**Product Data Sheet**

### Chemical Properties

**Product Name:** 1-(1-Naphthyl) piperazine (hydrochloride)

**Cas No.:** 104113-71-5

**M.Wt:** 248.7

**Formula:** C_{14}H_{16}N_{2} \cdot \text{HCl}

**Synonyms:** 1-NP

**Chemical Name:** 1-(1-naphthalenyl)-piperazine, monohydrochloride

**Canonical SMILES:** C1(C(N2CNCC2)=CC=C3)=C3C=CC=C1.Cl

**Solubility:** $\geq 13.7\text{mg/mL}$ in DMSO

**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.

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

### Biological Activity

**Targets:** GPCR/G protein

**Pathways:** 5-HT Receptor

**Description:**

1-(1-Naphthyl) piperazine (1-NP) is a serotonergic ligand which could bind nonselectively with multiple serotonin (5-HT) receptors [1].

The serotonin receptors, also known as 5-HT receptors, belong to a family of G protein-coupled receptors (GPCRs) and ligand-gated ion channels (LGICs) found in the central and peripheral nervous systems. The serotonin receptors have been involved in many biological and neurological...
processes, such as aggression, anxiety, cognition, learning, memory, and mood [2].

In vitro: 1-NP binds to human 5-HT6 (h5-HT6) serotonin receptors with a Ki of 120 nM [1]. In rat cortical membranes, 1-NP inhibited the activity of 5-HT1 and 5-HT2 with IC50 values of 6 and 1 nM, respectively. 1-NP also blocked contraction in the rat fundus induced by either 5-HT or tryptamine with an IC50 of 1 nM [3].

In vivo: In squirrel monkeys, 1-NP (0.3–1.0 mg/kg) blocked the decrease of responding under fixed-interval (FI) schedules of presentation of food caused by DOB (0.01–0.3 mg/kg), an agonist of 5-HT2. 1-NP also antagonized the decreases in responding produced by quipazine (0.1–5.6 mg/kg), another agonist with predominant 5-HT2 actions [4].

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.