KN-92 hydrochloride

Cat. No.: HY-15517B

CAS No.: 1431698-47-3

Molecular Formula: $C_{24}H_{26}Cl_2N_2O_3S$

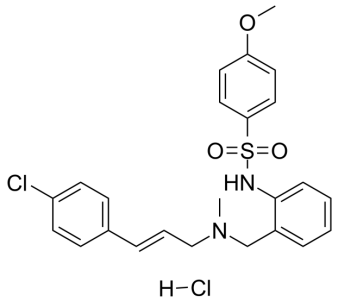
Molecular Weight: 493.45

Target: Others

Pathway: Others

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 50 mg/mL (101.33 mM)

H_2O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.0265 mL	10.1327 mL	20.2655 mL
5 mM	0.4053 mL	2.0265 mL	4.0531 mL
10 mM	0.2027 mL	1.0133 mL	2.0265 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.75 mg/mL (5.57 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.75 mg/mL (5.57 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.75 mg/mL (5.57 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

KN-92 hydrochloride is an inactive derivative of KN-93, without CaM kinase inhibitory activity. KN-92 hydrochloride is intended to be used as a control compound in studies designed to elucidate the antagonist activities of KN-93[1][2].

In Vitro

KN-93 (5-50μM; 24 hours) inhibits LX-2 cell growth and KN-92 (5-50μM; 24 hours) is ineffective in blocking cell growth[2].
The analysis of cell cycle regulator expression reveals that KN-93 rather than KN-92 reduced the expression of p53 and p21[2].

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

Cell Viability Assay[2]

Cell Line:	Human hepatic stellate cells (LX-2)
Concentration:	5-50 μM
Incubation Time:	24 hours
Result:	Ineffective in blocking cell growth.

CUSTOMER VALIDATION

- J Mol Cell Cardiol. 2021 Nov 10;S0022-2828(21)00210-8.
- Sci Rep. 2023 Dec 7;13(1):21712.
- Cell Calcium. 2021 Oct 5;100:102483.
- J Endocrinol. 2018 Mar;236(3):151-165.
- Nat Metab. 2020 Sep;2(9):918-933.

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REFERENCES

[1]. Smyth JT, et al. Inhibition of the inositol trisphosphate receptor of mouse eggs and A7r5 cells by KN-93 via a mechanism unrelated to Ca2+/calmodulin-dependent protein kinase II antagonism. J Biol Chem. 2002;277(38):35061-35070.

[2]. An P, et al. KN-93, a specific inhibitor of CaMKII inhibits human hepatic stellate cell proliferation in vitro. World J Gastroenterol. 2007;13(9):1445-1448.

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