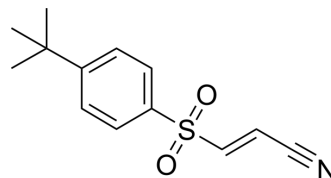


BAY 11-7085

Cat. No.:	HY-10257		
CAS No.:	196309-76-9		
Molecular Formula:	C ₁₃ H ₁₅ NO ₂ S		
Molecular Weight:	249.33		
Target:	NF-κB; Apoptosis; Ferroptosis		
Pathway:	NF-κB; Apoptosis		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 26 mg/mL (104.28 mM)
 H₂O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	4.0107 mL	20.0537 mL	40.1075 mL
	5 mM	0.8021 mL	4.0107 mL	8.0215 mL
	10 mM	0.4011 mL	2.0054 mL	4.0107 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.08 mg/mL (8.34 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.08 mg/mL (8.34 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.08 mg/mL (8.34 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

BAY 11-7085 (BAY 11-7083) is an inhibitor of NF-κB activation and phosphorylation of IκBα; it stabilizes IκBα with an IC₅₀ of 10 μM^[1].

IC₅₀ & Target

NF-κB	IκB-α 10 μM (IC ₅₀)
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In Vitro	<p>BAY 11-7085 inhibits TNFα-induced surface expression of E-selectin, VCAM-1, and ICAM-1 with IC₅₀ values in the range of 5-10 μM. BAY 11-7085 stabilizes IκBα in a dose-dependent manner with an IC₅₀ value of approximately 10 μM. There is a clear correlation between the concentration of drug that stabilized IκBα, the concentration that inhibits nuclear levels of NF-κB, and the concentration that inhibits adhesion molecule expression^[1].</p> <p>BAY 11-7085 has been shown to inhibit cell proliferation and induce apoptosis of a variety of cells. BAY 11-7085 (ECSCs) significantly inhibits the cell proliferation and DNA synthesis of ovarian endometriotic cyst stromal cells and induces apoptosis and the G0/G1 phase cell cycle arrest of these cells. BAY 11-7085 induces apoptosis of ECSCs by suppressing antiapoptotic proteins, and that caspase-3-, -8-, and -9-mediated cascades are involved in this mechanism^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
In Vivo	<p>BAY 11-7085 acts as an anti-inflammatory agent in both the rat carrageenan paw and the rat adjuvant arthritis model. It demonstrates a dose-dependent reduction in swelling in the rat carrageenan paw model^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

PROTOCOL

Cell Assay ^[2]	<p>ECSCs cells are incubated for 48 h with BAY 11-7085 (0.01-10 μM). Thereafter, 20 μL of WST-1 dye are added to each well, and the cells are further incubated for 4 h. All experiments are performed in the presence of 10% FBS. Cell proliferation is evaluated by measuring absorbance at 540 nm^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
Animal Administration ^[1]	<p>Rats: 1% suspension of carrageenan in distilled water is administered to rats as 0.1 mL subplantar injection into the footpad of the right hind paw. One hour prior to injection, rats are treated intraperitoneally with vehicle (polyethylglycol 400 diluted 1:5 in 5% bovine serum albumin/water) or a fine suspension of compound 2 (1, 5, or 50 mg/kg) in vehicle. A positive control group is also included in which rats are pretreated with 20 mg/kg ibuprofen. Four hours after carrageenan administration, the volume of the injected paw is measured. Edema volumes are determined^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

CUSTOMER VALIDATION

- Hepatology. 2020 May;71(5):1660-1677.
- Cell Death Dis. 2020 Nov 15;11(11):982.
- Cell Rep. 2022 Apr 19;39(3):110698.
- Cell Chem Biol. 2022 Jun 9;S2451-9456(22)00201-X.
- Phytomedicine. 2023 Jun 16, 154928.

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REFERENCES

- [1]. Pierce JW, et al. Novel inhibitors of cytokine-induced I κ B phosphorylation and endothelial cell adhesion molecule expression show anti-inflammatory effects in vivo. J Biol Chem. 1997 Aug 22;272(34):21096-103.
- [2]. Nasu K, et al. Application of the nuclear factor- κ B inhibitor BAY 11-7085 for the treatment of endometriosis: an in vitro study. Am J Physiol Endocrinol Metab. 2007 Jul;293(1):E16-23.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA