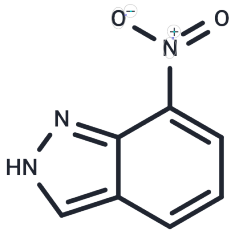
Data Sheet (Cat.No.T7474)

TargetMol

7-Nitroindazole

Chemical Properties



CAS No. : 2942-42-9

Formula: C7H5N3O2

Molecular Weight: 163.13

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	7-Nitroindazole is a non-selective inhibitor of NOS isoforms in vitro for neuronal nitric oxide synthase showing a 10-fold selectivity for neuronal NOS.
Targets(IC50)	NOS,NO Synthase
In vivo	In the experimental model of cocaine multiple administration in rats the selective nNOS inhibitor 7-nitroindazole not only attenuated the behavioral changes induced by cocaine deprivation but also exerted an antioxidant and neuroprotective activity.?The possible mechanisms underlying the neuroprotective effects of 7-NI could be due to the combination of its inhibitory effect of nNOS and its direct free radical scavenging properties.?The beneficial effect of 7-NI in restoration of the antioxidant cell defense in the brain, impaired by multiple cocaine administration, and along with it the attenuation of the physical dependence, induced by cocaine, once again confirm the role of the oxidative stress in the development of addiction to psychoactive compounds [1].
Animal Research	Animals were divided into four groups (n = 12) as follows:group 1: control animals, treated with saline for 7 days, which were involved in the experiment from the very beginning and housed under the same standard laboratory conditions as the treated animals;group 2: animals, receiving 15 mg/kg?1 i.p. of cocaine for 7 days;group 3: animals, receiving 25 mg/kg?1 i.p. 7-NI for 7 days ;group 4: animals, treated with 7-NI (25 mg/kg?1 i.p.) and 30 min later with cocaine (15 mg/kg?1) for 7 days.Twenty-four hours after the last administration of the compounds the animals were observed for behavioral changes related to the withdrawal syndrome.?Then the animals were sacrificed through decapitation and brains were extracted.?Brains of six animals from each group were taken for isolation of synaptosomes and brains from the other six animals of each group were used for measurement of nNOS and antioxidant enzymes [1].

Solubility Information

Solubility	DMSO: 32 mg/mL (196.16 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: 2 mg/mL (12.26 mM),Sonication is recommended. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.1301 mL	30.6504 mL	61.3008 mL
5 mM	1.226 mL	6.1301 mL	12.2602 mL
10 mM	0.613 mL	3.065 mL	6.1301 mL
50 mM	0.1226 mL	0.613 mL	1.226 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

Vessela V , Rumyana S , Magdalena K B , et al. Selective Nitric Oxide Synthase Inhibitor 7-Nitroindazole Protects against Cocaine-Induced Oxidative Stress in Rat Brain[J]. Oxidative Medicine and Cellular Longevity, 2015, 2015:1-8.

Fang W, Wang X, Cai M, et al. Targeting GluN2B/NO Pathway Ameliorates Social Isolation-Induced Exacerbated Attack Behavior in Mice. Frontiers in Pharmacology. 2021: 1667.

Zagvazdin Y , Sancesario G , Wang Y X , et al. Evidence from its cardiovascular effects that 7-nitroindazole may inhibit endothelial nitric oxide synthase in vivo.[J]. European Journal of Pharmacology, 1996, 303(1-2):61-69.