Oxyphenbutazone

Cat. No.: HY-B1355A

CAS No.: 129-20-4

Molecular Formula: $C_{19}H_{20}N_2O_3$

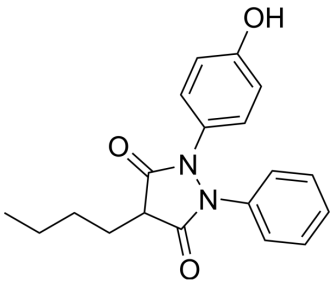
Molecular Weight: 324.37

Target: COX; Bacterial

Pathway: Immunology/Inflammation; Anti-infection

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (308.29 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.0829 mL	15.4145 mL	30.8290 mL
	5 mM	0.6166 mL	3.0829 mL	6.1658 mL
	10 mM	0.3083 mL	1.5414 mL	3.0829 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (7.71 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.71 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.71 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Oxyphenbutazone is a Phenylbutazone (HY-B0230) metabolite, with anti-inflammatory effect. Oxyphenbutazone is an orally active non-selective COX inhibitor. Oxyphenbutazone selectively kills non-replicating Mycobaterium tuberculosis[1][2].

IC_{50} & Target

COX, Bacteria[1][2]

In Vitro

Oxyphenbutazone enhances the anticancer efficiency of Methotrexate (MTX) (HY-14519) in Hep3B cells[1].
Oxyphenbutazone (2.5-7.5 μM; 48 hours) co-treatment with (MTX, 0.25-1.0 μM) shows potential cytotoxicity against Hep3B cells[1].

Oxyphenbutazone exhibits reparative effects in the hepatocytes[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cytotoxicity Assay[1]

Cell Line:	Hep3B cells
Concentration:	2.5 μM, 5 μM, 7.5 μM
Incubation Time:	48 hours
Result:	Enhanced the cytotoxicity of MTX.

In Vivo

Oxyphenbutazone (70 mg/kg/week; p.o.; in two divided doses; for 13 weeks) exerts potential anticancer activity when co-treatment with MTX (5.0 or 2.5 mg/kg/week; i.p.)[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Wistar strain albino male rats (5-6 weeks; 150-220 g)[1]
Dosage:	70 mg/kg/week (co-treatment with MTX 5.0 or 2.5 mg/kg/week)
Administration:	PO; once a week; in two divided doses; for 13 weeks
Result:	Exerted potential anticancer activity in rats when co-treatment with MTX.

REFERENCES

[1]. Saleem S, et al. Oxyphenbutazone promotes cytotoxicity in rats and Hep3B cellsvia suppression of PGE2 and deactivation of Wnt/β-catenin signaling pathway. Mol Cell Biochem. 2018 Jul;444(1-2):187-196.

[2]. Gold B, et al. Nonsteroidal anti-inflammatory drug sensitizes Mycobacterium tuberculosis to endogenous and exogenous antimicrobials. Proc Natl Acad Sci U S A. 2012 Oct 2;109(40):16004-11.

Caution: Product has not been fully validated for medical applications. For research use only.

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