

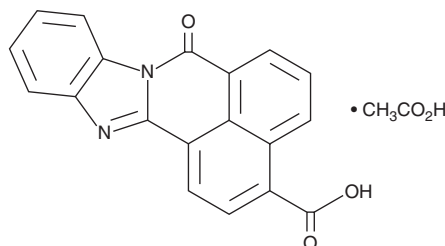
PRODUCT INFORMATION



STO-609 (acetate)

Item No. 15325

CAS Registry No.: 1173022-21-3
Formal Name: 7-oxo-7H-benzimidazo[2,1-a]benz[de]isoquinoline-3-carboxylic acid, monoacetate
MF: C₁₉H₁₀N₂O₃ • C₂H₄O₂
FW: 374.4
Purity: ≥98%
UV/Vis.: λ_{max}: 220, 287, 298, 389 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

STO-609 (acetate) is supplied as a crystalline solid. A stock solution may be made by dissolving the STO-609 (acetate) in the solvent of choice, which should be purged with an inert gas. STO-609 (acetate) is soluble in the organic solvent DMSO at a concentration of approximately 1 mg/ml. It is also soluble at 10 mg/ml in 100 mM NaOH.

Description

STO-609 is a calcium/calmodulin-dependent protein kinase kinase (CaMKK) inhibitor (IC₅₀s = 120 and 40 ng/ml for CaMKKα and CaMKKβ, respectively).¹ It is selective for CaMKKs over CaMKI, CaMKII, CaMKIV, MLCK, PKC, PKA, and p42 MAPK (IC₅₀s = ≥ 10,000 ng/ml for all). STO-609 inhibits phosphorylation of CaMKI and AMP-activated protein kinase (AMPK) in chicken sperm in the presence of extracellular calcium, as well as reduces chicken sperm motility, in a concentration-dependent manner.² It decreases hypothalamic neuropeptide Y (*Npy*) and agouti-related protein (*Agrp*) expression and cumulative food intake in mice when administered intracerebroventricularly as a 20 μM solution at a continuous rate of 0.5 μL/hour.³ STO-609 (3 μg/animal, i.c.v.) increases cortical, striatal, and total infarct volume in a mouse model of focal transient cerebral ischemia induced by middle cerebral artery occlusion (MCAO).⁴

References

1. Tokumitsu, H., Inuzuka, H., Ishikawa, Y., *et al.* STO-609, a specific inhibitor of Ca²⁺/calmodulin-dependent protein kinase kinase. *J. Biol. Chem.* **278**(13), 10908-10913 (2013).
2. Nguyen, T.M.D., Combarrous, Y., Praud, C., *et al.* Ca²⁺/calmodulin-dependent protein kinase kinases (CaMKKs) effects on AMP-activated protein kinase (AMPK) regulation of chicken sperm functions. *PLoS One* **11**(1), e0147559 (2016).
3. Anderson, K.A., Ribar, T.J., Lin, F., *et al.* Hypothalamic CaMKK2 contributes to the regulation of energy balance. *Cell Metab.* **7**(5), 377-388 (2008).
4. McCullough, L.D., Tarabishy, S., Liu, L., *et al.* Inhibition of calcium/calmodulin-dependent protein kinase β and calcium/calmodulin-dependent protein kinase IV is detrimental in cerebral ischemia. *Stroke* **44**(9), 2559-2566 (2013).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM