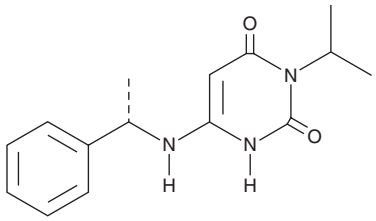
PRODUCT INFORMATION

Mavacamten

Item No. 19216

CAS Registry No.:	1642288-47-8
Formal Name:	3-(1-methylethyl)-6-[[(1S)-1-phenylethyl]amino]-2,4(1H,3H)-pyrimidinedione
Synonyms:	MYK-461, SAR439152
MF:	$C_{15}H_{19}N_3O_2$
FW:	273.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 267 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Mavacamten is supplied as a crystalline solid. A stock solution may be made by dissolving the mavacamten in the solvent of choice. MYK-461 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of mavacamten in these solvents is approximately 1, 20, and 33 mg/ml.

Mavacamten is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, mavacamten should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Mavacamten has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Mavacamten is an orally bioavailable inhibitor of cardiac myosin ATPase (IC_{50} = 0.3 µM in purified bovine myosin S1).[1] It is selective for cardiac myosin over skeletal myosin (IC_{50} = 4.7 µM) and does not induce skeletal muscle impairments. It slows the rate of ATPase activity in both murine and bovine myofibrils, which are α- and β-myosin-rich, respectively, by reducing the rate of phosphate release during the myosin power stroke. In transgenic mouse models of hypertrophic cardiomyopathy, mavacamten reduces cardiac contractility, prevents left ventricular hypertrophy, and reverses pathologic remodeling. In cats, it relieves left ventricular outflow tract obstruction.[2] Formulations containing mavacamten have been used for the treatment of symptomatic hypertrophic cardiomyopathy in humans and cats.

References

1. Green, E.M., Wakimoto, H., Anderson, R.L., *et al.* A small-molecule inhibitor of sarcomere contractility suppresses hypertrophic cardiomyopathy in mice. *Science* **351(6273)**, 617-623 (2016).
2. Stern, J.A., Markova, S., Ueda, Y., *et al.* A small molecule inhibitor of sarcomere contractility acutely relieves left ventricular outflow tract obstruction in feline hypertrophic cardiomyopathy. *PLoS One* **11(12)**, e0168407 (2016).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM