

Product Data Sheet

Product Name: Benocyclidine

Cat. No.: GC16782

Chemical Properties

Cas. No. 112726-66-6

Chemical Name 1-(1-(benzo[b]thiophen-2-yl)cyclohexyl)piperidine

SMILES C1CCC(CC1)(C2=CC3=CC=CC=C3S2)N4CCCCC4

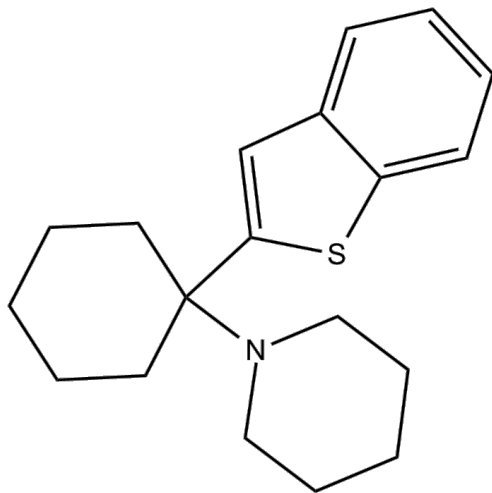
Formula C19H25NS M.Wt 299.47

Solubility DMF: 5 mg/ml, Ethanol: 2 mg/ml Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Benocyclidine is an inhibitor of dopamine reuptake [1, 2].

Caution: Product has not been fully validated for medical applications. For research use only.

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Dopamine plays important roles in the brain and body. In the brain, dopamine functions as a neurotransmitter involved in reward-motivated behavior, motor control and controlling the release of various hormones. Dysfunctions of the dopamine system have been associated several important diseases including Parkinson's disease, attention deficit hyperactivity disorder, schizophrenia, and addiction [3]. Dopamine also functions in blood vessels, kidneys, pancreas, the digestive system, the immune system, and the blood vessels.

Benocyclidine (BTCP) was a derivative of phencyclidine (PCP) with a benzothiophenyl group instead of a phenyl ring. BTCP potently inhibited dopamine (DA) uptake with the IC₅₀ of 7-8 nM. BTCP showed low affinity for the PCP receptor with the IC₅₀ of 6 µM [1, 2]. In the striatum, BTCP binding was dose-dependently inhibited by unlabeled BTCP and nomifensine with the ID₅₀ of 6.34 mg/kg and 11.06 mg/kg, respectively. BTCP bound to the dopamine uptake complex in the mouse brain in vivo [4].

References:

- [1] Vignon J, Pinet V, Cerruti C, et al. [3H] N-[1-(2-Benzo (b) thiophenyl) cyclohexyl] piperidine ([3H] BTCP): a new phencyclidine analog selective for the dopamine uptake complex[J]. European journal of pharmacology, 1988, 148(3): 427-436.
- [2] Chaudieu I, Vignon J, Chicheportiche M, et al. Role of the aromatic group in the inhibition of phencyclidine binding and dopamine uptake by PCP analogs[J]. Pharmacology Biochemistry and Behavior, 1989, 32(3): 699-705.
- [3] Seeman P. Brain dopamine receptors[J]. Pharmacological Reviews, 1980, 32(3): 229-313.
- [4] Maurice T, Vignon J, Kamenka J M, et al. In vivo labelling of the mouse dopamine uptake complex with the phencyclidine derivative [3 H] BTCP[J]. Neuroscience letters, 1989, 101(2): 234-238.

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