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Technical Information about BCMCM-caged 8-Br-cAMP

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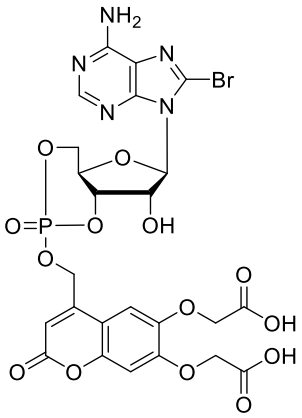

Abbreviation: **BCMCM-caged 8-Br-cAMP**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
$C_{24}H_{21}BrN_5O_{14}P$ x 2.5 H_2O	[370091-64-8]	759.4	λ_{max} 346 nm / ε 10300 / pH 7	B 018

Name: [6, 7- Bis(carboxymethoxy)coumarin- 4- yl]methyl- 8- bromoadenosine- 3', 5'- cyclic monophosphate, equatorial isomer

Description: BCMCM-caged 8-Br-cAMP is a weakly fluorescent, photo-activatable, caged form of the protein kinase A activator 8-bromo cyclic AMP (8-Br-cAMP, BIOLOG Cat. No. B 007). 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 8-Br-cAMP releases 8-Br-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 8-Br-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 8-Br-cAMP and Related Compounds:

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

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Kaupp, U.B.; Seifert, R., *Physiol. Rev*., **82**, 769 - 824 (2002): "Cyclic Nucleotide-Gated Ion Channels"

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"

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