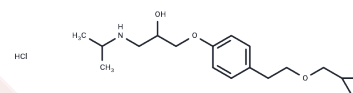


## Betaxolol hydrochloride

## Chemical Properties

CAS No. :	63659-19-8
Formula:	C <sub>18</sub> H <sub>30</sub> ClNO <sub>3</sub>
Molecular Weight:	343.89
Appearance:	no data available
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year



## Biological Description

Description	Betaxolol hydrochloride (SL 75212 HCl) is a cardioselective beta-blocker used in the treatment of hypertension. Betaxolol hydrochloride has not been linked to instances of clinically apparent drug induced liver injury.
Targets(IC50)	Adrenergic Receptor
In vitro	Betaxolol's constituents are capable of partially inhibiting changes induced by NMDA and hypoxia/glucose deficiency. Intraperitoneal injection of Betaxolol in rats during focal ischemia and before reperfusion injury effectively mitigates alterations in calretinin and ChAT immunoreactivity, and also prevents the decline of b-wave amplitude.
In vivo	At a concentration of 10 µM, Betaxolol significantly inhibits the release of LDH (lactate dehydrogenase) induced by glutamate esters. Additionally, 100 µM Betaxolol effectively prevents the release of LDH in cortical tissue caused by hypoxia. Betaxolol offers protective effects on retinal neurons and attenuates the influx of <sup>45</sup> Ca <sup>2+</sup> induced by NMDA (N-methyl-D-aspartate) when β-adrenergic receptor agonists are ineffective.
Cell Research	Dissociated cortical cells from 16–18-day-old fetal rats are grown, in 35 mm dishes, in DMEM supplemented with L-glutamine (4 mM), glucose (6 g/L), penicillin (100 U/mL), streptomycin (100 µg/mL) and 10% hormonal supplemented medium consisting of transferrin (1 mg/mL), insulin (250 µg/mL) putrescine (600 µM), sodium selenite (0.3 µM), progesterone (0.2 µM) and estradiol (0.1 pM) for 7 days in an atmosphere of 5% CO <sub>2</sub> /95% O <sub>2</sub> at 37 °C. The cultures are then transferred to a culture medium which lacks the hormonal supplemented medium. L-glutamate is added to the medium and incubated for a further 4 hours under normoxic conditions. Betaxolol are added to the cultures at the same time as L-glutamate. In other experiments the cultures are subjected to anoxic conditions, 95% N <sub>2</sub> /5% CO <sub>2</sub> , for 5 hours at 37 °C. Betaxolol is added prior to anoxia. Reoxygenation is then achieved by replacing the cells in normoxic conditions (95% O <sub>2</sub> /5% CO <sub>2</sub> ) for 3 hours. Cellular injury is assessed by measuring lactate dehydrogenase (LDH) release into the cell culture supernatant after hypoxia/reoxygenation or glutamate exposure. LDH activity is assayed spectrophotometrically by following NADH metabolism for 2 minutes at 340 nm.(Only for Reference)

## Solubility Information

## A DRUG SCREENING EXPERT

Solubility	DMSO: 50 mg/mL (145.4 mM),Sonication is recommended. H2O: 29.08 mM,Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.9079 mL	14.5395 mL	29.0791 mL
5 mM	0.5816 mL	2.9079 mL	5.8158 mL
10 mM	0.2908 mL	1.454 mL	2.9079 mL
50 mM	0.0582 mL	0.2908 mL	0.5816 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.

### Reference

Tang LQ, et al. Curr Eye Res, 1998, 17(1), 24-30.

Wood JP, et al. Exp Eye Res, 2003, 76(4), 505-516.

Osborne NN,et al. Exp Eye Res, 1999, 69(3), 331-342.

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