MYK-461 (Mavacamten)

Catalog No.C13727 Batch:C1372703

Product Datasheet

Technical Data

Formula	$C_{15}H_{19}N_3O_2$					
Molecular Weight	273.33	**CAS No.**	1642288-47-8			
Solubility (25°C)*	In vitro	DMSO	55 mg/mL (201.22 mM)			
		Ethanol	14 mg/mL (51.22 mM)			
		Water	Insoluble			
	In vivo (Add solvents to the product individually and in order)	Oral Administration	Homogeneous suspension	CMC-NA	≥5mg/ml	Taking the 1 mL working solution as an example, add 5 mg of this product to 1 ml of CMC-Na solution, mix evenly to obtain a homogeneous suspension with a final concentration of 5 mg/ml.

* <1 mg/ml means slightly soluble or insoluble.
* Please note that Capsid Bio tests the solubility of all compounds in-house, and the actual solubility may differ slightly from published values. This is normal and is due to slight batch-to-batch variations.
* Room temperature shipping (Stability testing shows this product can be shipped at 2-8°C for storage purposes.)

Preparing Stock Solutions

Concentration \ Volume \ Mass	1 mg	5 mg	10 mg
1 mM	3.6586 mL	18.2929 mL	36.5858 mL
5 mM	0.7317 mL	3.6586 mL	7.3172 mL
10 mM	0.3659 mL	1.8293 mL	3.6586 mL
50 mM	0.0732 mL	0.3659 mL	0.7317 mL

Biological Activity

Description	Mavacamten (MYK-461, SAR439152) is a small-molecule modulator of **cardiac myosin** that targets the underlying sarcomere hypercontractility of hypertrophic cardiomyopathy (HCM), one of the most prevalent heritable cardiovascular disorders.
In vitro	Mavacamten (MYK-461) primarily reduces the steady-state ATPase activity by inhibiting the rate of phosphate release of β-cardiac myosin-S1. This compound modulates multiple steps of the myosin chemomechanical cycle. In addition to decreasing the rate-limiting step of the cycle (phosphate release), it reduces the number of myosin-S1 heads that can interact with the actin thin filament during transition from the weakly to the strongly bound state without affecting the intrinsic rate. It also decreases the rate of myosin binding to actin in the ADP-bound state and the ADP-release rate from myosin-S1 alone[1].
In vivo	In mice harboring heterozygous human mutations in the myosin heavy chain, early, chronic administration of Mavacamten (MYK-461) suppresses the development of ventricular hypertrophy, cardiomyocyte disarray, and myocardial fibrosis and attenuates hypertrophic and profibrotic gene expression[2].

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  Mouse cardiac myofibrils
- **Concentrations**
  0.3 μM
- **Incubation Time**
  24 h
- **Method**
  Cells were treated with various concentrations of Mavacamten (MYK-461) for 24 h.

Animal Study:[2]

- **Animal Models**
  Young (ages 6 to 15 weeks) wild-type (WT) and HCM mice expressing α-cardiac myosin heavy chain missense mutations R403Q, R719W, or R453C
- **Dosages**
  2.5 mg/kg
- **Administration**
  oral

References

https://pubmed.ncbi.nlm.nih.gov/28808052/ https://pubmed.ncbi.nlm.nih.gov/26912705/

RETURN POLICY

Capsid Bio's Unconditional Return Policy ensures a smooth online shopping experience for our customers. If you are in any way unsatisfied with your purchase, you may return any item(s) within 7 days of receiving it. In the event of product quality issues, either protocol related or product related problems, you may return any item(s) within 365 days from the original purchase date. Please follow the instructions below when returning products.

SHIPPING & STORAGE

Capsid Bio products are transported at room temperature. If you receive the product at room temperature, please rest assured, the Capsid Bio Quality Inspection Department has conducted experiments to verify that the normal temperature placement of one month will not affect the biological activity of powder products. After collecting, please store the product according to the requirements described in the datasheet. Most Capsid Bio products are stable under the recommended conditions.

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