

2',3'-cGAMP-DBCO conjugate

Catalog Number: 20330

Unit Size: 100 ug

Product Details

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

Chemical Properties

Appearance	Solid
Molecular Weight	1539.59
Soluble In	DMSO

Spectral Properties

Excitation Wavelength	N/A
Emission Wavelength	N/A

Applications

DBCO (dibenzocyclooctyne) click chemistry is a bioconjugation technique used to covalently attach molecules to biological targets, such as proteins, peptides, and nucleic acids. It involves the reaction between DBCO-functionalized molecules and a complementary azide-functionalized molecule in the presence of a copper-free catalyst, forming a stable triazole linkage. 2',3'-cGAMP-DBCO conjugate is an excellent building block to develop 2',3'-cGAMP probes for investigating the biological activities and functions of 2',3'-cGAMP. 2',3'-cGAMP has gained significant attention in recent years due to its potential as a therapeutic target for diseases such as cancer and viral infections. It has been shown to activate the immune system and enhance the efficacy of immune checkpoint inhibitors, which are a type of cancer immunotherapy. 2',3'-cGAMP (cyclic GMP-AMP) is a cyclic dinucleotide second messenger molecule that plays a critical role in the innate immune system. It is synthesized by the enzyme cGAS (cyclic GMP-AMP synthase) in response to cytosolic DNA that has been released from damaged or infected cells. Once synthesized, 2',3'-cGAMP binds to the adaptor protein STING (stimulator of interferon genes) and triggers downstream signaling pathways that result in the production of type I interferons and other cytokines, leading to an immune response against the invading pathogen.