# 8-CPT-Cyclic AMP sodium

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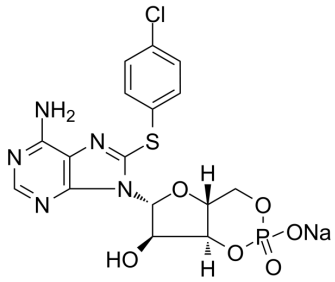
|---|---|
| **Cat. No.:** | HY-111673 |
| **CAS No.:** | 93882-12-3 |
| **Molecular Formula:** | $C_{16}H_{14}ClN_5NaO_6PS$ |
| **Molecular Weight:** | 493.79 |
| **Target:** | Phosphodiesterase (PDE); PKA |
| **Pathway:** | Metabolic Enzyme/Protease; Stem Cell/Wnt |
| **Storage:** | -20°C, sealed storage, away from moisture<br>* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture) |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 62.5 mg/mL (126.57 mM; Need ultrasonic)
$H_2O$ : 50 mg/mL (101.26 mM; Need ultrasonic)

**Preparing Stock Solutions**

| Concentration \ Solvent \ Mass | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| **1 mM** | 2.0252 mL | 10.1258 mL | 20.2515 mL |
| **5 mM** | 0.4050 mL | 2.0252 mL | 4.0503 mL |
| **10 mM** | 0.2025 mL | 1.0126 mL | 2.0252 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.21 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.21 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.21 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

8-CPT-Cyclic AMP (8-CPT-cAMP) sodium is a selective activator of cyclic AMP-dependent protein kinase (PKA). 8-CPT-Cyclic AMP sodium is also a potent inhibitor of the cyclic GMP-specific phosphodiesterase (PDE VA) with an $IC_{50}$ of 0.9 μM. 8-CPT-Cyclic AMP sodium also inhibits PDE III and PDE IV with $IC_{50}$Epac and is a potent Epac activator[1][2].

**In Vitro**

a-Fas and TNF-α/CHX induces neutrophil death rapidly (within 2 h) to at least 90%. The commonly used cAMP analog 8-pCPT-cAMP (0.7 mM) delays TNF- /CHX-induced and a-Fas-induced apoptosis. It is more efficient against apoptosis induced by TNF- /CHX than against a-Fas[2].

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

## REFERENCES

[1]. Connolly BJ, et al. 8-(4-Chlorophenyl)thio-cyclic AMP is a potent inhibitor of the cyclic GMP-specific phosphodiesterase (PDE VA). Biochem Pharmacol. 1992;44(12):2303-2306.

[2]. Krakstad C, et al. cAMP protects neutrophils against TNF-alpha-induced apoptosis by activation of cAMP-dependent protein kinase, independently of exchange protein directly activated by cAMP (Epac). J Leukoc Biol. 2004;76(3):641-647.



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