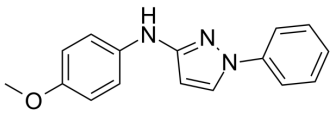
FPL 62064

Cat. No.:	HY-105024
CAS No.:	103141-09-9
Molecular Formula:	$C_{16}H_{15}N_3O$
Molecular Weight:	265.31
Target:	Lipoxygenase; COX
Pathway:	Metabolic Enzyme/Protease; Immunology/Inflammation
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (942.29 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.7692 mL	18.8459 mL	37.6918 mL
	5 mM	0.7538 mL	3.7692 mL	7.5384 mL
	10 mM	0.3769 mL	1.8846 mL	3.7692 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: ≥ 1.67 mg/mL (6.29 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.67 mg/mL (6.29 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

FPL 62064 is a potent 5-lipoxygenase (5-LOX) and COX dual inhibitor, with IC_{50} values of 3.5 μM and 3.1 μM for RBL-1 cytosolic 5-lipoxygenase and prostaglandin synthetase (cyclooxygenase), respectively. FPL 62064 has potent anti-inflammatory activity[1][2].

IC_{50} & Target

IC50: 3.5 μM (RBL-1 cytosolic 5-1ipoxygenase), and 3.1 μM (prostaglandin synthetase)[1]

In Vitro

FPL 62064 inhibits both 5-1ipoxygenase (IC_{50} of 3.5 μM for RBL-1 cytosolic 5-1ipoxygenase) and prostaglandin synthetase (IC_{50} of 3.1 μM for seminal vesicle prostaglandin synthetase) with equal facility in the isolated enzyme screens. However in the intact RBL-I cell prostaglandin synthetase (IC_{50} of 3.6 μM) is more readily inhibited by FPL 62064 than is 5-1ipoxygenase (IC_{50} of 31 μM). This difference in sensitivity is not reflected in the mouse macrophage where the IC_{50}s for leukotriene (IC_{50} of 0.72

	μM) and prostaglandin (IC_{50} of 0.43 μM) production are similar[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	FPL 62064 (5-20 mg/kg; intraperitoneal injection; female LACA mice) treatment inhibits peritoneal inflammation induced by immune-complex[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female LACA mice (20-30 g) injected with immune complex[1].
Dosage:	5 mg/kg, 10 mg/kg, 20 mg/kg
Administration:	Intraperitoneal injection
Result:	Produced a dose-related inhibition of dye extravasation, leukotriene C_4 (LTC_4) and prostaglandin E_2 (PGE_2) formation.

REFERENCES

[1]. Blackham A, et al. FPL 62064, a topically active 5-lipoxygenase/cyclooxygenase inhibitor. Agents Actions. 1990 Jun;30(3-4):432-42.

[2]. Shabaan MA, et al. Synthesis and biological evaluation of pyrazolone analogues as potential anti-inflammatory agents targeting cyclooxygenases and 5-lipoxygenase. Arch Pharm (Weinheim). 2020 Feb 7:e1900308.

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