decreasing osteoclastogenic differentiation[2].

In Vivo: The metabolic activity of NAT of the rat colon is higher than that of the stomach, and Bergapten (5-Methoxypsoralen, 5-MOP) causes a decrease of AF concentration in the stomach at the 24-h time-period. The concentrations of AAF in the stomach and colon are low. Although DMSO (solvent) influenced the metabolism of AAF, compared with the control regimen, Bergapten still causes an increase in the further metabolism of AAF, and a decrease in the concentration of AAF in the stomach at 24 h, and in the colon during the 24- to 72-h time-period[1].