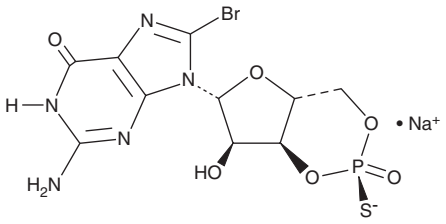
PRODUCT INFORMATION

Rp-8-bromo-Cyclic GMPS (sodium salt)

Item No. 18441

CAS Registry No.:	208445-06-1
Formal Name:	8-bromo-guanosine cyclic 3',5'-[(R)-(hydrogen phosphorothioate)], monosodium salt
Synonym:	Rp-8-bromo-cGMPS
MF:	$C_{10}H_{10}BrN_5O_6PS \bullet Na$
FW:	462.1
Purity:	≥99%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Rp-8-bromo-cGMPS (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the Rp-8-bromo-cGMPS (sodium salt) in water. We do not recommend storing the aqueous solution for more than one day.

Description

8-bromo cGMP (Item No. 15992) is a cell-permeable analog of cGMP that exhibits resistance to hydrolysis by phosphodiesterases. It preferentially activates cGMP-dependent protein kinase (cGK).[1] Rp-8-bromo-cGMPS is a cell-permeable cGMP analog that adds an equatorial exocyclic (Rp) sulfur substitution in the axial position of the cyclophosphate ring of 8-bromo-cGMP. Like 8-bromo-cGMP, Rp-8-bromo-cGMPS is resistant to hydrolysis by phosphodiesterases. This Rp isomer binds cGK without activating it, resulting in competitive inhibition.[2,3] At 10 µM, it blocks the relaxation of rat tail arteries induced by the nitric oxide donor SIN-1 (Item No. 82220).[4]

References

1. Rashatwar, S.S., Cornwell, T.L., and Lincoln, T.M. Effects of 8-bromo-cGMP on Ca^{2+} levels in vascular smooth muscle cells: Possible regulation of Ca^{2+}-ATPase by cGMP-dependent protein kinase. *Proc. Natl. Acad. Sci. USA* **84(16)**, 5685-5689 (1987).
2. Butt, E., van Bemmelen, M., Fischer, L., *et al.* Inhibition of cGMP-dependent protein kinase by (Rp)-guanosine 3',5'-monophosphorothioates. *FEBS Lett.* **263(1)**, 47-50 (1990).
3. Butt, E., Pöhler, D., Genieser, H.-G., *et al.* Inhibition of cyclic GMP-dependent protein kinase-mediated effects by (Rp)-8-bromo-PET-cyclic GMPS. *Br. J. Pharmacol.* **116**, 3110-3116 (1995).
4. Ouedraogo, S., Tschöp, M., Stoclet, J.-C., *et al.* Effects of cyclic GMP and analogues on neurogenic transmission in the rat tail artery. *Br. J. Pharmacol.* **112**, 867-872 (1994).

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