GW 441756

Cat. No.: HY-18314

CAS No.: 504433-23-2

Molecular Formula: $C_{17}H_{13}N_3O$

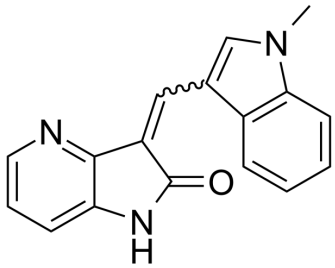
Molecular Weight: 275.3

Target: Trk Receptor; Apoptosis

Pathway: Neuronal Signaling; Protein Tyrosine Kinase/RTK; 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 : 17.5 mg/mL (63.57 mM; Need ultrasonic and warming)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.6324 mL	18.1620 mL	36.3240 mL
5 mM	0.7265 mL	3.6324 mL	7.2648 mL
10 mM	0.3632 mL	1.8162 mL	3.6324 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: ≥ 2.08 mg/mL (7.56 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

GW 441756 is a potent and specific nerve growth factor (NGF) receptor tyrosine kinases A (TrkA) inhibitor (IC_{50}=2 nM), which eliminates the BmK NSPK-induced neurite outgrowth[1][2][3].

IC_{50} & Target

TrkA
2 nM (IC_{50})

In Vitro

GW-441756 (1 μM; 48 hours; spinal cord neurons cells) abolishs BmK NSPK-induced neurite outgrowth[1].
GW-441756 (1 μM; 4 hours; PC12 cells) inhibits nerve growth factor induced neurite outgrowth[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Immunofluorescence[1]

Cell Line:	Spinal cord neurons cells
Concentration:	1 μM
Incubation Time:	48 hours
Result:	Abolished BmK NSPK-induced neurite outgrowth.

CUSTOMER VALIDATION

- Cell Metab. 2022 Nov 11;S1550-4131(22)00490-9.
- J Hazard Mater. 2022 Jan 15;422:126850.
- J Funct Foods. 2018 Jul;46:175-184.
- bioRxiv. 2021 Feb 17.

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REFERENCES

[1]. Zhao F, et al. BmK NSPK, a Potent Potassium Channel Inhibitor from Scorpion Buthus martensii Karsch, Promotes Neurite Outgrowth via NGF/TrkA Signaling Pathway. Toxins (Basel). 2021;13(1):33. Published 2021 Jan 5.

[2]. Terada K, et al. Cholinesterase inhibitor rivastigmine enhances nerve growth factor-induced neurite outgrowth in PC12 cells via sigma-1 and sigma-2 receptors. PLoS One. 2018;13(12):e0209250. Published 2018 Dec 17.

[3]. Wood ER, et al. Discovery and in vitro evaluation of potent TrkA kinase inhibitors: oxindole and aza-oxindoles. Bioorg Med Chem Lett. 2004;14(4):953-957.

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