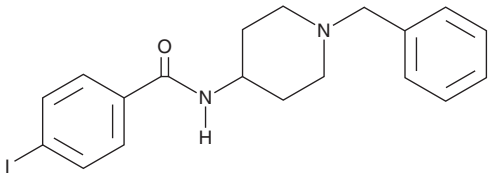
PRODUCT INFORMATION

4-IBP

Item No. 31518

CAS Registry No.:	155798-08-6
Formal Name:	4-iodo-N-[1-(phenylmethyl)-4-piperidinyl]-benzamide
Synonym:	NSC 667672
MF:	$C_{19}H_{21}IN_2O$
FW:	420.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 252 nm
Supplied as:	A 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

4-IBP is supplied as a solid. A stock solution may be made by dissolving the 4-IBP in the solvent of choice, which should be purged with an inert gas. 4-IBP is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 4-IBP ethanol is approximately 100 µg/ml and approximately 1 mg/ml for DMSO and DMF.

4-IBP is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 4-IBP should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 4-IBP has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

4-IBP is a sigma-1 (σ_1) receptor ligand (K_i = 1.7 nM).[1,2] It is selective for σ_1 over σ_2 receptors (K_i = 25.2 nM). It inhibits the growth and migration of PC3 prostate cancer and A549 non-small cell lung cancer (NSCLC) cells, as well as the migration of C32 melanoma and U373 MG glioblastoma cells, when used at a concentration of 10 µM.[1] 4-IBP (2 mg/kg) increases survival in a U373 MG mouse xenograft model. It also increases firing of serotonergic neurons in the rat dorsal raphe nucleus when administered at a dose of 2 mg/kg.[2]

References

1. Mégalizzi, V., Mathieu, V., Mijatovic, T., *et al.* 4-IBP, a σ_1 receptor agonist, decreases the migration of human cancer cells, including glioblastoma cells, *in vitro* and sensitizes them *in vitro* and *in vivo* to cytotoxic insults of proapoptotic and proautophagic drugs. *Neoplasia* **9(5)**, 358-369 (2007).
2. Bermack, J.E. and Debonnel, G. Modulation of serotonergic neurotransmission by short- and long-term treatments with sigma ligands. *Br. J. Pharmacol.* **134(3)**, 691-699 (2001).

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