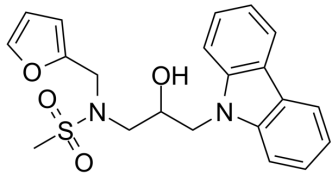
KL001

Cat. No.:	HY-108468
CAS No.:	309928-48-1
Molecular Formula:	$C_{21}H_{22}N_2O_4S$
Molecular Weight:	398.48
Target:	Others
Pathway:	Others
Storage:	-20°C, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (12.55 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.5095 mL	12.5477 mL	25.0954 mL
	5 mM	0.5019 mL	2.5095 mL	5.0191 mL
	10 mM	0.2510 mL	1.2548 mL	2.5095 mL

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

BIOLOGICAL ACTIVITY

Description

KL001 is a first-in-class cryptochrome (CRY, a flavoproteins that are sensitive to blue light, and is involved in the circadian rhythms of plants and animals) stabilizer which specifically interacts with CRY1 and CRY2. KL001 prevents ubiquitin-dependent degradation of CRY, resulting in lengthening of the circadian period. KL001 has the potential to control fasting hormone-induced gluconeogenesis[1][2][3].

In Vitro

KL001 (0.03-71 μM) causes circadian period lengthening and amplitude reduction in a dose-dependent manner in stable U2OS reporter cell lines harboring Bmal1-dLuc or Per2-dLuc[1].

KL001 (2-8 μM; 18 h) represses glucagon-dependent induction of Pck1 and G6pc genes in a dose-dependent manner without affecting their basal expression in mouse primary hepatocytes[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Hirota T, et, al. Identification of small molecule activators of cryptochrome. Science. 2012 Aug 31;337(6098):1094-7.

[2]. Kelleher FC, et, al. Circadian molecular clocks and cancer. Cancer Lett. 2014 Jan 1;342(1):9-18.

[3]. Nangle S, et, al. Crystal structure of mammalian cryptochrome in complex with a small molecule competitor of its ubiquitin ligase. Cell Res. 2013 Dec;23(12):1417-9.

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