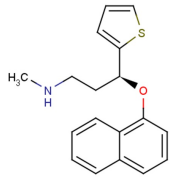
Data Sheet (Cat.No.T7061)

TargetMol
A DRUG SCREENING EXPERT

Duloxetine

Chemical Properties



CAS No.:	116539-59-4
Formula:	C18H19NOS
Molecular Weight:	297.42
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	Duloxetine is an inhibitor of serotonin-norepinephrine reuptake(Ki of 4.6 nM),with treatment of major depressive disorder and generalized anxiety disorder.
Targets(IC_{50})	serotonin-norepinephrine reuptake: 4.6 nM(ki)
In vitro	IC50 of duloxetine for the resting and inactivated wild-type hNav1.7 Na+ channel were 22.1+/-0.4 and 1.79+/-0.10 microM, respectively (mean+/-SE, n=5). The IC50 for the open Na+ channel was 0.25+/-0.02 microM (n=5), as determined by the block of persistent late Nav1.7 Na+ currents. Similar open-channel block by duloxetine was found in the muscle Nav1.4 isoform (IC50=0.51+/-0.05 microM; n=5). Block by duloxetine appeared via the conserved local anesthetic receptor as determined by site-directed mutagenesis. Finally, duloxetine elicited strong use-dependent block of neuronal transient Nav1.7 Na+ currents during repetitive stimulations[1].
Cell Research	Used the whole cell, patch clamp technique to test whether duloxetine interacts with the neuronal Nav1.7 Na+ channel as a potential target. Resting and inactivated Nav1.7 Na+ channel block by duloxetine were measured by conventional pulse protocols in transfected human embryonic kidney cells. The open-channel block was determined directly using inactivation-deficient mutant Nav1.7 Na+ channels[1].
Animal Research	

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.362 mL	16.811 mL	33.622 mL
5 mM	0.672 mL	3.362 mL	6.724 mL
10 mM	0.336 mL	1.681 mL	3.362 mL
50 mM	0.067 mL	0.336 mL	0.672 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Wang, S.Y., J. Calderon, and G. Kuo Wang, Block of neuronal Na+ channels by antidepressant duloxetine in a state-dependent manner. Anesthesiology, 2010. 113(3): p. 655-65.

2. Ekram, A, R,et al. Duloxetine in Painful Diabetic Neuropathy: A Systematic Review[J]. Clinical Journal of Pain, 2016.

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