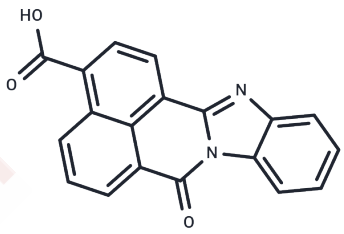
Data Sheet (Cat.No.T3546)

TargetMol

STO-609

Chemical Properties



CAS No. : 52029-86-4

Formula: C19H10N2O3

Molecular Weight: 314.29

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	STO-609 is a specific and cell-permeable inhibitor of the Ca2+/calmodulin-dependent protein kinase kinase (CaM-KK) for recombinant CaM-KKα/KKβ (Ki: 80/15 ng/mL).
Targets(IC50)	CaMK,AMPK,Autophagy
In vitro	STO-609 also inhibits their autophosphorylation activities. STO-609 is highly selective for CaM-KK without any significant effect on the downstream CaM kinases (CaM-KI and -IV), and the IC50 value of the compound against CaM-KII is 10 μg/mL. STO-609 inhibits constitutively active CaM-KKα as well as the wild-type enzyme. In transfected HeLa cells, STO-609 dose-dependently suppresses the Ca2+-induced activation of CaM-KIV. STO-609 (1μg/mL) significantly reduces the endogenous activity of CaM-KK in SH-SY5Y neuroblastoma cells (80%).

Solubility Information

Solubility	DMSO: 4.17 mg/mL (13.26 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1818 mL	15.9089 mL	31.8177 mL
5 mM	0.6364 mL	3.1818 mL	6.3635 mL
10 mM	0.3182 mL	1.5909 mL	3.1818 mL
50 mM	0.0636 mL	0.3182 mL	0.6364 mL

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.

Reference

Tokumitsu H,rt al. STO-609, a specific inhibitor of the Ca(2+)/calmodulin-dependent protein kinase kinase. J Biol Chem. 2002 May 3;277(18):15813-8. Epub 2002 Feb 26.

Kan J, Zhao C, Lu S, et al. S100A16, a novel lipogenesis promoting factor in livers of mice and hepatocytes in vitro. Journal of Cellular Physiology. 2019 May 8

Kukimoto-Niino M,et al. Crystal structure of the Ca^{2+}/calmodulin-dependent protein kinase kinase in complex with the inhibitor STO-609. J Biol Chem. 2011 Jun 24;286(25):22570-9.

Xu J, Xu X, Ling Y, et al.Vincamine as an agonist of G-protein-coupled receptor 40 effectively ameliorates diabetic peripheral neuropathy in mice.Acta Pharmacologica Sinica.2023: 1-16.

Kan J, Zhao C, Lu S, et al. S100A16, a novel lipogenesis promoting factor in livers of mice and hepatocytes in vitro [J]. Journal of cellular physiology. 2019 May 8.