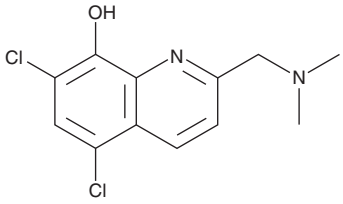
PRODUCT INFORMATION

PBT-1033

Item No. 42425

CAS Registry No.:	747408-78-2
Formal Name:	5,7-dichloro-2-[(dimethylamino) methyl]-8-quinolinol
Synonym:	PBT2
MF:	$C_{12}H_{12}Cl_2N_2O$
FW:	271.1
Purity:	≥98%
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

PBT-1033 is supplied as a solid. A stock solution may be made by dissolving the PBT-1033 in the solvent of choice, which should be purged with an inert gas. PBT-1033 is slightly soluble (0.1-1 mg/ml) in ethanol and DMSO.

Description

PBT-1033 is a zinc and copper ionophore.[1] It induces the uptake of zinc, copper, and iron in M17 neuroblastoma cells when used at concentrations ranging from 2 to 10 µM.[2] PBT-1033 inhibits phosphorylation of GSK3α and GSK3β in a zinc- and copper-dependent manner and prevents the formation of extracellular protease-resistent amyloid-β (Aβ)-zinc aggregates.[3] It increases dendritic spine density in the hippocampus of 4-month- and 14-month-old female Tg2576 mice, which overexpress mutant amyloid precursor protein (APP), when administered at 30 mg/kg per day for 11 days.[1] PBT-1033 (30 mg/kg per day) also reduces the latency to escape during acquisition and after 24 hours in APP/PS1 transgenic mice in a model of Alzheimer's disease.[2]

References

1. Adlard, P.A., Bica, L., White, A.R., *et al.* Metal ionophore treatment restores dendritic spine density and synaptic protein levels in a mouse model of Alzheimer's disease. *PLoS One* **6(3)**, e17669 (2011).
2. Adlard, P.A., Cherny, R.A., Finkelstein, D.I., *et al.* Rapid restoration of cognition in Alzheimer's transgenic mice with 8-hydroxy quinoline analogs is associated with decreased interstitial Aβ. *Neuron.* **59(1)**, 43-55 (2008).
3. Crouch, P.J., Savva, M.S., Hung, L.W., *et al.* The Alzheimer's therapeutic PBT2 promotes amyloid-β degradation and GSK3 phosphorylation via a metal chaperone activity. *J. Neurochem.* **119(1)**, 220-230 (2011).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM