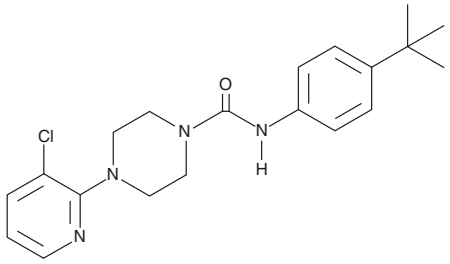
PRODUCT INFORMATION

BCTC

Item No. 10006309

CAS Registry No.:	393514-24-4
Formal Name:	4-(3-chloro-2-pyridinyl)-N-[4-(1,1-dimethylethyl)phenyl]-1-piperazinecarboxamide
MF:	$C_{20}H_{25}ClN_4O$
FW:	372.9
Purity:	≥98%
UV/Vis.:	λ_{max}: 247 nm
Supplied as:	A crystalline 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

BCTC is supplied as a crystalline solid. A stock solution may be made by dissolving the BCTC in the solvent of choice. BCTC is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of BCTC in these solvents is approximately 10, 12.5, and 20 mg/ml, respectively.

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

Description

The vanilloid receptor 1 (TRPV1) is a ligand-gated ion channel highly expressed on primary nociceptive neurons that respond to a variety of noxious stimuli, including heat, acid, and other chemical irritants. Because disruptions in TRPV1 activity cause reduced thermal nociception and hyperalgesia, this receptor is considered to be a useful target for the discovery of novel analgesics. BCTC is a potent TRPV1 antagonist that inhibits capsaicin-induced and acid-induced activation of rat TRPV1 with IC_{50} values of 35 and 6 nM, respectively.[1,2]

References

1. Valenzano, K.J., Grant, E.R., Wu, G., *et al.* N-(4-tertiarybutylphenyl)-4-(3-chloropyridin-2-yl) tetrahydropyrazine-1 (2H)-carbox-amide (BCTC), a novel orally effective vanilloid receptor 1 antagonist with analgesic properties: I. *In vitro* characterization and pharmacokinetic properties. *J. Pharmacol. Exp. Ther.* **306(1)**, 377-386 (2003).
2. Gavva, N.R., Tamir, R., Klionsky, L., *et al.* Proton activation does not alter antagonist interaction with the capsaicin-binding pocket of TRPV1. *Mol. Pharmacol.* **68(6)**, 1524-1533 (2005).

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