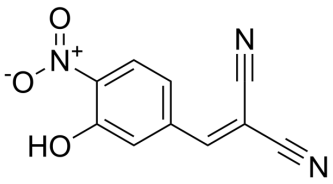
AG126

Cat. No.:	HY-108330
CAS No.:	118409-62-4
Molecular Formula:	$C_{10}H_5N_3O_3$
Molecular Weight:	215.17
Target:	ERK
Pathway:	MAPK/ERK Pathway; Stem Cell/Wnt
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 : 100 mg/mL (464.75 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.6475 mL	23.2374 mL	46.4749 mL
	5 mM	0.9295 mL	4.6475 mL	9.2950 mL
	10 mM	0.4647 mL	2.3237 mL	4.6475 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 (11.62 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AG126 is a tyrosine kinase inhibitor, can inhibit the phosphorylation of ERK1 and ERK2 at 25-50 μM. AG126 can be used in meiosis, mitosis, and postmitotic research[1][2][3][4].

IC_{50} & Target

ERK2

In Vitro

AG126 (10 μM; overnight) increases the viability of ARPE-19 cells[2].
AG126 at concentrations higher than 10 μM show toxic to ARPE-19 cells and can enhance H_2O_2 toxicity[2].
AG126 (0.1-100 μM) inhibits VEGF-induced proliferation of BRMECs[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[2]

Cell Line:	ARPE-19 cells
Concentration:	10 μM
Incubation Time:	Overnight
Result:	Increased the viability of ARPE-19 cells to 35-72% compared to the control.

Cell Proliferation Assay[4]

Cell Line:	BRMECs
Concentration:	0.1-100 μM
Incubation Time:	
Result:	Inhibited VEGF-induced proliferation of BRMECs in a dose-dependent manner.

In Vivo

AG 126 (intraperitoneal injection; 1-10 mg/kg; 1 h and 6 h after Zymosan treatment) treatment attenuates the degree of multiple organ failure (MOF) associated with Zymosan-induced peritonitis in the rat[3].

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

Animal Model:	Male Sprague-Dawley rats treated with Zymosan (500 mg/kg)[3]
Dosage:	10 mg/kg, 3 mg/kg or 1 mg/kg
Administration:	Intraperitoneal injection; 10, 3, or 1 mg/kg; 1 h and 6 h after Zymosan treatment
Result:	Attenuated the peritoneal exudation and the migration of polymorphonuclear cells caused by Zymosan in a dose-dependent fashion. Attenuated the lung, liver, and intestinal injury. Reduced the production of peroxynitrite and of pro-inflammatory cytokines TNF-alpha and IL-1beta.

CUSTOMER VALIDATION

- Am J Cancer Res. 2021 Mar 1;11(3):916-929.
- J Dairy Sci. 2020 Dec;103(12):11636-11652.

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REFERENCES

[1]. Garg TK, et al. Oxidative stress causes ERK phosphorylation and cell death in cultured retinal pigment epithelium: prevention of cell death by AG126 and 15-deoxy-delta 12, 14-PGJ2. BMC Ophthalmol. 2003 Mar 21;3:5.

[2]. Dugo L, et al. The tyrosine kinase inhibitor tyrphostin AG 126 reduces the multiple organ failure induced by zymosan in the rat. Intensive Care Med. 2002 Jun;28(6):775-88.

[3]. Bullard LE, et al. Role for extracellular signal-responsive kinase-1 and -2 in retinal angiogenesis. Invest Ophthalmol Vis Sci. 2003 Apr;44(4):1722-31.

[4]. Cuzzocrea S, et al. The tyrosine kinase inhibitor tyrphostin AG126 reduces the development of acute and chronic inflammation. Am J Pathol. 2000 Jul;157(1):145-58.

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