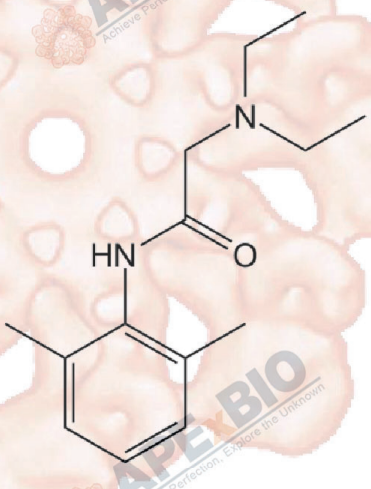
Product Name: Lidocaine
Revision Date: 10/22/2024

Product Data Sheet

Lidocaine

Cat. No.:	A1450
CAS No.:	137-58-6
Formula:	C14H22N2O
M.Wt:	234.34
Synonyms:	
Target:	Neuroscience
Pathway:	Histamine Receptor
Storage:	Store at -20°C



Solvent & Solubility

In Vitro

insoluble in H2O; ⩾11.72 mg/mL in DMSO; ⩾227.27 mg/mL in EtOH

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	4.2673 mL	21.3365 mL	42.6730 mL
5 mM	0.8535 mL	4.2673 mL	8.5346 mL
10 mM	0.4267 mL	2.1337 mL	4.2673 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	Anasthetic and class Ib antiarrhythmic agent
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	Fresh bovine articular chondrocytes, sarcoplasmic reticulum
Preparation method:	The solubility of this compound in DMSO is >11.7 mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored

		below -20°C for several months.
	Reacting conditions:	1% or 2% lidocaine, 30 minutes
	Applications:	Lidocaine (1%, 15-minute) decreased chondrocyte viability. Longer exposures to 1% and 2% lidocaine further reduced chondrocyte viability. Lidocaine (40 μM) showed reverse frequency-dependent depression of myocardial contractility. Lidocaine(40 μM, 100 μM) caused a marked depression of the late-peaking contractile responses, attributed to Ca2+ release from the sarcoplasmic reticulum.
In Vivo	**Animal experiment**	
	Animal models:	Dogs with 2-hour-old myocardial infarctions
	Dosage form:	Intravenous bolus injection, 2-8 μg/ml
	Applications:	Lidocaine prolonged the Q-EG intervals in the infarcted zones of the heart 17-26% at peak effect, but it had no effect on the Q-EG intervals in the normal zone except for a slight (1.5%) prolongation shortly after the initial intravenous bolus injection. Lidocaine prolonged the effective refractory period of the infarcted zone 23% at peak effect but had no effect on the effective refractory period of the normal zone.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

See more customer validations on www.apexbt.com.

References

[1]. Karpie J C, Chu C R. Lidocaine exhibits dose-and time-dependent cytotoxic effects on bovine articular chondrocytes in vitro[J]. The American journal of sports medicine, 2007, 35(10): 1622-1627.

[2]. Lynch III C. Depression of myocardial contractility in vitro by bupivacaine, etidocaine, and lidocaine[J]. Anesthesia & Analgesia, 1986, 65(6): 551-559.

[3]. Kupersmith J, Antman E M, Hoffman B F. In vivo electrophysiological effects of lidocaine in canine acute myocardial infarction[J]. Circulation research, 1975, 36(1): 84-91.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

APExBIO Technology
www.apexbt.com
7505 Fannin street, Suite 410, Houston, TX 77054.
Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com