Data Sheet (Cat.No.T12516)

TargetMol

Polyinosinic-polycytidylic acid sodium

Chemical Properties

CAS No. : 42424-50-0

Formula: (C10H13N4O8P)x.(C9H14N3O8P)x.xNa

Molecular Weight:

Storage: 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	Polyinosinic-polycytidylic acid sodium (Poly(I:C) sodium) is a synthetic analog of double-stranded RNA and an agonist of toll-like receptor 3 (TLR3) and retinoic acid inducible gene I (RIG-I)-like receptors (RIG-I and MDA5).
Targets(IC50)	Apoptosis,TLR
In vitro	Polyinosinic-polycytidylic acid (polyi:c) is a synthetic analog of double-stranded RNA and an agonist of toll-like receptor (TLR) 3 and retinoic acid inducible gene I (RIG-I)-like receptors (RLRs), including RIG-I and melanoma differentiation-associated gene 5 (MDA5). The effect of polyi:c on tumor immunotherapy has been well explored for several decades. The accumulated evidence suggests that polyi:c could be used as a vaccine adjuvant to enhance innate and adaptive immune responses, and to alter the tumor microenvironment. Recent studies have also shown that activation of TLR3 and RLR signaling by polyi:c can directly trigger apoptosis in some cancer cells[2].
In vivo	Polyinosinic-polycytidylic acid significantly inhibits tumor growth in NOD/SCID immunodeficient mice injected with 1205Lu cells, resulting in a 50% reduction in human DNA levels in treated mice[1].

Solubility Information

Solubility	DMSO: < 1 mg/mL (insoluble or slightly soluble) H2O: 90.00 mg/mL,Sonication and heating are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Reference

Besch R, et al. Proapoptotic signaling induced by RIG-I and MDA-5 results in type I interferon-independent apoptosis in human melanoma cells. J Clin Invest. 2009 Aug;119(8):2399-411.
Cheng YS, et al. Anticancer function of polyinosinic-polycytidylic acid. Cancer Biol Ther. 2010 Dec 15;10(12):1219-23.

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