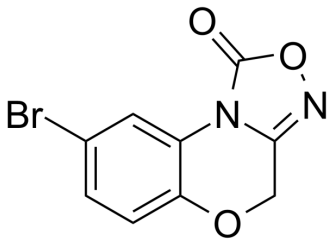
NS-2028

Cat. No.:	HY-12379
CAS No.:	204326-43-2
Molecular Formula:	$C_9H_5BrN_2O_3$
Molecular Weight:	269.05
Target:	Guanylate Cyclase
Pathway:	GPCR/G Protein
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 : 250 mg/mL (929.20 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.7168 mL	18.5839 mL	37.1678 mL
	5 mM	0.7434 mL	3.7168 mL	7.4336 mL
	10 mM	0.3717 mL	1.8584 mL	3.7168 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: ≥ 2.17 mg/mL (8.07 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.17 mg/mL (8.07 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

NS-2028 is a highly selective soluble Guanylyl Cyclase (sGC) inhibitor with IC_{50} values of 30 nM and 200 nM for basal and NO-stimulated enzyme activity[1]. NS-2028 inhibits soluble Guanylyl Cyclase activity in homogenates of mouse cerebellum and neuronal NO synthase with IC_{50} values of 17 nM and 20 nM[1]. NS-2028 inhibits 3-morpholino-sydnonimine (SIN-1)-elicited formation of cyclic GMP in human cultured umbilical vein endothelial cells with an IC_{50} of 30 nM[1]. NS-2028 is commonly used in the research of nitric oxide signaling pathways, it inhibits NO-dependent relaxant responses in non-vascular smooth muscle completely (1 μM)[1]. NS-2028 reduces vascular endothelial growth factor-induced angiogenesis and permeability[2].

IC_{50} & Target

IC50: 30 nM (soluble Guanylyl Cyclase sGC)[1]

In Vitro

NS-2028 (10 μM; 24 hours) inhibits 25% cell number in comparation with those grown in the presence of vehicle[2].

NS-2028 (10 μM; 30 mins) attenuates VEGF-induced EC migration by inhibiting p38 MAPK activation[2].

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

Cell Proliferation Assay[2]

Cell Line:	HUVEC cells
Concentration:	10 μM
Incubation Time:	24 hours
Result:	Decreased cell numbers in culture.

Western Blot Analysis[2]

Cell Line:	HUVEC cells
Concentration:	10 μM
Incubation Time:	30 mins
Result:	Attenuated VEGF-enhanced p38 phosphorylation.

In Vivo

NS-2028 (Deliver orally; 1 g/L; 8 days) exhibits a significant reduction of new vessel formation in the avascular rabbit cornea in response to VEGF pellet implants[2].

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

Animal Model:	Rabbit[2]
Dosage:	1 g/L
Administration:	Deliver orally; 1g/L; 8 days
Result:	Inhibits VEGF-induced angiogenesis in vivo.

REFERENCES

[1]. Olesen SP, et al. Characterization of NS 2028 as a specific inhibitor of soluble guanylyl cyclase. Br J Pharmacol. 1998 Jan;123(2):299-309.

[2]. Morbidelli L, et al. The soluble guanylyl cyclase inhibitor NS-2028 reduces vascular endothelial growth factor-induced angiogenesis and permeability. Am J Physiol Regul Integr Comp Physiol. 2010 Mar;298(3):R824-32.

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