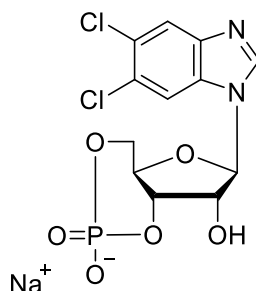


Technical Information about 5,6-DCI-cBIMP

Potent membrane permeant activator of cAMP-dependent protein kinases

Update: July 03, 2018 HU



Abbreviation: **5,6-DCI-cBiMP**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₂ H ₁₀ Cl ₂ N ₂ O ₆ P·Na	[129693-10-3]	403.1	λ _{max} 254 nm / ε 6400 / pH7	D 011

Name: 5, 6- Dichloro-1- β- D- ribofuranosylbenzimidazole- 3', 5'- cyclic monophosphate (5,6-DCI-cBIMP)

Description: 5,6-DCI-cBIMP is an analogue of the parent second messenger cyclic AMP in which the adenine moiety is replaced by a highly lipophilic modified benzimidazole ring system.

Properties:

- Potent activator of cAMP-dependent protein kinases
- Very high lipophilicity and excellent membrane permeability, useful for intact cells while still soluble in aqueous solvents
- Site selective activator of the cAK isozymes with strong preference for cAK type II
- Suitable partner for synergistic activation of cAK II by pairs of cAMP analogs (please ask for respective information)
- Excellent selectivity for cAK vs. CGK
- Effectively metabolized by phosphodiesterases resulting in pulse-type activation. For a PDE-stable version use Sp- 5,6-DCI- cBIMPS (D 014).

Specification: Crystallized or lyophilized sodium salt. Please keep in mind that equal amounts of the compounds may look different in volume depending on humidity. Micromolar quantities are determined by UV at 254 nm. Other salt forms of 5,6-DCI-cBIMP are available upon request. BIOLOG also offers the corresponding sulfur-modified, PDE-stable analogs Sp-5,6-DCI-cBIMPS (Cat. No. D 014) and its corresponding Rp- isomer (Rp-5,6-DCI-cBIMPS, Cat. No. D 013).

Purity: Typical analysis is better than 98% (HPLC /UV/254 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: Due to its high lipophilicity the solubility of 5,6-DCI-cBIMP in water or buffer is limited. However, a 1 mM (10⁻³ M) stock solution can be obtained without difficulties. The compound has also good solubility in DMSO and ethanol. When opening the tube make sure that no substance is lost within the cap. Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing.

Stability and Storage: 5,6-DCI-cBIMP has sufficient stability at room temperature and does not need special care during handling or shipment. Nevertheless, we recommend that the compound should be stored in the freezer, for longer storage periods preferably in freeze-dried form.

Toxicity and Safety: Since cyclic AMP has multiple tasks in every organism it is very likely that lipophilic cAMP analogs will interfere with many cell regulation processes in vivo. However, due to the rather small quantities to work with no health hazards have been reported. Nevertheless please keep in mind that the in vivo properties of this compounds are not sufficiently characterized up to now. Avoid skin contact or ingestion and allow only trained personnel to handle the product. Our products are designed, developed and sold

for research purposes only. They are intended for *in vitro* and nonhuman *in vivo* laboratory applications. Any other use requires approval of health authorities.

Not for drug, household or related uses!

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