

## ThioLox

## Chemical Properties

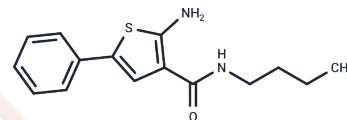
CAS No. : 1202193-89-2

Formula: C<sub>15</sub>H<sub>18</sub>N<sub>2</sub>O<sub>5</sub>

Molecular Weight: 274.38

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	ThioLox is a competitive 15-lipoxygenase-1 (15-LOX-1) inhibitor with an IC <sub>50</sub> value of 12 μM, demonstrating significant anti-inflammatory and neuroprotective properties, including strong protection against glutamate toxicity.
Targets(IC <sub>50</sub> )	Lipoxygenase
In vitro	ThioLox (50 μM; 24 h) inhibits the expression of interleukins (IL-1β, IL-6, IL-8, IL-12b, TNFα, and iNOS) in precision-cut lung slices (PCLS). In neuronal cells, ThioLox (10 μM; 16 h) prevents mitochondrial superoxide formation and lipid peroxidation. ThioLox (5-20 μM; 14-16 h) prevents HT-22 cells from glutamate toxicity. ThioLox significantly reduces neuronal cell death[1].
In vivo	The logP value of ThioLox is 3, indicating that it is predicted to effectively penetrate the blood-brain barrier[1].

## Solubility Information

Solubility	DMSO: 90 mg/mL (328.01 mM), Sonication and heating to 60°C are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (12.03 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

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	3.6446 mL	18.2229 mL	36.4458 mL
5 mM	0.7289 mL	3.6446 mL	7.2892 mL
10 mM	0.3645 mL	1.8223 mL	3.6446 mL
50 mM	0.0729 mL	0.3645 mL	0.7289 mL

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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

Eleftheriadis N, et al. Design of a novel thiophene inhibitor of 15-lipoxygenase-1 with both anti-inflammatory and neuroprotective properties. Eur J Med Chem. 2016;122:786-801.

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