

PRODUCT INFORMATION

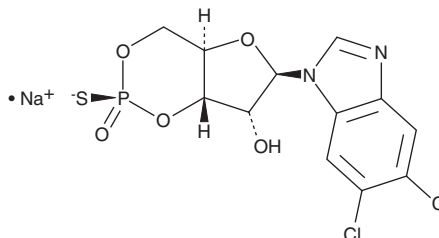


Sp-5,6-dichloro-cBIMPS (sodium salt)

Item No. 18822

CAS Registry No.: 142439-96-1
Formal Name: 5,6-dichloro-1-[3,5-O-[(S)-mercaptophosphinylidene]-β-D-ribofuranosyl]-1H-benzimidazole, monosodium salt

Synonym: Sp-5,6-DCl-cBIMPS
MF: C₁₂H₁₀Cl₂N₂O₅PS • Na
FW: 419.1
Purity: ≥99%
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 254 nm
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Sp-5,6-dichloro-cBIMPS (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the Sp-5,6-dichloro-cBIMPS (sodium salt) in the solvent of choice. Sp-5,6-dichloro-cBIMPS (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of Sp-5,6-dichloro-cBIMPS (sodium salt) in these solvents is approximately 167 mM.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of Sp-5,6-dichloro-cBIMPS (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of Sp-5,6-dichloro-cBIMPS (sodium salt) in PBS, pH 7.4, is approximately 1.4 mM. We do not recommend storing the aqueous solution for more than one day.

Description

Sp-5,6-dichloro-cBIMPS is a benzimidazole monophosphorothioate that acts as a potent activator of protein kinase A (PKA; K_i = 30 nM).¹ It is selective for PKA over PKG (K_i = 10 μM).¹ Sp-5,6-dichloro-cBIMPS is also resistant to degradation by cyclic nucleotide phosphodiesterases.^{1,2} It displays good cell permeability and prevents the aggregation of platelets stimulated with thrombin (Item No. 13188).¹

References

1. Sandberg, M., Butt, E., Nolte, C., *et al.* Characterization of Sp-5,6-dichloro-1-β-D-ribofuranosyl benzimidazole-3',5'-monophosphorothioate (Sp-5,6-DCl-cBiMPS) as a potent and specific activator of cyclic-AMP-dependent protein kinase in cell extracts and intact cells. *Biochem. J.* **279**, 521-527 (1991).
2. Jäger, R., Russwurm, C., Schwede, F., *et al.* Activation of PDE10 and PDE11 phosphodiesterases. *J. Biol. Chem.* **287**(2), 1210-1219 (2012).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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