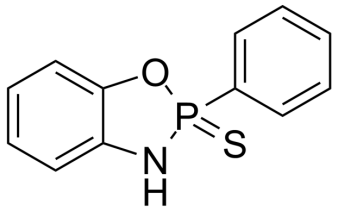
FW1256

Cat. No.:	HY-121955
CAS No.:	117089-08-4
Molecular Formula:	$C_{12}H_{10}NOPS$
Molecular Weight:	247.25
Target:	Apoptosis; NF-κB
Pathway:	Apoptosis; NF-κB
Storage:	-20°C, sealed storage, away from moisture * In solvent : -80°C, 2 years; -20°C, 1 year (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 250 mg/mL (1011.12 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	4.0445 mL	20.2224 mL	40.4449 mL
5 mM	0.8089 mL	4.0445 mL	8.0890 mL
10 mM	0.4044 mL	2.0222 mL	4.0445 mL

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

BIOLOGICAL ACTIVITY

Description

FW1256 is a phenyl analogue and a slow-releasing hydrogen sulfide (H_2S) donor. FW1256 inhibits NF-κB activity and induces cell apoptosis. FW1256 exerts potent anti-inflammatory effects and has the potential for cancer and cardiovascular disease treatment[1][2].

In Vitro

FW1256 (200 μM; 24.5 hours; AW264.7 cells) treatment significantly reduces IL-1β, COX-2 and iNOS mRNA and protein in LPS-stimulated RAW264.7 macrophages[1].

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FW1256 concentration dependently decreases TNF-α (IC_{50} of 61.2 μM), IL-6 (IC_{50} of 11.7 μM), PGE2 (IC_{50} of 25.5 μM) and NO (IC_{50} of 34.6 μM) generation in LPS-stimulated RAW264.7 macrophages and bone marrow-derived macrophages (BMDMs) (IC_{50}s of 414.9 μM, 300.2 μM, 4 μM and 9.5 μM for TNF-α, IL-6, PGE2 and NO, respectively) [1].

FW1256 decreases NF-κB activation as evidenced by reduced cytosolic phospho-IκBα levels and reduces nuclear p65 levels in LPS-stimulated RAW264.7 macrophages treated with FW1256[1].

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

RT-PCR[1]

Cell Line:	RAW264.7 cells
Concentration:	200 μM
Incubation Time:	24.5 hours
Result:	Significantly reduced IL-1β, COX-2 and iNOS mRNA in LPS-stimulated RAW264.7 macrophages..

Western Blot Analysis[1]

Cell Line:	RAW264.7 cells
Concentration:	200 μM
Incubation Time:	24.5 hours
Result:	Significantly reduced IL-1β, COX-2 and iNOS proteinin LPS-stimulated RAW264.7 macrophages..

In Vivo

FW1256 (100 mg/kg; intraperitoneal injection; male C57BL/6 mice) treatment reduces IL-1β, TNFα, nitrate/nitrite and PGE2 levels in LPS-treated mice[1].

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

Animal Model:	Male C57BL/6 mice (20-25 g, 6-10 weeks) injected with E. coli lipopolysaccharide (LPS)[1]
Dosage:	100 mg/kg
Administration:	Intraperitoneal injection
Result:	Reduced IL-1β, TNFα, nitrate/nitrite and PGE2 levels in LPS-treated mice.

CUSTOMER VALIDATION

- Am J Transl Res. 2021 May 15;13(5):4007-4025.

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REFERENCES

[1]. Huang CW, et al. A novel slow-releasing hydrogen sulfide donor, FW1256, exerts anti-inflammatory effects in mouse macrophages and in vivo. Pharmacol Res. 2016 Nov;113(Pt A):533-546.

[2]. Feng W, et al. Discovery of New H2S Releasing Phosphordithioates and 2,3-Dihydro-2-phenyl-2-sulfanylenebenzo[d][1,3,2]oxazaphospholes with Improved Antiproliferative Activity. J Med Chem. 2015 Aug 27;58(16):6456-80.

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