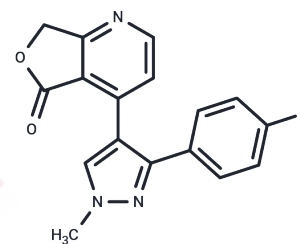


## CK1-IN-2

## Chemical Properties

CAS No. :	1383376-92-8
Formula:	C17H12FN3O2
Molecular Weight:	309.29
Storage:	Store at low temperature Powder: -20°C for 3 years   In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



## Biological Description

Description	CK1-IN-2 (compound Nr.4) is a potent CK1 inhibitor with IC <sub>50</sub> values of 123, 19.8, 26.8, and 74.3 nM for CK1a, CK1d, CK1e, and p38a, respectively, and is used in DUX4 overexpression-associated diseases, such as muscular dystrophy.
Targets(IC <sub>50</sub> )	Casein Kinase,p38 MAPK
In vitro	CK1-IN-2 (compound No. 4) is a potent inhibitor of casein kinase 1 (CK1), with IC <sub>50</sub> values of 123 nM (CK1α), 19.8 nM (CK1a), 26.8 nM (CK1d), and 74.3 nM (CK1e), indicating subtype selectivity[1]. CK1-IN-2 (0.02-10μM, 72h) promotes myotube formation in FSHD (facioscapulohumeral muscular dystrophy) cells, indicating its role in enhancing muscle cell fusion[1]. At 10μM (72h), CK1-IN-2 is also capable of reversing the inhibitory effect of Losmapimod on myotube formation[1].

## Solubility Information

Solubility	DMSO: 40 mg/mL (129.33 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (6.47 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	3.2332 mL	16.1661 mL	32.3321 mL
5 mM	0.6466 mL	3.2332 mL	6.4664 mL
10 mM	0.3233 mL	1.6166 mL	3.2332 mL
50 mM	0.0647 mL	0.3233 mL	0.6466 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Joris De Maeyer, et al. Casein kinase 1 inhibitors for use in the treatment of diseases related to dux4 expression such as muscular dystrophy and cancer. WO2020249717A1.

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