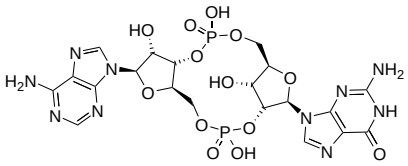
2',3'-cGAMP

Catalog Number: 20310, 20311
Unit Size: 100 ug, 1 mg

Product Details

Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

Chemical Properties

Appearance	Solid white
Molecular Weight	674.42
Soluble In	DMSO
Chemical Structure	

Spectral Properties

Excitation Wavelength	N/A
Emission Wavelength	N/A

Applications

2',3'-cGAMP or cGAMP (Cyclic guanosine monophosphate"adenosine monophosphate) is produced in mammalian cells by cGAS (cGAMP synthase) from ATP and GTP upon cytosolic DNA stimulation. cGAMP produced by cGAS contains mixed phosphodiester linkages, with one between 2'-OH of GMP and 5'-phosphate of AMP and the other between 3'-OH of AMP and 5'-phosphate of GMP. 2',3'-cGAMP is also referred to as "noncanonical" cGAMP due to the presence of the atypical 2'-5' phosphodiester linkage between the guanosine and the adenosine. Similar to the canonical 3',3'-cGAMP, 2'3'-cGAMP serves as a second messenger to activate innate immune responses by binding to STING (stimulator of IFN genes) and subsequently inducing the TBK1-IRF3-dependent production of IFN-β. Structural and functional studies revealed that noncanonical 2'3'-cGAMP is distinct from the canonical 3'3'-cGAMP produced by bacteria. 2'3'-cGAMP binds to STING with a much greater affinity than 3'3'-cGAMP. cGAMP has also been shown to be an effective adjuvant that boosts the production of antigen-specific antibodies and T cell responses in mice. cGAMP demonstrates antiviral functions in the cell where it is produced, it can cross cell membranes by passive diffusion to have some effects on neighboring cells.

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