

Certificate of Analysis

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Product Name: Poly(I:C)

Catalog No.: 4287

Batch No.: 3

CAS Number: 42424-50-0

IUPAC Name: Polyinosinic-polycytidylic acid sodium salt

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $(C_{10}H_{13}N_4O_8P)_x \cdot (C_9H_{14}N_3O_8P)_x$

Physical Appearance: White solid

Solubility: water to 3 mg/ml

Storage: Store at -20°C

2. ANALYTICAL DATA

UV Absorption: λ_{max} : 265.5 nm

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Synthetic double-stranded RNA (dsRNA); Toll-like receptor 3 (TLR3) agonist. Aids generation of stable, mature dendritic cells in combination with TLR8 agonist CL 075. Transfection into NIT-1 β cells induces β -cell apoptosis. Commonly used to stimulate immune system activation in vivo. Also promotes maturation of hPSC-derived cardiomyocytes. To prevent denaturation, this product should be reconstituted in solutions with physiological salt concentrations.

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Solubility & Usage Info:

water to 3 mg/ml

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Biermann et al (2019) Epigenetic priming of human pluripotent stem cell-derived cardiac progenitor cells accelerates cardiomyocyte maturation. *Stem Cells* **37** 910. PMID: 31087611.

West et al (2011) TLR signalling augments macrophage bactericidal activity through mitochondrial ROS. *Nature* **472** 476. PMID: 21525932.

Spranger et al (2010) Generation of Th1-polarizing dendritic cells using the TLR7/8 agonist CL075. *J.Immunol.* **185** 738. PMID: 20511554.

Rouas et al (2004) Poly(I:C) used for human dendritic cell maturation preserves their ability to secondarily secrete bioactive IL-12. *Int.Immunol.* **16** 767. PMID: 15096480.

Robbins et al (2003) Nuclear factor- κ B translocation mediates double-stranded ribonucleic acid-induced NIT-1 beta-cell apoptosis and up-regulates caspase-12 and tumor necrosis factor-associated ligand (TRAIL). *Endocrinology* **144** 4616. PMID: 12960048.

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