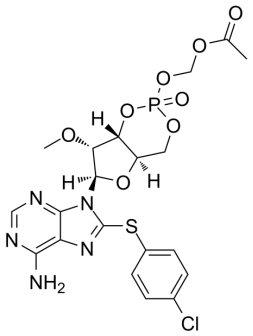
8-pCPT-2'-O-Me-cAMP-AM

Cat. No.:	HY-107544
CAS No.:	1152197-23-3
Molecular Formula:	$C_{20}H_{21}ClN_5O_8PS$
Molecular Weight:	557.9
Target:	PKA
Pathway:	Stem Cell/Wnt
Storage:	Pure form -20°C 3 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description

8-pCPT-2'-O-Me-cAMP-AM is a cyclic AMP analogue, selectively activates Epac-Rap signaling pathway. 8-pCPT-2'-O-Me-cAMP-AM protects renal function by activating Epac from ischemia injury. 8-pCPT-2'-O-Me-cAMP-AM also stimulates insulin secretion by interaction with PKA pathway[1][2].

In Vitro

8-pCPT-2'-O-Me-cAMP-AM (2.5 μM; 30 min) activates Epac and prevents adherens junction disassembly during hypoxia (60 min)[1].

8-pCPT-2'-O-Me-cAMP-AM can cross the plasma membrane and is able to alter diverse cellular functions that include Rap1 GTPase activity, PKB, and ERK1/2 protein kinase activity, phospholipase C activity, Ca^{2+} signaling, ion channel activity, exocytosis, cell adhesion, and gene expression[2].

8-pCPT-2'-O-Me-cAMP-AM stimulates insulin secretion with dose-dependent and glucose metabolism-dependent (0.1 or 1.11 mM) actions[2].

8-pCPT-2'-O-Me-cAMP-AM (20 μM) activates the cAMP reporter Epac1-camps, while 8-pCPT-2'-O-Me-cAMP doesn't in INS-1 cells[2].

8-pCPT-2'-O-Me-cAMP-AM (0.3-3.0 μM; 0-300 sec) activates Epac1-camps in a dose- and time-dependent manner in high throughput assay[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

8-pCPT-2'-O-Me-cAMP-AM (intrarenal injection;) activates renal Rap1 and likely is caused by activation of Epac in the tubular epithelium[1].

8-pCPT-2'-O-Me-cAMP-AM preserves renal function by Epac activation and reduces tubular epithelial-cell stress during ischemia[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	IR injuried mouse model[1]
Dosage:	1.45 mM
Administration:	Intrarenal injection; mice were sacrificed at 24, 48, or 72 hours after ischemia
Result:	Protected renal injury during ischemia.

REFERENCES

[1]. Stokman G, et al. Epac-Rap signaling reduces cellular stress and ischemia-induced kidney failure. J Am Soc Nephrol. 2011 May;22(5):859-72.

[2]. Chepurny OG, et al. Enhanced Rap1 activation and insulin secretagogue properties of an acetoxymethyl ester of an Epac-selective cyclic AMP analog in rat INS-1 cells: studies with 8-pCPT-2'-O-Me-cAMP-AM. J Biol Chem. 2009 Apr 17;284(16):10728-36.

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