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Product Information

8-Bromoguanosine 3',5'-cyclic monophosphate sodium salt monohydrate

Product Number **B 1381**

Storage Temperature -0°C

Product Description

Molecular Formula: $\text{C}_{10}\text{H}_{10}\text{BrN}_5\text{NaO}_7\text{P}$

Molecular Weight: 446.1

CAS Number: 51116-01-9

λ_{max} : 263 nm¹

Extinction Coefficient: $E^{\text{mM}} = 15.6$ (0.1 M HCl)

This product is a membrane-permeable derivative of cGMP (Product Numbers G 7504 and G 6129), which activates Protein Kinase G. This cell-permeable property has been used to researchers' advantage in numerous studies.^{2,3,4}

At a concentration of 2 mM, a near-total inhibition of arachidonic acid release from γ thrombin stimulated human platelets was observed. The product also produces a dose-dependent inhibition of aggregation by the agonist γ thrombin (4 nM); at 3 mM of this product, platelet aggregation is totally inhibited.⁵

The nonhydrolyzable analog to 8-bromo-cGMP was used in the studies to determine that cyclic GMP causes calcium desensitization in vascular smooth muscle by activating the myosin light chain kinase.⁶ It has also been reported to stimulate phagocytic release of neutral protease from human neutrophils by cholinergic amines and cyclic 3' 5' -guanosine monophosphate.⁷

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is typically dissolved at 100 mg/ml in water to yield a clear, colorless to faint yellow solution.

References

1. J. Am. Chem. Soc., **86**, 1244, (1964).
2. Perreault, T., and De Marte, J., Maturation Changes in Endothelium-derived Relaxations in Newborn Piglet Pulmonary Circulation. Amer. J. Physiol., **264(2 pt. 2)**, H302-309 (1993).
3. Ruth, P., et al., The Activation of Expressed cGMP-dependent Protein Kinase Isozymes I alpha and I beta is Determined by the Different Amino-termini. Eur. J. Biochem., **202(3)**, 1334-1344 (1991).
4. Schwarzschild, M. A., and Zigmond, R.E., J. Neurochem., **56**, 400 (1991).
5. Sane, D. et al., Biochem. Biophys. Res. Communications, **165**, 708 (1989).
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7. Ignarro, L. J., Stimulation of Phagocytic Release of Neutral Protease from Human Neutrophils by Cholinergic Amines and Cyclic 3',5'-Guanosine Monophosphate. J. Immunol., **112(1)**, 210-214 (1974).

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