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ProductInformation

N-(2-Chloroethyl)-N-ethyl-2-bromobenzylamine hydrochloride

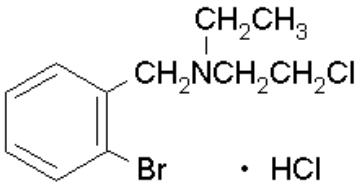
Product number **C 8417**
Store at Room Temperature

Synonyms: N-Ethyl-N-(2-chloroethyl)-2-bromobenzylamine hydrochloride, DSP-4

Product description

CAS RN: 40616-75-9

Molecular formula: $C_{11}H_{15}BrClN \cdot HCl$
Molecular weight: 313.06



N-(2-Chloroethyl)-N-ethyl-2-bromobenzylamine hydrochloride (DSP-4) is an adrenergic neurotoxin that induces acute and relatively selective degeneration of both central and peripheral noradrenergic nerve terminals.[1] DSP-4 was found to intensify and modify the epileptic activity in the iron-induced chronic epilepsy in rat model.[2] When the effect of DSP-4 on vigilance state was studied it provided evidence for differential involvement of the noradrenergic locus coeruleus system in sleep mechanisms.[3]

DPS-4 was used in the study of the involvement of amygdala noradrenergic and serotonergic systems in memory storage processing, and the results suggested that the memory modulatory effect of peripheral E partially involved the amygdala noradrenergic system .[4] It was found that dopamine metabolism in the frontal cortex, as measured *ex vivo*, was increased in animals treated with low (10 mg/kg) but not with a high doses (50 mg/kg) of DPS-4.[5] In addition noradrenergic lesion with DSP-4 decreases dopamine release in the striatum and enhances catalepsy in experimental models of Parkinson's disease.[6]

Precautions and Disclaimer.
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation instructions
The product is soluble in ethanol and in water at 50 mg/ml yielding a clear colorless to faint yellow solution. Also soluble in 0.1 N NaOH at 7 mg/ml. Solutions should be prepared and used freshly.

Storage and Stability
Store desiccated at room temperature. Under these conditions the product is stable for 3 years.

References
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3. Gonzalez, M.M., et al., Noradrenaline neurotoxin DSP-4 effects on sleep and brain temperature in the rat., Neurosci. Lett., **248**, 93-6 (1998).
4. Liang, K.C., Pretraining infusion of DSP-4 into the amygdala impaired retention in the inhibitory avoidance task: involvement of norepinephrine but not serotonin in memory facilitation., Chin. J. Physiol., **41**, 223-33 (1998).
5. Haidkind, R., et al., Denervation of the locus coeruleus projections by treatment with the selective neurotoxin DSP-4 [N (2-chloroethyl)-N-ethyl-2-bromobenzylamine] reduces dopamine release potential in the nucleus accumbens shell in conscious rats., Neurosci. Lett., **332**, 79-82 (2002).

6. Srinivasan, J. and Schmidt, W.J., Functional recovery of locus coeruleus noradrenergic neurons after DSP-4 lesion: effects on dopamine levels and neuroleptic induced-parkinsonian symptoms in rats., J. Neural Transm,, **111**, 13-26 (2004).