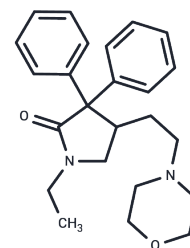


Doxapram

Chemical Properties

CAS No. :	309-29-5
Formula:	C ₂₄ H ₃₀ N ₂ O ₂
Molecular Weight:	378.51
Storage:	Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Doxapram (Dopram) is a respiratory stimulant that inhibits TASK-1, TASK-3, and TASK-1/TASK-3 heterodimer channels and is used to study ventilatory failure caused by apnea of prematurity and exacerbation of chronic obstructive pulmonary disease.
Targets(IC50)	Potassium Channel
In vitro	Doxapram inhibits TASK-1 (EC ₅₀ =410 nM), TASK-3 (EC ₅₀ =37 μM), TASK-1/TASK-3 (EC ₅₀ =9 μM) heterodimeric channel function. Doxapram also evoked 3H overflow in a concentration dependent manner, and Doxapram-evoked release was inhibited by the Ca ²⁺ channel blocker nifedipine (5 mM). [1] Doxapram (1-100 mM) caused rapid, reversible and dose-dependent inhibitions of K ⁺ currents recorded in type I cells (IC ₅₀ =13 mM). Doxapram was also seen to directly inhibit Ca(2+)-independent K ⁺ currents. Doxapram was a more potent inhibitor of the Ca(2+)-activated K ⁺ currents recorded under control conditions. [2]

Solubility Information

Solubility	Ethanol: 50 mg/mL (132.1 mM),Sonication is recommended. DMSO: 50 mg/mL (132.1 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (5.28 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6419 mL	13.2097 mL	26.4194 mL
5 mM	0.5284 mL	2.6419 mL	5.2839 mL
10 mM	0.2642 mL	1.321 mL	2.6419 mL
50 mM	0.0528 mL	0.2642 mL	0.5284 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Cotten JF, et al. The ventilatory stimulant doxapram inhibits TASK tandem pore (K2P) potassium channel function but does not affect minimum alveolar anesthetic concentration. *Anesth Analg*. 2006 Mar;102(3):779-85.
Peers C. Effects of doxapram on ionic currents recorded in isolated type I cells of the neonatal rat carotid body. *Brain Res*. 1991 Dec 24;568(1-2):116-22.

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