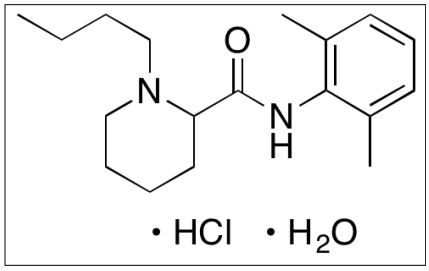
LKT Laboratories, Inc.

Bupivacaine Hydrochloride Monohydrate

Phone: 888-558-5227
651-644-8424
Fax: 888-558-7329
Email: getinfo@lktlabs.com
Web: lktlabs.com

Product Information

Product ID B8262
CAS No. 73360-54-0
Chemical Name 1-Butyl-N-(2,6-dimethylphenyl)-2-piperidinecarboxamide hydrochloride hydrate
Synonym Bupivacaine hydrochloride monohydrate, Carbostesin, Marcaine, Sensorcaine
Formula $C_{18}H_{28}N_2O \cdot HCl \cdot H_2O$
Formula Wt. 342.91
Melting Point 258.5°C
Purity ≥98%
Solubility Soluble in water. Slightly soluble in acetone, chloroform and ether.



Bulk quanitites available upon request

Product ID	Size
B8262	1 g
B8262	5 g
B8262	25 g

Store Temp Ambient
Ship Temp Ambient
Description Bupivacaine is an amino amide anesthetic that decreases current amplitude and inhibits whole cell K+ currents in Ca2+-activated K+ channels and N-type voltage-gated (Kv1/Shaker and Kv3/Shaw [KCNA and KCNC]) K+ channels. Bupivacaine also inhibits voltage-gated Na+ channels and tandem pore domain (TASK-2/KCNK-5) K+ channels. Bupivacaine may be neurotoxic at high doses, activating p38 MAPK, increasing levels of ROS and WDR53, and inducing apoptosis in neuroblastoma cells. In other cellular models, bupivacaine induces depolarization of the mitochondrial membrane potential, resulting in apoptosis.

References

Harato M, Huang L, Kondo F, et al. Bupivacaine-induced apoptosis independently of WDR35 expression in mouse neuroblastoma Neuro2a cells. BMC Neurosci. 2012 Dec 10;13:149. PMID: 23227925.

Martín P, Enrique N, Palomo AR, et al. Bupivacaine inhibits large conductance, voltage- and Ca2+- activated K+ channels in human umbilical artery smooth muscle cells. Channels (Austin). 2012 May-Jun;6(3):174-80. PMID: 22688134.

Lu J, Xu SY, Zhang QG, et al. Bupivacaine induces apoptosis via mitochondria and p38 MAPK dependent pathways. Eur J Pharmacol. 2011 Apr 25;657(1-3):51-8. PMID: 21315711.

Cela O, Piccoli C, Scrima R, et al. Bupivacaine uncouples the mitochondrial oxidative phosphorylation, inhibits respiratory chain complexes I and III and enhances ROS production: results of a study on cell cultures. Mitochondrion. 2010 Aug;10(5):487-96. PMID: 20546950.

Nilsson J, Madeja M, Elinder F, et al. Bupivacaine blocks N-type inactivating Kv channels in the open state: no allosteric effect on inactivation kinetics. Biophys J. 2008 Dec;95(11):5138-52. PMID: 18790854.

Kindler CH, Paul M, Zou H, et al. Amide local anesthetics potently inhibit the human tandem pore domain background K+ channel TASK-2 (KCNK5). J Pharmacol Exp Ther. 2003 Jul;306(1):84-92. PMID: 12660311.