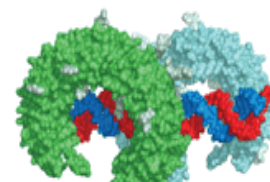


## PRODUCT DATA SHEET

### Polyinosinic-polycytidylic acid [Poly(I:C)] Endotoxin-free (sterile)

Cat. No.: IAX-200-021

Date: 24-Jan-2013



<b>NAME:</b>	Polyinosinic-polycytidylic acid, potassium salt (Poly (I:C)).
<b>MW:</b>	High molecular weight (>1.5kb).
<b>CAS NUMBER:</b>	31852-29-6.
<b>PURITY:</b>	≥99%.
<b>ENDOTOXIN-FREE:</b>	<0.002 EU/μg.
<b>FORMULATION:</b>	Formulation: Lyophilised. Sterile. 2 and 5mg size includes 1.5ml ddWater Endotoxin-free (sterile) (Cat. No.: IAX-900-002-LD15). 10mg size includes 10ml ddWater Endotoxin-free (sterile) (Cat. No.: IAX-900-002-L010)
<b>HANDLING:</b>	Just before use, prepare a stock solution in endotoxin-free and sterile ddWater (Cat. No.: IAX-900-002), or PBS (Cat. No.: IAX-900-001). To obtain optimal dissolving the following procedure is recommended: Add 50% of the solvent and let dissolve for 10min. Add remaining 50% of the solvent and mix thoroughly. Moderate warming may aid dissolving.
<b>ACTIVITY:</b>	Activates TLR3, MDA5/Helicard and RIG-I. Optimal working concentration depends upon target receptor accessibility, number, density, as well as cell type and therefore needs to be determined for each application. Recommended concentration range: <i>in vitro</i> : 0.5-10μg/ml, <i>in vivo</i> : 5mg/kg.
<b>SHIPPING:</b>	Ambient.
<b>STORAGE:</b>	4°C After reconstitution in water prepare aliquots and store at -20°C (shelf-life 6 months). Avoid freeze/thaw cycles. After thawing stable for one day at 4°C, do not freeze again.
<b>STABILITY:</b>	2 years after receipt as supplied.

### General Information:

Toll-like receptor (TLR) 3 is an endosomal TLR that mediates immune responses against viral infections upon activation by its ligand double-stranded RNA, a replication intermediate of most viruses. TLR3 is expressed widely in the body and activates both the innate and adaptive immune systems. Toll-like receptor 3 (TLR3), melanoma differentiation-associated gene 5 (MDA5), and retinoic acid-inducible gene-I (RIG-I), all sensors of double-stranded RNA (dsRNA) are potent inducers of antiviral activity. dsRNA sensor activation -e.g. by Poly (I:C)- induces pro-inflammatory TNF-α and antiviral IFN-β, but can also enhance the expression of pro-apoptotic proteins.

Recently, Poly (I:C)-induced cell death recently gained considerable attention as a tool to study the "Ripoptosome" or "Necrosome" complex, a novel intracellular signaling complex, thought to induce regulated necrosis, also called "Necroptosis".

### References:

- [1] *The 'complexities' of life and death: Death receptor signalling platforms.* Dickens LS, et al. Exp. Cell Res. (2012); 18:1269
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- [4] *Pick your poison: the Ripoptosome, a cell death platform regulating apoptosis and necroptosis.* Feoktistova M, et al. Cell Cycle (2012); 11:460
- [5] *Ripoptosome: a novel IAP-regulated cell death-signalling platform.* Imre G, et al. Mol. Cell Biol. (2011); 3:324
- [6] *IAPs: guardians of RIPK1.* Darding M, Meier P. Cell Death Differ. (2012); 19:58
- [7] *The Ripoptosome: death decision in the cytosol.* Bertrand MJ, Vandenabeele P. Mol. Cell (2011); 43:323
- [8] *cIAPs block Ripoptosome formation, a RIP1/caspase-8 containing intracellular cell death complex differentially regulated by cFLIP isoforms.* Feoktistova M, et al. Mol. Cell (2011); 43:449
- [9] *The Ripoptosome, a signaling platform that assembles in response to genotoxic stress and loss of IAPs.* Tenev T, et al. Mol. Cell (2011); 43:432
- [10] *Proapoptotic signalling through Toll-like receptor-3 involves TRIF-dependent activation of caspase-8 and is under the control of inhibitor of apoptosis proteins in melanoma cells.* Weber A, et al. Cell Death Differ. (2010); 17:942
- [11] *TLR3/TICAM-1 signaling in tumor cell RIP3-dependent necroptosis.* Seya T, et al. Oncoimmunology (2012); 1:917

**DISCLAIMER:** THIS PRODUCT IS NOT INTENDED OR APPROVED FOR HUMAN, DIAGNOSTICS OR VETERINARY USE. USE OF THIS PRODUCT FOR HUMAN OR ANIMAL TESTING MAY BE EXTREMELY HAZARDOUS AND MAY RESULT IN DISEASE, SEVERE INJURY, OR DEATH. THIS PRODUCT IS FOR RESEARCH USE ONLY (RUO).

**MATERIAL SAFETY DATA:** This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, inhale or get into the blood stream. Do not get in eyes, on skin, or clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Access to this material must be restricted to personnel, who is appropriately experienced, qualified, competent and properly trained to use it. Material Safety Data Sheet is available upon request.