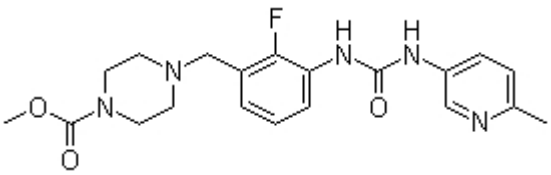
Product Introduction

Omecamtiv mecarbil (CK-1827452)

Omecamtiv mecarbil (CK-1827452) is a specific **cardiac myosin** activator and a clinical drug for left ventricular systolic heart failure. Phase 2.

Technical Data:

Molecular Weight (MW):	401.43	
Formula:	$C_{20}H_{24}FN_5O_3$	
Solubility (25°C) *** <1 mg/ml means slightly soluble or insoluble:**	DMSO 80 mg/mL	
	Water 1 mg/mL	
	Ethanol 6 mg/mL	
Purity:	>98%	
Storage:	3 years -20℃Powder	
	6 months-80℃in DMSO	
CAS No.:	873697-71-3	

Biological Activity

In vitro, Omecamtiv mecarbil selectively activates cardiac myosin by increasing the myosin ATPase rate. [1] In isolated cardiac myocytes, Omecamtiv mecarbil results in increase of myocyte contractility and overcomes of the myosin inhibitor BDM without increasing the calcium transient or inhibiting the PDE pathway. [1]

Omecamtiv mecarbil significantly increases fractional shortening starting at 0.4 mM plasma concentrations in SD rats, sham animals and in rats with heart failure. [1] In conscious dogs with myocardial infarction

(MI-sHF), Omecamtiv mecarbil leads to a significant increase in wall thickening (25%), stroke volume (44%), cardiac output (22%) and left ventricular (LV) systolic ejection time (26%). In addition, Omecamtiv mecarbil also results in the decreases of some hemodynamic parameters including heart rate, mean left atrial pressure, and LV end-diastolic pressure. In conscious dogs with left ventricular hypertrophy (LVH-sHF), Omecamtiv mecarbil leads to similar and not statistically different effects on hemodynamic parameters. [2]

References

[1] Anderson RL, et al. Mol Bio Cell, 2005, 16 (Abstract #1728).
[2] Shen YT, et al. Circ Heart Fail. 2010, 3(4), 522-577.

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