

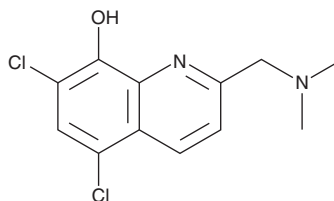
# PRODUCT INFORMATION



## 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<sub>12</sub>H<sub>12</sub>Cl<sub>2</sub>N<sub>2</sub>O  
**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.<sup>1</sup> It induces the uptake of zinc, copper, and iron in M17 neuroblastoma cells when used at concentrations ranging from 2 to 10  $\mu$ M.<sup>2</sup> PBT-1033 inhibits phosphorylation of GSK3 $\alpha$  and GSK3 $\beta$  in a zinc- and copper-dependent manner and prevents the formation of extracellular protease-resistant amyloid- $\beta$  (A $\beta$ )-zinc aggregates.<sup>3</sup> 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.<sup>1</sup> 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.<sup>2</sup>

### 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 A $\beta$ . *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- $\beta$  degradation and GSK3 phosphorylation via a metal chaperone activity. *J. Neurochem.* **119**(1), 220-230 (2011).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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#### 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](http://WWW.CAYMANCHEM.COM)