Certificate of Analysis

Product Name: **Rp-8-pCPT-cGMPS sodium** **Catalog No.: 5524** **Batch No.: 1**

CAS Number: 208445-07-2

IUPAC Name: 8-[(4-Chlorophenyl)thio]-guanosine-cyclic 3',5'-[hydrogen [*P*(*R*)]-phosphorothioate] sodium

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{16}H_{14}ClN_5NaO_6PS_2$

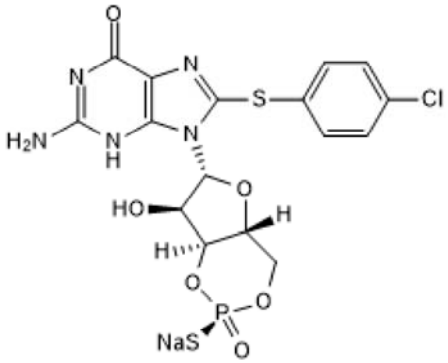
Batch Molecular Weight: 525.86

Physical Appearance: White lyophilised solid

Solubility: water to 100 mM
DMSO to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.9% purity

Mass Spectrum: Consistent with structure

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IUPAC Name: 8-[(4-Chlorophenyl)thio]-guanosine-cyclic 3',5'-[hydrogen [*P*(*R*)]-phosphorothioate] sodium

Description:

Rp-8-pCPT-cGMPS sodium is a PKG inhibitor (K_i values are 0.45, 0.5 and 0.7 µM for PKGIβ, PKGIα and PKGII respectively). Exhibits selectivity for PKG over PKA and Epac-1. Reduces LTP in hippocampal slices in vitro.

Physical and Chemical Properties:

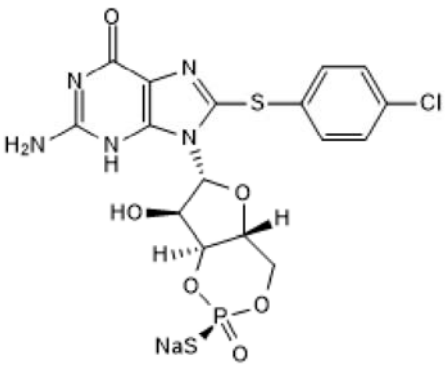
Batch Molecular Formula: $C_{16}H_{14}ClN_5NaO_6PS_2$

Batch Molecular Weight: 525.86

Physical Appearance: White lyophilised solid

Minimum Purity: ≥99%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

water to 100 mM
DMSO to 100 mM

This product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Kim *et al* (2015) Network compensation of cyclic GMP-dependent protein kinase II knockout in the hippocampus by Ca^{2+}-permeable AMPA receptors. Proc.Natl.Acad.Sci.U.S.A. ***112*** 3122. PMID: 25713349.

Poppe *et al* (2008) Cyclic nucleotide analogs as probes of signaling pathways. Nat.Methods ***5*** 277. PMID: 18376388.

Gamm *et al* (1995) The type II isoform of cGMP-dependent protein kinase is dimeric and possesses regulatory and catalytic properties distinct from the type I isoforms. J.Biol.Chem. ***270*** 27380. PMID: 7593002.