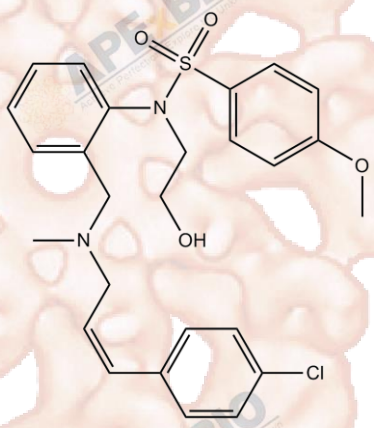
Product Data Sheet

KN-93

Cat. No.:	A3532
CAS No.:	139298-40-1
Formula:	C26H29ClN2O4S
M.Wt:	501.04
Synonyms:	KN 93;KN93
Target:	Others
Pathway:	CaM kinase II
Storage:	Store at -20°C



Solvent & Solubility

In Vitro

insoluble in H2O; ⩾19.15 mg/mL in DMSO; ⩾20.15 mg/mL in EtOH

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	1.9958 mL	9.9792 mL	19.9585 mL
5 mM	0.3992 mL	1.9958 mL	3.9917 mL
10 mM	0.1996 mL	0.9979 mL	1.9958 mL

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

Biological Activity

Shortsummary	CaMKII inhibitor,selective and cometitive
IC_{50} & Target	370 nM (Ki) (CaMKII)

In Vitro

Cell Viability Assay

Cell Line:	NIH 3T3 fibroblasts
Preparation method:	The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions:	~ 24 μM; 70 hrs

	Applications:	KN-93 inhibited serum-induced fibroblast cell growth with an IC50 value of 8 μM, and induced apoptosis after prolonged G1 arrest at the concentration of 24 μM.
In Vivo	**Animal experiment**	
	Animal models:	Parkinson's disease (PD) rats
	Dosage form:	1, 2 or 5 μg; intrastriatal administration; b.i.d., for 21 days
	Applications:	In PD rats, KN-93 (5 μg) ameliorated levodopa-induced dyskinesia through lowering the expression of pGluR1S845.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Zhang Y, Zhang L, et al. "YiQiFuMai Powder Injection Attenuates Coronary Artery Ligation-Induced Heart Failure Through Improving Mitochondrial Function via Regulating ROS Generation and CaMKII Signaling Pathways." Front Pharmacol. 2019 Apr 10;10:381.PMID:31031629

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References

[1]. Sumi M, Kiuchi K, Ishikawa T, Ishii A, Hagiwara M, Nagatsu T, Hidaka H. The newly synthesized selective Ca2+/calmodulin dependent protein kinase II inhibitor KN-93 reduces dopamine contents in PC12h cells. Biochem Biophys Res Commun. 1991 Dec 31;181(3):968-75.

[2]. Tombes RM, Grant S, Westin EH, Krystal G: G1 cell cycle arrest and apoptosis are induced in NIH 3T3 cells by KN-93, an inhibitor of CaMK-II (the multifunctional Ca2+/CaM kinase). Cell Growth Differ 1995, 6(9):1063-1070.

[3]. Yang X, Wu N, Song L, Liu Z. Intrastriatal injections of KN-93 ameliorates levodopa-induced dyskinesia in a rat model of Parkinson's disease. Neuropsychiatr Dis Treat. 2013;9:1213-20.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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