



LKT Laboratories, Inc.

## Bupivacaine

Phone: 888-558-5227  
651-644-8424  
Fax: 888-558-7329  
Email: [getinfo@lktlabs.com](mailto:getinfo@lktlabs.com)  
Web: [lktlabs.com](http://lktlabs.com)

### Product Information

**Product ID** B8261  
**CAS No.** 38396-39-3  
**Chemical Name** 1-butyl-N-(2,6-dimethylphenyl)piperidine-2-carboxamide

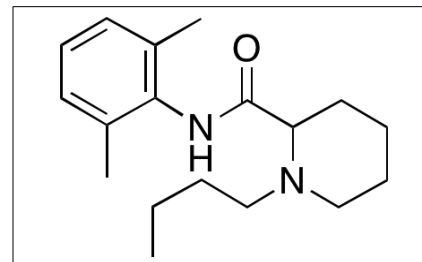
#### Synonym

**Formula** C<sub>18</sub>H<sub>28</sub>N<sub>2</sub>O  
**Formula Wt.** 288.43  
**Melting Point** 107-108 °C  
**Purity** ≥98%  
**Solubility** DMF (30 mg/mL),  
DMSO (50 mg/mL)  
Ethanol (50mg/mL)  
Water: Insoluble

**Store Temp** Ambient

**Ship Temp** Ambient

**Description** Bupivacaine is an amino amide anesthetic that decreases current amplitude and inhibits whole cell K<sup>+</sup> currents in Ca<sup>2+</sup>-activated (BK/SK) K<sup>+</sup> channels and N-type voltage-gated (Kv1/shaker and Kv3 KCNA/KCNC) K<sup>+</sup> channels. Bupivacaine also inhibits voltage-gated Na<sup>+</sup> channels and tandem pore domain (TASK-2/KCNK-5) K<sup>+</sup> 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. TEST!!!!!!



### Pricing and Availability

*Bulk quantities available upon request*

Product ID	Size	List Price
B8261	1 g	\$60.00
B8261	5 g	\$149.90
B8261	25 g	\$449.50

**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 Ca<sup>2+</sup>- activated K<sup>+</sup> 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<sup>+</sup> channel TASK-2 (KCNK5). *J Pharmacol Exp Ther.* 2003 Jul;306(1):84-92. PMID: 12660311.

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.