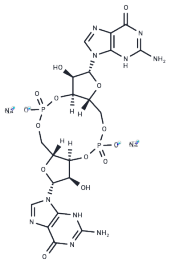
Data Sheet (Cat.No.T36983)

TargetMol

Cyclic-di-GMP disodium

Chemical Properties



CAS No. : 2222132-40-1

Formula: C20H22N10Na2O14P2

Molecular Weight: 734.38

Storage: Store at low temperature,Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Cyclic-di-GMP disodium (5GP-5GP disodium) is a STING agonist and a second messenger in bacteria. It is involved in a variety of processes in prokaryotes, including biofilm formation, motility, and cell cycle progression. Cyclic-di-GMP disodium (5GP-5GP disodium) exhibits antiproliferative activity against cancer cells, inducing increased CD4 receptor expression and cell cycle arrest, and is a novel therapeutic agent that can be developed to prevent or treat cancer.
Targets(IC50)	Endogenous Metabolite,STING
In vitro	**METHODS**: H508 cells were treated with cyclized-di-GMP disodium (5GP-5GP disodium) (0.5-50 μM, 5 days) and cell proliferation was measured using a validated sulforhodamine B (SRB) colorimetric assay. **RESULTS** The highest concentration (50 μM) of c-di-GMP reduced H508 cell proliferation by approximately 15%. [1] **METHODS**: Cyclic-di-GMP disodium (5GP-5GP disodium) (50, 100μM) was used to treat Jur kat cells, and the CD4 level in the cells was observed. **RESULTS** Cyclic-di-GMP disodium (5GP-5GP disodium) at a concentration of 50μM can induce a 6.3-fold increase in CD4 levels in Jur kat cells, and this was dose-dependent. Cyclic-di-GMP disodium (5GP-5GP disodium) at a concentration of 100μM treated Jur kat cells, resulting in a 9.1-fold increase in CD4 compared to the control group. [2]
In vivo	**METHODS**: Cyclic-di-GMP disodium (5GP-5GP disodium) (100 μg, intravenous injection) was used in mice in the primary and booster phases to verify whether it would further enhance the immune response to TriVax. **RESULTS** Cyclic-di-GMP disodium (5GP-5GP disodium) can effectively enhance the magnitude of the immune response produced by TriVax. [3]

Solubility Information

Solubility	H2O: 144 mg/mL (196.08 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.3617 mL	6.8085 mL	13.6169 mL
5 mM	0.2723 mL	1.3617 mL	2.7234 mL
10 mM	0.1362 mL	0.6808 mL	1.3617 mL
50 mM	0.0272 mL	0.1362 mL	0.2723 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Karaolis DK, et al. 3',5'-Cyclic diguanylic acid (c-di-GMP) inhibits basal and growth factor-stimulated human colon cancer cell proliferation. Biochem Biophys Res Commun. 2005 Apr 1;329(1):40-5.
Steinberger O, et al. Elevated expression of the CD4 receptor and cell cycle arrest are induced in Jurkat cells by treatment with the novel cyclic dinucleotide 3',5'-cyclic diguanylic acid. FEBS Lett. 1999 Feb 5;444(1):125-9.
Wang Z, et al. STING activator c-di-GMP enhances the anti-tumor effects of peptide vaccines in melanoma-bearing mice. Cancer Immunol Immunother. 2015 Aug;64(8):1057-66.
Jenal U,et al. Cyclic di-GMP: second messenger extraordinaire. Nat Rev Microbiol. 2017 May;15(5):271-284.