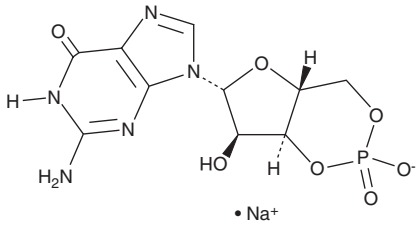
PRODUCT INFORMATION

Cyclic GMP (sodium salt)

Item No. 18821

CAS Registry No.:	40732-48-7
Formal Name:	cyclic 3',5'-(hydrogen phosphate) guanosine, monosodium salt
Synonyms:	cGMP, Cyclic guanosine monophosphate, Guanosine 3'5'-cyclic monophosphate, Monosodium-GMP
MF:	$C_{10}H_{11}N_5O_7P \bullet Na$
FW:	367.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 256 nm
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

Cyclic GMP (cGMP) (sodium salt) is supplied as a crystalline solid. cGMP (sodium salt) is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

cGMP is a second messenger that is biosynthesized from GTP by guanylate cyclases. Activators of guanylate cyclases include nitric oxide and natriuretic peptides.[1] cGMP activates protein kinase G (PKG) and modulates ion channel conductance, with signaling affecting diverse processes including smooth muscle relaxation and proliferation, phototransduction, and energy homeostasis.[1-4] The degradation of cGMP to GMP is mediated by specific and non-specific phosphodiesterases.[5,6]

References

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2. Tulis, D.A. Novel therapies for cyclic GMP control of vascular smooth muscle growth. *Am. J. Ther.* **15(6)**, 551-564 (2008).
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4. Kim, G.W., Lin, J.E., Blomain, E.S., *et al.* Antiobesity pharmacotherapy: New drugs and emerging targets. *Clin. Pharmacol. Ther.* **95(1)**, 53-66 (2014).
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6. Rotella, D.P. Phosphodiesterase 5 inhibitors: Current status and potential applications. *Nat. Rev. Drug Discov.* **1(9)**, 674-682 (2002).

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