

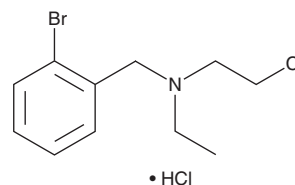
PRODUCT INFORMATION



DSP-4

Item No. 20707

CAS Registry No.: 40616-75-9
Formal Name: 2-bromo-N-(2-chloroethyl)-N-ethyl-benzenemethanamine, monohydrochloride
MF: C₁₁H₁₅BrClN • HCl
FW: 313.1
Purity: ≥95%
Supplied as: A crystalline 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

DSP-4 is supplied as a crystalline solid. A stock solution may be made by dissolving the DSP-4 in the solvent of choice, which should be purged with an inert gas. DSP-4 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of DSP-4 in these solvents is approximately 30 mg/ml.

DSP-4 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DSP-4 should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. DSP-4 has a solubility of approximately 0.33 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

DSP-4 is an alkylating agent and a noradrenergic neurotoxin that inhibits the uptake of norepinephrine in rat cortical homogenates.¹ It reduces dopamine-β-hydroxylase activity in rat brain and selectively depletes norepinephrine in rat cortex and locus coeruleus over the ventral forebrain, hypothalamus, and periphery.^{1,2} DSP-4 (50 mg/kg) impairs tactile learning in the novel object recognition task in rats.³ It also decreases exploration in a novel open area and neophilia in a complex exploration test in rats.⁴

References

1. Jaim-Etcheverry, G. and Zieher, L.M. DSP-4: A novel compound with neurotoxic effects on noradrenergic neurons of adult and developing rats. *Brain Res.* **188(2)**, 513-523 (1980).
2. Grzanna, R., Berger, U., Fritschy, J.M., *et al.* Acute action of DSP-4 on central norepinephrine axons: Biochemical and immunohistochemical evidence for differential effects. *J. Histochem. Cytochem.* **37(9)**, 1435-1442 (1989).
3. Rajabi, S., Shamsizadeh, A., Amini, H., *et al.* Effect of DSP-4 induced central noradrenergic depletion on tactile learning in rat. *Neurol. Res.* **34(1)**, 80-84 (2012).
4. Harro, J., Oreland, L., Vasar, E., *et al.* Impaired exploratory behaviour after DSP-4 treatment in rats: Implications for the increased anxiety after noradrenergic denervation. *Eur. Neuropsychopharmacol.* **5(4)**, 447-455 (1995).

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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