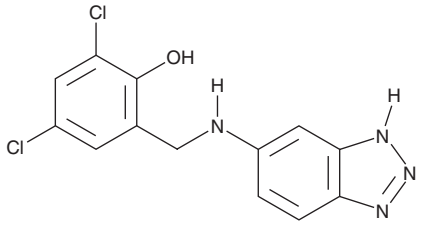
PRODUCT INFORMATION

IC87201

Item No. 32973

CAS Registry No.:	866927-10-8
Formal Name:	2-[(1H-benzotriazol-6-ylamino)methyl]-4,6-dichloro-phenol
MF:	$C_{13}H_{10}Cl_2N_4O$
FW:	309.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 228 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

IC87201 is supplied as a solid. A stock solution may be made by dissolving the IC87201 in the solvent of choice, which should be purged with an inert gas. IC87201 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of IC87201 in ethanol is approximately 1 mg/ml and approximately 30 mg/ml in DMSO and DMF.

IC87201 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, IC87201 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. IC87201 has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

IC87201 is an inhibitor of the protein-protein interaction between neuronal nitric oxide synthase (nNOS) and post-synaptic density protein 95 (PSD-95).[1] It inhibits the binding of PSD-95 to nNOS (IC_{50} = 31 µM). IC87201 inhibits NMDA-induced cGMP production, a marker of PSD-95-dependent NOS activation, in primary rat hippocampal neurons (IC_{50} = 2.7 µM). IC87201 (10 µM) reduces MPP^+-induced production of reactive oxygen species (ROS), cytochrome *c* release, and apoptosis in primary rat cortical neurons.[2] *In vivo*, IC87201 decreases thermal hyperalgesia in mice (ED_{50} = 0.1 mg/kg), as well as mechanical allodynia in a rat model of neuropathic pain induced by chronic constriction injury (CCI). It also reduces immobility time in the forced swim and tail suspension tests in mice when administered at a dose of 1 mg/kg.[3]

References

1. Florio, S.K., Loh, C., Huang, S.M., *et al.* Disruption of nNOS-PSD95 protein-protein interaction inhibits acute thermal hyperalgesia and chronic mechanical allodynia in rodents. *Br. J. Pharmacol.* **158(2)**, 494-506 (2009).
2. Hu, W., Guan, L.-S., Dang, X.-B., *et al.* Small-molecule inhibitors at the PSD-95/nNOS interface attenuate MPP^+-induced neuronal injury through Sirt3 mediated inhibition of mitochondrial dysfunction. *Neurochem. Int.* **79**, 57-64 (2014).
3. Doucet, M.V., Levine, H., Dev, K.K., *et al.* Small-molecule inhibitors at the PSD-95/nNOS interface have antidepressant-like properties in mice. *Neuropsychopharmacology* **38(8)**, 1575-1584 (2013).

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