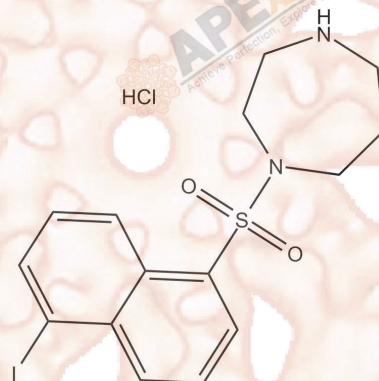


ML-7 hydrochloride

Cat. No.:	A3626
CAS No.:	110448-33-4
Formula:	C ₁₅ H ₁₈ ClIN ₂ O ₂ S
M.Wt:	452.74
Synonyms:	ML 7 hydrochloride
Target:	Membrane Transporter/Ion Channel
Pathway:	ATPase
Storage:	Store at -20°C



Solvent & Solubility

≥15.95 mg/mL in DMSO, insoluble in EtOH, ≥8.82 mg/mL in H₂O with ultrasonic and warming

In Vitro

Preparing Stock Solutions	Solvent Concentration	Mass		
		1mg	5mg	10mg
	1 mM	2.2088 mL	11.0439 mL	22.0877 mL
	5 mM	0.4418 mL	2.2088 mL	4.4175 mL
	10 mM	0.2209 mL	1.1044 mL	2.2088 mL

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

Biological Activity

Shortsummary

Myosin light chain kinase inhibitor

IC₅₀ & Target

In Vitro

Cell Viability Assay

Cell Line:	Primary neonatal cardiomyocytes
Preparation method:	Soluble in DMSO >15.95mg/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:	10 μM, 24h
Applications:	The restoration of rhNRG-1(Recombinant human neuregulin-1)-induced

sarcomeric organization in serum-free cultured neonatal rat cardiomyocytes with rhNRG-1 was inhibited by ML-7. RhNRG-1 could improve cardiac function in experimental heart failure models.

Animal experiment

Animal models: two-month-old male New Zealand white rabbits

Dosage form: 1 mg/kg/day, 12 weeks, oral administration

Applications: ML7 might ameliorate VED(Vascular endothelial dysfunction) and AS(atherosclerosis) by regulating the TJ(tight junction) proteins ZO1(zona occludens) and occludin in a rabbit model of atherosclerosis via mechanisms involving MLCK(myosin light chain kinase) and MLC phosphorylation.

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.

In Vivo

Product Citations

See more customer validations on www.apexbt.com.

References

- [1]. Gu X1, Liu X, et al, Cardiac functional improvement in rats with myocardial infarction by up-regulating cardiac myosin light chain kinase with neuregulin. Cardiovasc Res. 2010 Nov 1;88(2):334-43. doi: 10.1093/cvr/cvq223. Epub 2010 Jul 8.
- [2]. Cheng X1, Wang X2, et al, Myosin light chain kinase inhibitor ML7 improves vascular endothelial dysfunction via tight junction regulation in a rabbit model of atherosclerosis. Mol Med Rep. 2015 Sep;12(3):4109-16. doi: 10.3892/mmr.2015.3973. Epub 2015 Jun 22.

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 APExBIO 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.

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