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ProductInformation

8-(4-Chlorophenylthio)adenosine 3',5'-cyclic monophosphate sodium salt

Product Number **C 3912**
Storage Temperature -0 °C

Product Description

Synonym: 8-CPT
Molecular Formula: $C_{16}H_{14}ClN_5NaO_6PS$
Molecular Weight: 493.8
λ_{max}: 281nm
Extinction Coefficient: E^{mM} = 15.9 (281 nm in 0.1 M HCl)

This product is one of many analogs for 8-substituted cGMP, cIMP, and cAMP. The 8-substituted cAMP derivatives were specific activators for bovine brain cAMP-dependent protein kinase. The product is more potent than cAMP and more resistant to phosphodiesterases with good selectivity for site B of protein kinase A.[1]

8-CPT has numerous effects on cells: cAMP analogs promote survival and neurite outgrowth in cultures of rat sympathetic and sensory neurons independently of nerve growth factor;[2] 8-CPT demonstrated cAMP's ability to differentiate PC12 cells - cells were exposed to 175 mM 8-CPT;[3] In studies on the effect of dopamine to modulate voltage-dependent calcium currents in turtle retinal ganglion cells, 8-CPT mimicked the effect of dopamine.[4] 8-CPT has also been used to compare the two classes of binding sites (A and B) of type I and type II cyclic-AMP-dependent protein kinases by using cyclic nucleotide analogs.[5]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is typically dissolved at 25 mg/ml in water to yield a clear, colorless solution.

Storage/Stability

Solutions in deionized water at room temperature degrade at a rate of approximately 1% per day. It is best to keep aliquoted solutions frozen at -20 °C. The best pH range for stable solutions is pH 5-7. Frozen solutions should be stable for many months. Solutions should not be kept at 0-5 °C for more than a few days.

References

1. Miller, J. P., et al, Biochem., **12**, 5310-5319 (1973).
2. Proc. Natl. Acad. Sci. USA, **85**, 1257 (1988).
3. Vossler, M. R., et al., cAMP activates MAP kinase and Elk-1 through a B-Raf- and Rap1-dependent pathway. Cell, **89(1)**, 73-82 (1997).
4. Lasater, E. M., and Liu, Y., J. Neurophysiology, **71**, 743-752 (1994).
5. Ogreid, D., et al., Comparison of the two classes of binding sites (A and B) of type I and type II cyclic-AMP-dependent protein kinases by using cyclic nucleotide analogs. Eur. J. Biochem., **181**, 19-31 (1989).

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