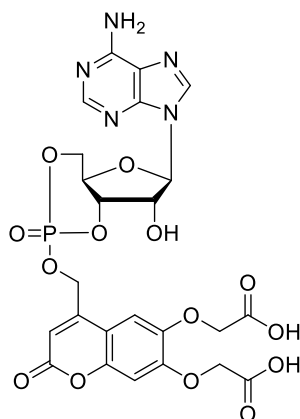


## Technical Information about BCMCM-caged cAMP

Update: July 03, 2018 HU



**Abbreviation:** BCMCM-caged cAMP

| Formula   | CAS No.       | Molecular Weight | UV                                       | BIOLOG Cat. No. |
|---|---------------|------------------|--|-----------------|
| C <sub>24</sub> H <sub>22</sub> N <sub>5</sub> O <sub>14</sub> P x 2.5 H <sub>2</sub> O | [339291-51-9] | 680.5            | λ <sub>max</sub> 347 nm / ε 12400 / pH 7 | B 016           |

**Name:** [6, 7- Bis(carboxymethoxy)coumarin- 4- yl]methyladenosine- 3', 5'- cyclic monophosphate, equatorial isomer

**Description:** BCMCM-caged cAMP is a weakly fluorescent, photo-activatable, caged form of the second messenger and protein kinase A activator cyclic AMP (cAMP). Due to the chiral phosphorus atom, two different isomers (axial and equatorial) can be distinguished.

**Specification:** Lyophilized or crystallized solid. For the corresponding axial isomer or the isomeric mixture please inquire.

**Properties:** BCMCM-caged cAMP releases cAMP and a fluorescent coumarin analogue upon illumination with light pulses of 330 - 370 nm (Osram high pressure lamp or argon-ion laser).

**Purity:** Typical purity is better than 98% (HPLC) at time of quality control and packing. However, actual purity depends on storage and transport conditions. The product is not sterile and has not been tested for endotoxins.

**Solubility:** BCMCM-caged cAMP is readily soluble in water or buffers. Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing. When opening the tube make sure that no substance is lost within the cap.

**Stability and Storage:** BCMCM-caged cAMP is relatively stable when stored in the dark (freezer). Long term stability experience remains to be established.

**Toxicity and Safety:** Since cyclic AMP has important tasks in every organism, it is not unlikely that lipophilic analogues could 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 compound 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!**

### Selected References for BCMCM-caged cAMP and Related Compounds:

Hagen, V.; Benndorf, K.; Kaupp, U.B. (2005): "Photochemical Release of Second Messengers - Caged Cyclic Nucleotides". - in: Goeldner, M.; Givens, R. (ed.): "Dynamic Studies in Biology - Phototriggered, Photoswitches and Caged Biomolecules", Wiley-VCH, Weinheim: 155 - 178

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Hagen, V.; Frings, S.; Bendig, J.; Lorenz, D.; Wiesner, B.; Kaupp, U.B., *Angew. Chem. Int. Edit.*, **41**, 3625 - 3628 (2002):  
"Fluorescence Spectroscopic Quantification of the Release of Cyclic Nucleotides from Photocleavable  
[Bis(carboxymethoxy)coumarin-4-yl]methyl Esters inside Cells"

Hagen, V.; Bendig, J.; Frings, S.; Eckardt, T.; Helm, S.; Reuter, D.; Kaupp, U.B., *Angew. Chem. Int. Ed.*, **40**, 1045 - 1048 (2001):  
"Highly Efficient and Ultrafast Phototriggers for cAMP and cGMP by Using Long-Wavelength UV/Vis-Activation"

Hagen, V.; Bendig, J.; Frings, B.; Wiesner, B.; Schade, B.; Helm, S.; Lorenz, D.; Kaupp, U.B., *J. Photochem. Photobiol. B-Biol.*,  
**53**, 91 - 102 (1999): "Synthesis, Photochemistry and Application of (7-Methoxycoumarin-4-yl)methyl-Caged 8-Bromoadenosine  
Cyclic 3', 5'-Monophosphate and 8-Bromoguanosine Cyclic 3', 5'-Monophosphate Photolyzed in the Nanosecond Time Region"