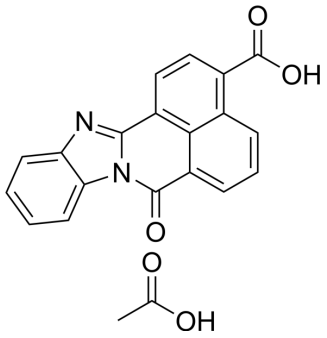
STO-609 acetate

Cat. No.:	HY-19805A
CAS No.:	1173022-21-3
Molecular Formula:	$C_{21}H_{14}N_2O_5$
Molecular Weight:	374.35
Target:	CaMK; AMPK; Autophagy
Pathway:	Neuronal Signaling; Epigenetics; PI3K/Akt/mTOR; Autophagy
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	STO-609 acetate is a selective and cell-permeable inhibitor of the Ca^{2+}/calmodulin-dependent protein kinase kinase (CaM-KK), with K_i values of 80 and 15 ng/mL for recombinant CaM-KKα and CaM-KKβ, respectively. STO-609 acetate inhibits AMP-activated protein kinase kinase (AMPKK) activity in HeLa cell lysates with an IC_{50} ~0.02 g/ml.
In Vitro	STO-609 inhibits the activities of recombinant CaM-KKα and CaM-KKβ isoforms, with K_i values of 80 and 15 ng/mL, respectively, and 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 IC_{50} 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 suppresses the Ca^{2+}-induced activation of CaM-KIV in a dose-dependent manner. STO-609 significantly reduces the endogenous activity of CaM-KK in SH-SY5Y neuroblastoma cells at a concentration of 1μg/mL (80% inhibitory rate)[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Metab. 2022 Sep 1.
- EBioMedicine. 2019 Jun.
- Cell Rep. 2022 Nov 22;41(8):111707.
- Cell Prolif. 2021 Jan;54(1):e12919.
- Front Immunol. 2019 Nov 14;10:2650.

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REFERENCES

[1]. Tokumitsu H, et 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.

[2]. 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.

Caution: Product has not been fully validated for medical applications. For research use only.

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