

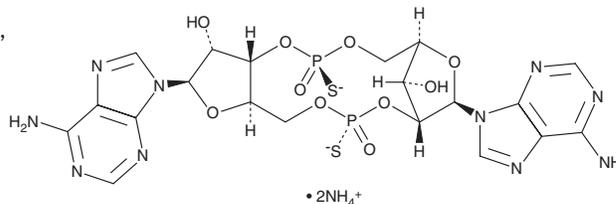
# PRODUCT INFORMATION



## ML RR-S2 CDA (ammonium salt)

Item No. 24106

**CAS Registry No.:** 1638750-96-5  
**Formal Name:** [P(R)]-5'-O-[(R)-hydroxymercaptophosphinyl]-P-thioadenylyl-(2'→5')-adenosine, cyclic nucleotide, diammonium salt  
**Synonym:** STING Inducer-1  
**MF:** C<sub>20</sub>H<sub>22</sub>N<sub>10</sub>O<sub>10</sub>P<sub>2</sub>S<sub>2</sub> • 2NH<sub>4</sub><sup>+</sup>  
**FW:** 724.6  
**Purity:** ≥98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

ML RR-S2 CDA (ammonium salt) is supplied as a solid. A stock solution may be made by dissolving the ML RR-S2 CDA (ammonium salt) in the solvent of choice. ML RR-S2 CDA (ammonium salt) is soluble in the organic solvent DMSO, which should be purged with an inert gas. It is also soluble in water. The solubility of ML RR-S2 CDA (ammonium salt) in DMSO and water is approximately 15 and 12.5 mg/ml, respectively. We do not recommend storing the aqueous solution for more than one day.

### Description

ML RR-S2 CDA is a synthetic cyclic dinucleotide (CDN) that contains non-canonical 2'5'-phosphodiester bonds and is an activator of stimulator of interferon genes (STING).<sup>1</sup> It contains mixed linkages (ML) with both 2'5' and 3'5' linkages, which leads to increased thermal stability of human STING in a differential scanning fluorimetry (DSF) assay. ML RR-S2 CDA increases type I interferon production by THP-1 human monocytes relative to unmodified cyclic di-AMP (CDA; Item No. 17753), indicating the ML enhances its action at human STING. It induces expression of IFN-β and the pro-inflammatory cytokines TNF-α, IL-6, and Mcp-1 in murine bone marrow macrophages (BMM) isolated from wild-type, but not STING<sup>-/-</sup>, mice. ML RR-S2 CDA also induces IFN-β expression in peripheral blood mononuclear cells (PBMCs) isolated from donors carrying STING<sup>WT/WT</sup>, STING<sup>WT/REF</sup>, and STING<sup>WT/HAQ</sup> alleles. *In vivo*, ML RR-S2 CDA initiates tumor regression and prevents tumor growth upon tumor cell reimplantation in 4T1 murine mammary and CT26 murine colon cancer models.

### Reference

1. Corrales, L., Glickman, L.H., McWhirter, S.M., *et al.* Direct activation of STING in the tumor microenvironment leads to potent and systemic tumor regression and immunity. *Cell Rep.* **11(7)**, 1018-1030 (2015).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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