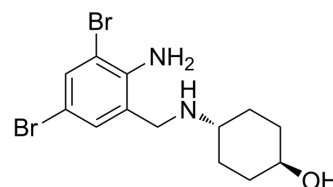


## Ambroxol

<b>Cat. No.:</b>	HY-B1039		
<b>CAS No.:</b>	18683-91-5		
<b>Molecular Formula:</b>	C <sub>13</sub> H <sub>18</sub> Br <sub>2</sub> N <sub>2</sub> O		
<b>Molecular Weight:</b>	378.1		
<b>Target:</b>	Glucosidase; Autophagy		
<b>Pathway:</b>	Metabolic Enzyme/Protease; Autophagy		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 200 mg/mL (528.96 mM)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		1 mg	5 mg	10 mg
	Concentration	Mass			
	1 mM		2.6448 mL	13.2240 mL	26.4480 mL
	5 mM		0.5290 mL	2.6448 mL	5.2896 mL
	10 mM		0.2645 mL	1.3224 mL	2.6448 mL

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

#### In Vivo

- Add each solvent one by one: 5% DMSO >> 95% saline  
Solubility: 5 mg/mL (13.22 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (6.61 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (6.61 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (6.61 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Ambroxol (NA-872), an active metabolite of the proagent Bromhexine, has potent expectorant effects. Ambroxol is a glucocerebrosidase (GCCase) chaperone and increases glucocerebrosidase activity. Ambroxol induces lung autophagy and has the potential for Parkinson disease and neuronopathic Gaucher disease research<sup>[1][2]</sup>.

#### In Vivo

Ambroxol (NA-872; 1, 3, 4, 5 mM for 12 consecutive days in drinking water) results in increased brain glucocerebrosidase activity in wild-type mice, transgenic mice expressing the heterozygous L444P mutation in the murine glucocerebrosidase 1 gene, and transgenic mice overexpressing human  $\alpha$ -synuclein<sup>[2]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### CUSTOMER VALIDATION

- Cell Rep. 2021 Jul 20;36(3):109404.
- Evid-Based Compl Alt. 16 Jun 2022.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

#### REFERENCES

[1]. Vojo Deretic, et al. Enhancement of lung levels of antibiotics by ambroxol and bromhexine. *Expert Opin Drug Metab Toxicol*. 2019 Mar;15(3):213-218.

[2]. Anna Migdalska-Richards, et al. Ambroxol effects in glucocerebrosidase and  $\alpha$ -synuclein transgenic mice. *Ann Neurol*. 2016 Nov;80(5):766-775.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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