Product Data Sheet

Product Name: Rp-8-pCPT-Cyclic GMPS (sodium salt)
Cat. No.: GC10706

Chemical Properties

Cas. No.	208445-07-2		
Chemical Name	8-[(4-chlorophenyl)thio]-cyclic 3',5'-[hydrogen [P(R)]-phosphorothioate] guanosine, monosodium salt		
SMILES	O[C@H]1[C@H](N2C(SC3=CC=C(Cl)C=C3)=NC4=C2N=C(N)NC4=O)O[C@H]5[C@H]1O[P@@](OC5)([S-])=O.[Na+]		
Formula	$C_{16}H_{14}ClN_5O_6PS_2 \cdot Na$	M.Wt	525.9
Solubility	Soluble in Water	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Background

IC50: 18.3 and 0.16 μM for cGK Iα and cGK II, respectively.

Rp-8-pCPT-Cyclic GMPS is a GMP-dependent protein kinases (cGKs) inhibitor.

Appreciation of cGMP as a distinct intracellular second messenger is reported to be closely followed by an intensive search for effector proteins in various organisms. A cGMP-dependent protein kinase (cGK) has been found in arthropods resulting in the eventual isolation of cGK from mammalian tissues.

In vitro: Previous study found that Rp-8-pCPT-Cyclic GMPS could selectively inhibit cGK activity in intact human platelets. The IC50 value of Rp-8-pCPT-Cyclic GMPS for cGK II was 114-fold lower than that for cGK Iα in the presence of 1 mM cGMP. In the presence of 10 mM cGMP, the IC50 values of Rp-8-pCPT-Cyclic GMPS for cGK Iα and cGK II increased

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3- and 11-fold, respectively. In addition, millimolar concentrations of Rp-8-pCPT-Cyclic GMPS could fully activate both enzymes, a phenomenon that was observed previously for cGK II. Because substitutions at the 8-position of the guanine ring are poorly tolerated by cGK Ib, these results suggested that the Rp-isomer of 8-pCPT-cGMPS might be a selective activator or inhibitor, respectively, of cGK II compared to the cGK I isoforms [1].

In vivo: Up to now, there is no animal in vivo study reported.

Clinical trial: So far, no clinical study has been conducted.

Reference:
[1] Gamm, D. M.,Francis, S.H.,Angelotti, T.P., et al. The type II isoform of cGMP-dependent protein kinase is dimeric and possesses regulatory and catalytic properties distinct from the type I isoforms. The Journal of Biological Chemisty 270(45), 27380-27388 (1995).

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