

PRODUCT INFORMATION



2'3'-cGAMP (sodium salt)

Item No. 19887

Formal Name: adenylyl-(3'→5')-2'-guanylic acid, cyclic nucleotide, disodium salt

Synonyms: 2'3'-Cyclic GMP-AMP, Guanosine-Adenosine 2',3'-cyclic monophosphate

MF: $C_{20}H_{22}N_{10}O_{13}P_2 \cdot 2Na$

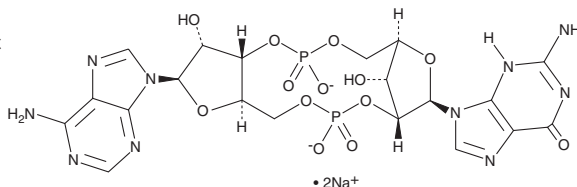
FW: 718.4

Purity: ≥98%

Supplied as: A 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

2'3'-cGAMP (sodium salt) is supplied as a solid. A stock solution may be made by dissolving the 2'3'-cGAMP (sodium salt) in water. We do not recommend storing the aqueous solution for more than one day.

Description

2'3'-cGAMP is a second messenger produced from ATP and GTP by cGMP-AMP synthase (cGAS) in the cytoplasm of mammalian cells in response to the presence of DNA.¹⁻³ It contains a non-canonical 2'5'-phosphodiester bond and binds tightly to the adapter protein STING (stimulator of interferon genes) with a K_d value of 3.79 nM, which is significantly lower than that observed for 2'2'-cGAMP, 3'3'-cGAMP (Item No. 17966), cyclic di-GMP (Item No. 17144), and 3'2'-cGAMP (K_{dS} = 0.287, 1.04, 1.21, and 1.61 μ M, respectively).³ It is a potent inducer of IFN- β mRNA expression with an EC_{50} value of 19.4 nM in L929 cells.³

References

1. Wu, J., Sun, L., Chen, X., *et al.* Cyclic GMP-AMP is an endogenous second messenger in innate immune signaling by cytosolic DNA. *Science* **339**(6121), 826-830 (2013).
2. Sun, L., Wu, J., Du, F., *et al.* Cyclic GMP-AMP synthase is a cytosolic DNA sensor that activates the type I interferon pathway. *Science* **339**(6121), 786-791 (2013).
3. Zhang, X., Shi, H., Wu, J., *et al.* Cyclic GMP-AMP containing mixed phosphodiester linkages is an endogenous high-affinity ligand for STING. *Mol. Cell* **51**(2), 226-235 (2015).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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