

Product Data Sheet

Product Name: c-di-AMP diammonium

Cat. No.: GC62893

Chemical Properties

Cas. No.

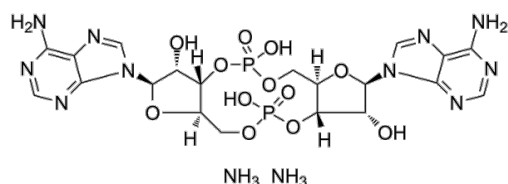
Formula $C_{20}H_{30}N_{12}O_{12}P_2$ M.Wt 692.47

Solubility DMSO : < 1 mg/mL (insoluble or slightly soluble) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Background

c-di-AMP diammonium is a STING agonist, which binds to the transmembrane protein STING thereby activating the TBK3-IRF3 signaling pathway, subsequently triggering the production of type I

Caution: Product has not been fully validated for medical applications. For research use only.

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IFN and TNF. c-di-AMP diammonium is also a bacterial second messenger, which regulates cell growth, survival, and virulence, primarily within Gram-positive bacteria, and also regulates host immune response. c-di-AMP diammonium acts as a potent mucosal adjuvant stimulating both humoral and cellular responses[1][2][3][4].

c-di-AMP diammonium signaling is a central factor in many Gram-positive bacteria regulating cell wall synthesis, potassium ion channels, DNA repair, and biofilm formation. c-di-AMP is also essential for cell growth, survival, and virulence of several well-known human pathogenic bacteria including *S. aureus*, *L. monocytogenes*, *S. pyogenes*, and *Mycobacterium spp*[1]. c-di-AMP diammonium combines with model antigens, such as OVA or β -Gal, acts as a potent mucosal adjuvant stimulating both humoral and cellular responses[4].

[1]. Fahmi T, et al. c-di-AMP: An Essential Molecule in the Signaling Pathways that Regulate the Viability and Virulence of Gram-Positive Bacteria. *Genes (Basel)*. 2017 Aug 7;8(8).

[2]. Ning H, et al. Recombinant BCG With Bacterial Signaling Molecule Cyclic di-AMP as Endogenous Adjuvant Induces Elevated Immune Responses After *Mycobacterium tuberculosis* Infection. *Front Immunol*. 2019 Jul 3;10:1519.

[3]. Ebensen T, et al. The Combination Vaccine Adjuvant System Alum/c-di-AMP Results in Quantitative and Qualitative Enhanced Immune Responses Post Immunization. *Front Cell Infect Microbiol*. 2019 Feb 19;9:31.

[4]. Sanchez MV, et al. Intranasal delivery of influenza rNP adjuvanted with c-di-AMP induces strong humoral and cellular immune responses and provides protection against virus challenge. *PLoS One*. 2014 Aug 20;9(8):e104824.

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