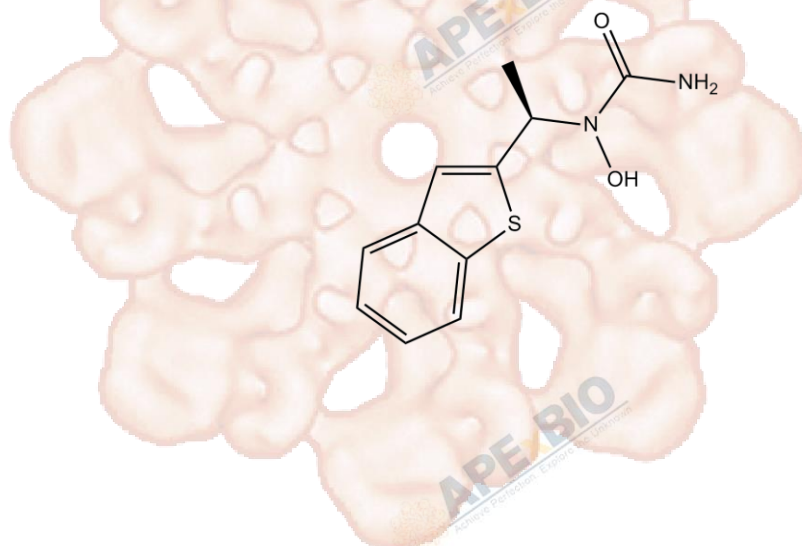


# Product Data Sheet

## Zileuton

<b>Cat. No.:</b>	A5384
<b>CAS No.:</b>	111406-87-2
<b>Formula:</b>	C <sub>11</sub> H <sub>12</sub> N <sub>2</sub> O <sub>2</sub> S
<b>M.Wt:</b>	236.29
<b>Synonyms:</b>	
<b>Target:</b>	Immunology/Inflammation
<b>Pathway:</b>	5-Lipoxygenase
<b>Storage:</b>	Store at -20°C



### Solvent & Solubility

insoluble in H<sub>2</sub>O; ≥12.73 mg/mL in EtOH; ≥13.3 mg/mL in DMSO

In Vitro

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1mg	5mg	10mg
	1 mM		4.2321 mL	21.1604 mL	42.3209 mL
	5 mM		0.8464 mL	4.2321 mL	8.4642 mL
	10 mM		0.4232 mL	2.1160 mL	4.2321 mL

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

### Biological Activity

Shortsummary

5-lipoxygenase (5-LOX) inhibitor, orally active

IC<sub>50</sub> & Target

In Vitro

#### Cell Viability Assay

Cell Line:	H9c2 cells
Preparation method:	The solubility of this compound in DMSO is > 13.3 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:	0 ~ 100 μM; 0 ~ 24 hrs

	Applications:	Zileuton induced COX-2 protein expression in time- and dose-dependent manners without changing the COX-1 protein level. After the treatment with 50 $\mu$ M Zileuton for 5 hrs, the level of COX-2 protein peaked and sustained for up to 12 hrs. In addition, Zileuton treatment significantly inhibited the induction of cell death by H2O2.
In Vivo	<b>Animal experiment</b>	
	Animal models:	A rat permanent MCAO model
	Dosage form:	50 mg/kg; p.o.
	Applications:	In a rat permanent MCAO model, Zileuton significantly reduced the neurological deficit and the cerebral infarction volume. HE staining showed that Zileuton reduced necrotic or ischemic injured neurons. In addition, Zileuton also markedly reduced MCAO-induced increases of MPO activity, MDA content, NF- $\kappa$ B p65 immuno-positive cells, iNOS mRNA and iNOS protein expression, as well as serum TNF- $\alpha$ and IL-1 $\beta$ levels.
	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](http://www.apexbt.com).

## References

- [1]. Hyun-Jeong Kwak, Kyoung-Mi Park, Hye-Eun Choi, Hyun-Joung Lim, Jin-Hee Park, Hyun-Young Park. The cardioprotective effects of zileuton, a 5-lipoxygenase inhibitor, are mediated by COX-2 via activation of PKC $\delta$ . Cellular Signalling 22 (2010) 80-87.
- [2]. Tu XK, Yang WZ, Wang CH, Shi SS, Zhang YL, Chen CM, Yang YK, Jin CD, Wen S. Zileuton reduces inflammatory reaction and brain damage following permanent cerebral ischemia in rats. Inflammation. 2010;33(5):344-52.

## 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 APEX BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term 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**

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