

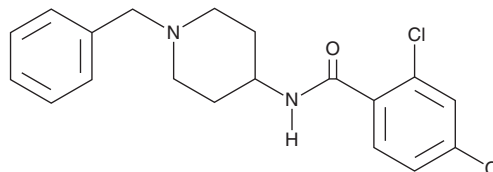
PRODUCT INFORMATION



BPDBA

Item No. 46508

CAS Registry No.: 312281-74-6
Formal Name: 2,4-dichloro-N-[1-(phenylmethyl)-4-piperidinyl]-benzamide
Synonym: Dicloperidine
MF: C₁₉H₂₀Cl₂N₂O
FW: 363.3
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

BPDBA is supplied as a solid. A stock solution may be made by dissolving the BPDBA in the solvent of choice, which should be purged with an inert gas. BPDBA is sparingly soluble (1-10 mg/ml) in DMSO and slightly soluble (0.1-1 mg/ml) in ethanol.

Description

BPDBA is an inhibitor of betaine/GABA transporter 1 (BGT1; IC₅₀ = 20 μM) and an antagonist of sigma non-opioid intracellular receptor 1 (σ₁ receptor; K_i = 2.6 nM).^{1,2} It is selective for BGT1 over GABA transporter 1 (GAT1), GAT2, GAT3, and excitatory amino acid transporter 3 (EAAT3; IC₅₀s = >100 μM for all) and for the σ₁ receptor over sigma intracellular receptor 2 (σ₂ receptor; K_i = 205 nM). BPDBA (10 μM) inhibits betaine-induced increases in the levels of the tight junction proteins claudin-1, claudin-4, and occludin in human skin *ex vivo*.³ BPDBA (30 μg/animal) decreases mechanical allodynia in a rat model of neuropathic pain, an effect that can be reversed by the σ₁ receptor agonist PRE-084.²

References

1. Kragholm, B., Kvist, T., Madsen, K.K., *et al.* Discovery of a subtype selective inhibitor of the human betaine/GABA transporter 1 (BGT-1) with a non-competitive pharmacological profile. *Biochem. Pharmacol.* **86**(4), 521-528 (2013).
2. Navarrete-Vázquez, G., Morales-Galindo, D.K., Ortiz-Andrade, R., *et al.* Antiallodynic effect of a novel sigma-1 receptor antagonist N-(1-benzylpiperidin-4-yl)-2,4-dichlorobenzamide (Dicloperidine): Synthesis and combined bioevaluation. *Neurosci. Lett.* **883**, 138666 (2026).
3. El-Chami, C., Foster, A.R., Johnson, C., *et al.* Organic osmolytes increase expression of specific tight junction proteins in skin and alter barrier function in keratinocytes. *Br. J. Dermatol.* **184**(3), 482-494 (2021).

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.

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