**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.

**WARRANTY AND LIMITATION OF REMEDY**

Buyer agrees to purchase the material subject to Cayman’s Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 05/22/2018

---

**PRODUCT INFORMATION**

1-(1-Naphthyl)piperazine (hydrochloride)

*Item No. 16150*

**CAS Registry No.:** 104113-71-5

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

**Synonym:** 1-NP

**MF:** C_{14}H_{16}N_{2} • HCl

**FW:** 248.7

**Purity:** ≥98%

**UV/Vis.:** \(\lambda_{max}^* 216, 302\) nm

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:** ≥2 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

---

**Laboratory Procedures**

1-(1-Naphthyl)piperazine (1-NP) (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the 1-NP (hydrochloride) in the solvent of choice. 1-NP (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of 1-NP (hydrochloride) in these solvents is approximately 25, 20, and 30 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 1-NP (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 1-NP (hydrochloride) in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

---

**Description**

1-NP is a ligand for serotonin (5-hydroxytryptamine, 5-HT) receptors. It acts as an antagonist for 5-HT at 5-HT\(_1\) and 5-HT\(_2\) in rat cortical membranes with IC\(_{50}\) values of 6 and 1 nM, respectively.\(^1\) 1-NP also blocks contraction in the rat fundus induced by either 5-HT or tryptamine (IC\(_{50} = 1\) nM for both agonists).\(^1\) 1-NP mimics the 5-HT\(_1\) agonist 1-(m-trifluoromethylphenyl)piperazine (TFMPP, Item No. 11205) in decreasing 5-HT receptor turnover and increasing serum corticosterone, suggesting that, in the absence of 5-HT, 1-NP may act as an agonist of the 5-HT\(_1\) receptor.\(^2\) However, in squirrel monkeys, 1-NP acts as a non-selective 5-HT receptor antagonist in altering operant behavior.\(^2\) 1-NP also binds to the human 5-HT\(_6\) receptor with an affinity comparable to that of 5-HT (K\(_i = 120\) and 100 nM, respectively).\(^3\)

---

**References**