

Store at
-20C
#35573**2',3'-cGAMP (sodium salt)**

500 µg



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Background

2',3'-cGAMP (sodium salt), also known as 2',3'-cyclic-GMP-AMP, is a second messenger produced by the enzyme cGAMP synthase (cGAS) in response to cytoplasmic DNA (1,2). cGAMP binds and activates the stimulator of interferon genes (STING), a transmembrane adaptor protein that is a critical component of the cellular innate immune response to pathogenic cytoplasmic DNA (1-4). The binding affinity of 2',3'-cGAMP to STING is stronger than other cyclic di-nucleotides such as c-di-GMP, 3'2'-cGAMP, 3'3'-cGAMP, and 2'2'-cGAMP with a reported K_d value of 3.79 nM compared to 1.21 µM, 1.61 µM, 1.04 µM, and 287 nM, respectively (5).

Molecular Formula

$C_{20}H_{22}N_{10}Na_2O_{13}P_2$

Molecular Weight

718.4 g/mol

Purity

>98%

CAS

1441190-66-4

Solubility

Soluble in DMSO at 50 mg/ml or water at 10 mg/ml.

Storage

Store lyophilized at -20°C, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, continue to store at -20°C and use within 1 month to prevent loss of potency. *Aliquot to avoid multiple freeze/thaw cycles.*

Directions for Use

2',3'-cGAMP (sodium salt) is supplied as a lyophilized powder. For a 5 mM stock, reconstitute 500 µg of powder in 139 µl of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.

Background References

1. Sun, L. et al. (2013) *Science* 339, 786-91.
2. Wu, J. et al. (2013) *Science* 339, 826-30.
3. Ishikawa, H. and Barber, G.N. (2008) *Nature* 455, 674-8.
4. Zhong, B. et al. (2008) *Immunity* 29, 538-50.
5. Zhang, X. et al. (2013) *Mol Cell* 51, 226-35.

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