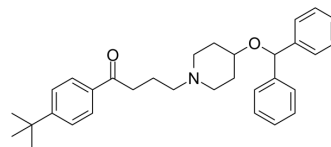


## Ebastine

<b>Cat. No.:</b>	HY-B0674		
<b>CAS No.:</b>	90729-43-4		
<b>Molecular Formula:</b>	C <sub>32</sub> H <sub>39</sub> NO <sub>2</sub>		
<b>Molecular Weight:</b>	469.66		
<b>Target:</b>	Histamine Receptor		
<b>Pathway:</b>	GPCR/G Protein; Immunology/Inflammation; Neuronal Signaling		
<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

Ethanol : 58.75 mg/mL (125.09 mM; Need ultrasonic)  
 DMSO : 8.33 mg/mL (17.74 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent \ Mass	1 mg	5 mg	10 mg
	Concentration			
	1 mM	2.1292 mL	10.6460 mL	21.2920 mL
	5 mM	0.4258 mL	2.1292 mL	4.2584 mL
	10 mM	0.2129 mL	1.0646 mL	2.1292 mL

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

### BIOLOGICAL ACTIVITY

#### Description

Ebastine (LAS-W 090) is an orally active, second-generation histamine H<sub>1</sub> receptor antagonist. Ebastine can be used for the symptoms of allergic rhinitis and chronic idiopathic urticaria research<sup>[1]</sup>.

#### IC<sub>50</sub> & Target

H<sub>1</sub> Receptor

#### In Vitro

Ebastine (10-500 ng/mL; 24-48 hours) treatment significantly increases the proliferation of HFDPC<sup>[2]</sup>.  
 Ebastine (10-500 ng/mL; 24-48 hours) treatment shows dose-dependent increases in Cyclin D1, Cyclin E1, and Cyclin A expression levels. And the expression levels of Cdk4, Cdk2, and Cdc2 are also increased. Ebastine treatment elevates expression levels of phospho-AKT and phospho-p44/42 extracellular signal-regulated kinase<sup>[2]</sup>.  
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.  
 Cell Proliferation Assay<sup>[2]</sup>

Cell Line: Human follicle dermal papilla cells (HFDPC)

Concentration:	10 ng/mL, 50 ng/mL, 100 ng/mL, 200 ng/mL, 500 ng/mL
Incubation Time:	24 hours, 48 hours
Result:	The proliferative activity in cells was significantly enhanced.

#### Western Blot Analysis<sup>[2]</sup>

Cell Line:	Human follicle dermal papilla cells (HFDPC)
Concentration:	10 ng/mL, 50 ng/mL, 100 ng/mL, 200 ng/mL, 500 ng/mL
Incubation Time:	24 hours
Result:	The expression levels of cell-cycle regulatory proteins and an antiapoptotic protein were increased in HFDPC.

#### In Vivo

In rats, after intravenous administration of [<sup>14</sup>C]Ebastine at 2 mg/kg, the plasma level of radioactivity decreased biphasically with  $\alpha$ -phase half-life ( $t_{1/2 \alpha}$ ) of 1.6 h and  $\beta$ -phase half-life ( $t_{1/2 \beta}$ ) of 3.1 h<sup>[3]</sup>.  
 Following oral administration of [<sup>14</sup>C]Ebastine at a dose of 2 mg/kg, the plasma level reached the maximum ( $C_{max}$ ) of 102 ng eq./ml at 2 h and decreased monophasically with  $t_{1/2}$  of 3.9 h. At 20 mg/kg, a monophasic decrease is also observed with  $C_{max}$  of 1110 ng eq./ml at 4 h and with  $t_{1/2}$  of 4.0 h<sup>[3]</sup>.  
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Cell Rep. 2021 Apr 6;35(1):108959.
- bioRxiv. 2020 Jun.

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

## REFERENCES

- [1]. J Sastre. Ebastine in allergic rhinitis and chronic idiopathic urticarial. Allergy. 2008 Dec;63 Suppl 89:1-20.
- [2]. Fu-Ming Tsai, et al. Extracellular Signal-Regulated Kinase Mediates Ebastine-Induced Human Follicle Dermal Papilla Cell Proliferation. Biomed Res Int. 2019 Feb 11;2019:6360503.
- [3]. Fujii, et al. Absorption, distribution, metabolism and excretion of [<sup>14</sup>C]ebastine after a single administration in rats. Arzneimittelforschung. 1994 Apr;44(4):527-38.

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

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