Polyinosinic-Polyctydylc acid

Catalog Numbers P1530, P0913, P9582, and I3036
Storage Temperature –20 °C

Catalog Number P1530: Poly (I:C) sodium salt
Catalog Number P0913: Poly (I:C) sodium salt, γ-irradiated
Catalog Number P9582: 10% Poly (I:C) with sodium chloride and sodium phosphate buffer salts
Catalog Number I3036: 10% Poly (I:C) with sodium chloride and sodium phosphate buffer salts, γ-irradiated

CAS RN: 42424-50-0 (sodium salt)
Synonyms: Poly(I)-Poly(C); Poly (I:C)

Product Description
Double-stranded RNA (dsRNA) is a molecular pattern associated with viral infection because it is produced by most viruses at some point during their replication. Toll-like receptors (TLRs) are a family of innate immune-recognition receptors that recognize molecular patterns associated with microbial pathogens (Pathogen-Associated Molecular Patterns, PAMPs), and induce antimicrobial immune responses.

Mammalian TLR3 is an intracellular receptor, which recognizes polyinosine-polycytidylic acid [Poly (I:C)], may potentially form dimers, and can activate Nuclear Factor κB (NF-κB). TLR3 can also activate the production of type I interferons (IFNs) leading to cytokine production through three different pathways, depending on the Poly (I:C) chain length. It has been suggested that Poly(I:C) is one of the most appropriate generators of stable mature dendritic cells (DC). These mature DC might generate in vivo effective immune responses after injection due to their ability to secrete bioactive IL-12 after CD40 ligation.

Poly (I:C) was used as a potent adjuvant to enhance the specific antitumor immune responses against a peptide-based vaccine.

The products are supplied as lyophilized powders.

Purity: ≥99% (TLC, less than 1% free nucleotides)

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
The products are soluble in water (10 mg/ml), yielding a very faint hazy to clear, colorless solution.

The products require ionic strength to maintain the double-strand structure. To prevent denaturation, reconstitute Catalog Numbers P1530 and P0913 in solutions with physiological salt concentrations (e.g., saline solution). Reconstitution may prove difficult, and require heating (50 °C) and cooling to achieve re-annealing.

Reconstitution of Catalog Numbers P9582 and I3036 at ~10 mg/ml of water yields a polynucleotide in physiological phosphate buffered solution.

Storage/Stability
Store the products desiccated at –20 °C. Under these conditions the products remain active for 3 years.
References

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