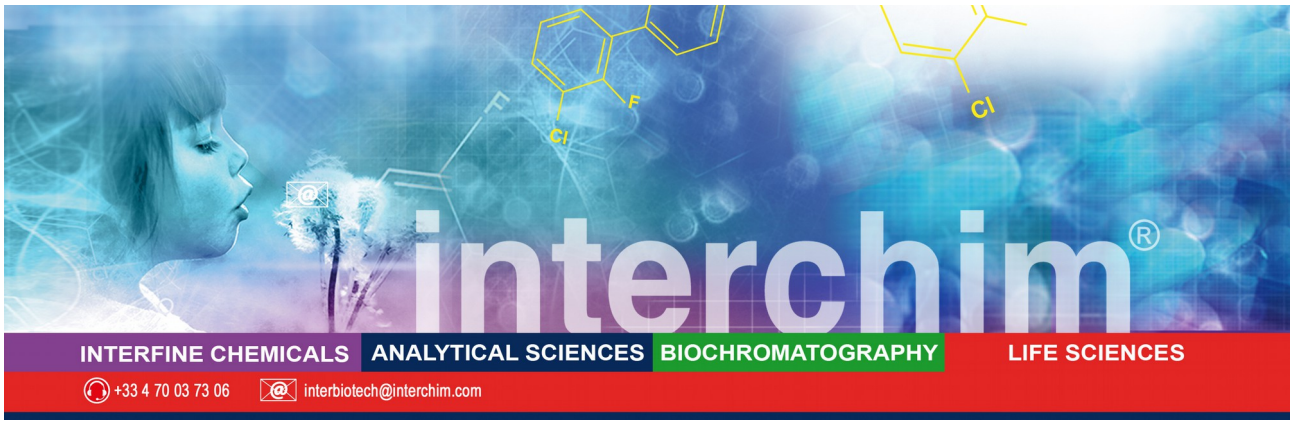
FT-LSB300



KN-93

Selective inhibitor of Ca^{2+}/calmodulin-dependent kinase II (CaMKII), competitively blocking CaM binding to the kinase (Ki = 370 nM).

Product Description

Catalog #: LSB300, 1mg LSB301, 5mg LSB302, 10mg

Name : **KN-93**

CAS [139298-40-1]

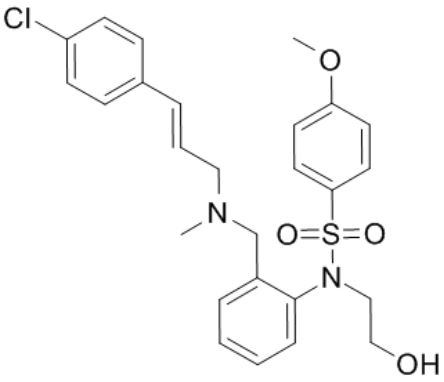
Properties : Structure: C26H29ClN2O4S

(physical) MW: 501.04 g/mol

Purity: >98%

Solubility : DMSO > 25 mg/ml Ethanol > 25 mg/ml

Storage : Store in a tightly closed container, in a cool and dry place



For Research Use Only

Introduction

KN-93 is a selective inhibitor of Ca2+/calmodulin-dependent kinase II (CaMKII), competitively blocking CaM binding to the kinase (Ki = 370 nM).

Technical and Scientific Information

Target: CaMKII

in vitro: KN-93 inhibits serum-induced fibroblast cell growth in a comparable dose-dependent fashion to its inhibition of CaMK-II activity. After 2 days of KN-93 treatment, 95% of cells are arrested in G1. G1 arrest is reversible; 1 day after KN-93 release, a peak of cells had progressed into S and G2-M. KN-92, a similar but inactive compound, had no effect on CaMK-II activity or cell growth [1]. In contrast effects of carbachol, histamine and forskolin were significantly inhibited by KN-93 with an IC50 of 0.15, 0.3 and 1 microM, respectively; these effects occurred without any changes in intracellular cyclic AMP and Ca2+ levels [2]. KN-93 inhibits expression of the anti-apoptotic protein Mcl-1 and induces expression of the pro-apoptotic protein PUMA; third, KN-93-mediated cell death is p53-independent; and fourth, KN-93 induces the generation of ROS [4].

in vivo: EADs were significantly suppressed by KN-93 (EADs present in 4/10 hearts) compared to KN-92 (EADs present in 10/11 hearts) (P =.024). There were no significant differences in parameters favoring EADs such as monophasic action potential duration or heart rate in KN-93- or KN-92-treated hearts. CaM kinase activity in situ increased 37% in hearts with EADs compared to hearts without EADs (P =.015) [3].

Utilisation

• KN-93 should be dissolved in ethanol first and then diluted with the aqueous buffer of choice, for maximum solubility in aqueous buffers.

FT-LSB300
• Approximately 0.25 mg/ml of KN-93 can be solubilized in a 1:2 solution of ethanol:PBS (pH 7.2) using this method.
• it is not recommended to store aqueous solution more than one day.
• KN-93 is sparingly soluble in aqueous buffers.

References

[1]. Tombes RM, et al. 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 Sep;6(9):1063-70.
[2]. Mamiya N, et al. Inhibition of acid secretion in gastric parietal cells by the Ca2+/calmodulin-dependent protein kinase II inhibitorKN-93. Biochem Biophys Res Commun. 1993 Sep 15;195(2):608-15.
[3]. Anderson ME, et al. KN-93, an inhibitor of multifunctional Ca++/calmodulin-dependent protein kinase, decreases early afterdepolarizations in rabbit heart. J Pharmacol Exp Ther. 1998 Dec;287(3):996-1006.
[4]. Rokhlin OW, et al. KN-93 inhibits androgen receptor activity and induces cell death irrespective of p53 and Akt status in prostate cancer. Cancer Biol Ther. 2010 Feb;9(3):224-35.

Related products

- KN-93 hydrochloride, SSW90A
- Chetomin, EZP470
- KN-62, 66742D

Ordering information

Catalog size quantities and prices may be found at http://www.interchim.com.
Please inquire for higher quantities (availability, shipment conditions).

Please contact InterBioTech – Interchim for any other information
Hotline : +33(0)4 70 03 73 06 – Interbiotech@interchim.com

LIFE SCIENCES
interchim 211 bis, avenue JF Kennedy BP 1140 - 03100 Montluçon Fax +33 4 70 03 82 60 Hotline +33 4 70 03 73 06 • interbiotech@interchim.com