

ssRNA41/LyoVec™

ssRNA40/LyoVec™ Negative Control

Catalog # tlrl-lrna41

For research use only

Version # 10J26-MT

PRODUCT INFORMATION

Contents:

- 4 x 25 µg lyophilized ssRNA41/LyoVec™ 1:2 ratio (w/w)
- Note: Each vial contains 25 µg of ssRNA41 complexed with 50 µg LyoVec™.*
- ssRNA41 5'-GsCsCsCsGsAsCsAsGsAsGsAsGsAsGsAsCsAsC-3' ("s" depicts a phosphothioate linkage)
- 10 ml endotoxin-free water

Storage and stability:

- ssRNA41/LyoVec™ is provided lyophilized and shipped at room temperature. Store at -20°C. Lyophilized product is stable 1 year at -20°C.
- Upon resuspension, store product at 4°C. Resuspended product is stable 1 week at 4°C.

DESCRIPTION

ssRNA41 is a 20-mer phosphothioate protected single-stranded RNA oligonucleotide. It derives from ssRNA40 by replacement of all U nucleotides with adenosine¹. ssRNA41 is complexed with the cationic lipid LyoVec™, to protect it from degradation and facilitate its uptake, and lyophilized to generate ssRNA41/LyoVec. Unlike ssRNA40, ssRNA41 is unable to induce the production of type IFNs, and therefore can be used as a negative control for ssRNA40^{1,2}.

1. Heil F. *et al.*, 2004. Species-specific recognition of single-stranded RNA via toll-like receptor 7 and 8. *Science*. 5:303(5663):1526-9.
2. Alter G. *et al.*, 2007. Single-Stranded RNA Derived from HIV-1 Serves as a Potent Activator of NK Cells. *J Immunol*. 178:7658-7666
4. Schindler U. & Baichwal VR., 1994. Three NF-κB binding sites in the human E-selectin gene required for maximal tumor necrosis factor alpha-induced expression. *Mol Cell Biol*, 14(9):5820-5831.

METHODS

Preparation of stock solution (50 µg/ml)

We recommend to use ssRNA41/LyoVec™ at the same concentration as ssRNA40/LyoVec™, that is 0.25-5 µg/ml.

- Add 500 µl endotoxin-free water (provided) and mix gently. Allow at least 15 minutes for complete solubilization.

Human TLR8 / Mouse TLR7 stimulation

- Transfect your cell line with an NF-κB-inducible reporter plasmid, i.e. a plasmid carrying a reporter gene, such as SEAP or luciferase, under the control of an NF-κB-inducible ELAM-1 (E-selectin) promoter³.

Note: InvivoGen provides pNiFty, a family of NF-κB-inducible reporter plasmids that can be transfected transiently (pNiFty) or stably (pNiFty2). pNiFty plasmids are available either with the SEAP or luciferase reporter genes (see Related Products).

If your cell line does not naturally express the mouse TLR7 or human TLR8 gene, cotransfect with a plasmid expressing either TLR gene, such as pUNO-mTLR7 or pUNO1-hTLR8 (see Related Products).

- Twenty-four to forty-eight hours after transfection, stimulate cells with 0.25-5 µg/ml control ssRNA41/LyoVec™ for 6 hours to 36 hours.
- Determine ssRNA41/LyoVec™ stimulation on mouse TLR7 or human TLR8 by assessing reporter gene expression using the appropriate detection system.

RELATED PRODUCTS

Products	Catalog Code
pNiFty-Luc (Amp ^R)	pnifty-luc
pNiFty-SEAP (Amp ^R)	pnifty-seap
pNiFty2-Luc (Zeo ^R)	pnifty2-luc
pNiFty2-SEAP (Zeo ^R)	pnifty2-seap
pUNO-mTLR7 (mouse gene)	puno-mtlr7
pUNO1-hTLR8 (human gene)	puno-htlr8
293XL/hTLR8 (human gene)	293xl-htlr8
293XL/mTLR7 (mouse gene)	293xl-mtlr7
ssRNA40/LyoVec™	tlrl-lrna40

TECHNICAL SUPPORT

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