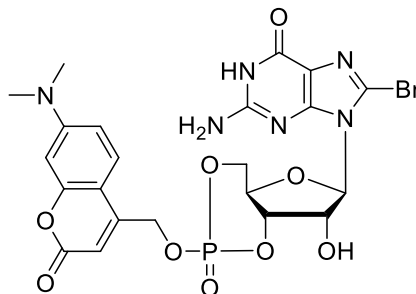


Technical Information about DMACM-caged 8-Br-cGMP

Update: May 23, 2019 HJ



Abbreviation: **DMACM-caged 8-Br-cGMP**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₂₂ H ₂₂ BrN ₆ O ₉ P x 0.5 H ₂ O	[pending]	634.3	λ _{max} 398 nm / ε 16000 / pH 7	D 045

Name: (7- Dimethylaminocoumarin- 4- yl)methyl- 8- bromoguanosine- 3', 5'- cyclic monophosphate, axial isomer

Description: DMACM-caged 8-Br-cGMP is a weakly fluorescent, photo-activatable, caged form of the protein kinase G activator 8-bromo cyclic GMP (8-Br-cGMP, BIOLOG Cat. No. B 004). Due to the chiral phosphorus atom, two different isomers (axial and equatorial) can be distinguished.

Specification: Lyophilized or crystallized solid. The corresponding equatorial isomer can be offered as well.

Properties: Releases 8-Br-cGMP and a fluorescent coumarin analogue upon illumination with light pulses of 360 - 440 nm (Osram high pressure lamp).

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: DMACM-caged 8-Br-cGMP is soluble in acetonitrile/HEPES-KCl buffer (5:95), pH 7.2. A concentration of at least 20 μM can be achieved (Hagen et al. 2003).

Stability and Storage: DMACM-caged 8-Br-cGMP is relatively stable when stored in the dark (freezer). Long term stability experience remains to be established.

Toxicity and Safety: Since cyclic GMP 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!

Reference for DMACM-caged 8-Br-cGMP:

Hagen, V.; Frings, S.; Wiesner, B.; Helm, S.; Kaupp, U.B.; Bendig, J., *ChemBioChem.*, **4**, 434 - 442 (2003): "[7-(Dialkylamino)coumarin-4-yl]methyl-caged Compounds as Ultrafast and Effective Long-Wavelength Phototriggers of 8-Bromo-Substituted Cyclic Nucleotides"

Selected References for Similar Compounds:

Hagen, V.; Bendig, J.; Frings, S.; Eckardt, T.; Helm, S.; Reuter, D.; Kaupp, U.B., *Angew. Chem. Int. Ed.*, **40**, 1046 - 1048 (2001): "Highly Efficient and Ultrafast Phototrigger 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"