

NS-2028

Chemical Properties

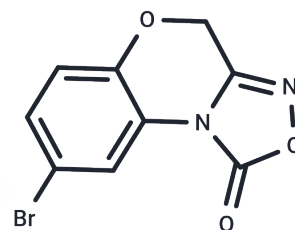
CAS No. : 204326-43-2

Formula: C₉H₅BrN₂O₃

Molecular Weight: 269.05

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	NS-2028 is a highly selective soluble Guanylyl Cyclase (sGC) inhibitor (IC ₅₀ : 30 nM and 200 nM for basal and NO-stimulated enzyme activity) commonly used in nitric oxide signaling pathway research. It inhibits sGC activity in mouse cerebellum homogenates and neuronal NO synthase (IC ₅₀ : 17 nM and 20 nM), inhibits 3-morpholino-sydnominime (SIN-1)-elicited cyclic GMP formation in human cultured umbilical vein endothelial cells (IC ₅₀ : 30 nM), and completely inhibits NO-dependent relaxant responses in non-vascular smooth muscle (1 μM). NS-2028 also decreases vascular endothelial growth factor-induced angiogenesis and permeability.
Targets(IC ₅₀)	Guanylate cyclase
In vitro	NS-2028 (10 μM; 30 mins) decreases VEGF-induced EC migration by inhibiting p38 MAPK activation. NS-2028 (10 μM; 24 hours) inhibits 25% cell number in comparison with those grown in the presence of a vehicle[2].
In vivo	In the avascular rabbit cornea, NS-2028 (p.o; 1 g/L; 8 days) displays an obvious reduction of new vessel formation in response to VEGF pellet implants[2].

Solubility Information

Solubility	DMSO: 250 mg/mL (929.2 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (18.58 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
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
50 mM	0.0743 mL	0.3717 mL	0.7434 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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.

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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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