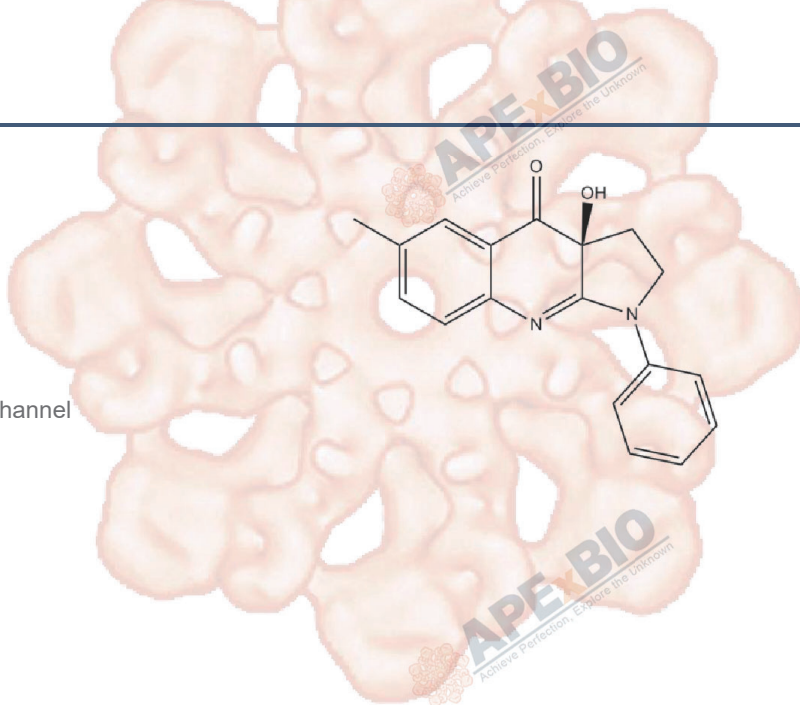


# Product Data Sheet

## (-)-Blebbistatin

<b>Cat. No.:</b>	B1387
<b>CAS No.:</b>	856925-71-8
<b>Formula:</b>	C <sub>18</sub> H <sub>16</sub> N <sub>2</sub> O <sub>2</sub>
<b>M.Wt:</b>	292.33
<b>Synonyms:</b>	
<b>Target:</b>	Membrane Transporter/Ion Channel
<b>Pathway:</b>	ATPase
<b>Storage:</b>	Store at -20°C



## Solvent & Solubility

insoluble in EtOH; insoluble in H<sub>2</sub>O; ≥14.62 mg/mL in DMSO

In Vitro	Preparing Stock Solutions	Mass			
		Solvent	1mg	5mg	10mg
			Concentration		
		1 mM	3.4208 mL	17.1040 mL	34.2079 mL
		5 mM	0.6842 mL	3.4208 mL	6.8416 mL
		10 mM	0.3421 mL	1.7104 mL	3.4208 mL

Please refer to the solubility information to select the appropriate solvent

## Biological Activity

**Shortsummary** Non muscle myosin II ATPase inhibitor

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

### Cell Viability Assay

<b>In Vitro</b>	<b>Cell Line:</b>	Bovine corneal endothelial cells (BCECs)
	<b>Preparation method:</b>	The solubility of this compound in DMSO is > 10 mM. 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.
	<b>Reacting conditions:</b>	10 μM for 5 min; or 5 μM for 20 minutes

	Applications:	Blebbistatin effectively inhibited actin-myosin interaction in mouse cardiac muscle through a mechanism independent on Ca <sup>2+</sup> influx and activation systems. In addition, blebbistatin prevented thrombin-mediated inhibition of intercellular calcium wave propagation in bovine corneal endothelial cells.
In Vivo	<b>Animal experiment</b>	
	Animal models:	Zebrafish embryos model
	Dosage form:	5-25 µM
	Applications:	Blebbistatin treatment induced zebrafish embryos cardia bifida in a dose-dependent manner.
	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

- 1.Wang Y, Li Y, et al. "The cerebral cavernous malformation disease causing gene KRIT1 participates in intestinal epithelial barrier maintenance and regulation." FASEB J. 2018 Sep 25:fj201800343R.PMID:30252535
- 2.Petrova IO, Tyganov SA, et al."Early Decline in Rat Soleus Passive Tension with Hindlimb Unloading: Inactivation of Cross-bridges or Activation of Calpains?" Dokl Biochem Biophys. 2018 Jul;481(1):205-207.PMID:30168060
- 3.Chen Y, Yu Y, et al. "Bradykinin promotes migration and invasion of hepatocellular carcinoma cells through TRPM7 and MMP2." Exp Cell Res. 2016 Sep 29.PMID:27693494

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## References

1. Limouze, J., Straight, A. F., Mitchison, T. and Sellers, J. R. (2004) Specificity of blebbistatin, an inhibitor of myosin II. J Muscle Res Cell Motil. 25, 337-341
2. Ponsaerts, R., D'Hondt, C., Bultynck, G., Srinivas, S. P., Vereecke, J. and Himpens, B. (2008) The myosin II ATPase inhibitor blebbistatin prevents thrombin-induced inhibition of intercellular calcium wave propagation in corneal endothelial cells. Invest Ophthalmol Vis Sci. 49, 4816-4827
3. Dou, Y., Arlock, P. and Arner, A. (2007) Blebbistatin specifically inhibits actin-myosin interaction in mouse cardiac muscle. Am J Physiol Cell Physiol. 293, C1148-1153
4. Wang, X., Chong, M., Wang, H., Zhang, J., Xu, H. and Liu, D. (2015) Block the function of nonmuscle myosin II by blebbistatin induces zebrafish embryo cardia bifida. In Vitro Cell Dev Biol Anim. 51, 211-217

## 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. Shortterm 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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