Product Datasheet

IL-15-IL15Ralpha mRNA-LNP (orb2719909)

Description

Interleukin 15 (IL-15), encoded by the IL-15 gene, is a member of the family of four alpha-helical bundles of cytokines. The primary mechanism of action of IL-15 appears to be juxtacrine signaling determined by cell-cell contacts. This role also includes endocrine and reverse signaling. IL-15 was initially characterized as a soluble molecule, but it was later found that the major form of IL-15 protein is the membrane-bound form, which can be directly bound to the cell membrane or presented by the IL-15RÎ± receptor. The IL-15 receptor consists of three subunits: IL-15RÎ±, CD122, and CD132. CD122 and CD132 are shared with the IL-2 receptor, and there is actually an additional subunit (CD25). The shared subunits contain cytoplasmic motifs required for signal transduction that underlie many of the overlapping biological activities of IL-15 and IL-2. IL-15RÎ± is a subunit that specifically binds IL-15 with very high affinity and can bind IL-15 independently of other subunits. This property suggests that IL-15 is able to transmit signals between multiple cells. This product is designed as a tool for the delivery and expression of IL-15-IL15RÎ± mRNA for research. The product leverages the lipid nanoparticle (LNP) technology platform for simple and efficient delivery of IL-15-IL15RÎ± mRNA to a variety of mammalian cells in vitro and in vivo. The LNPs used are formulated with SM-102, DSPC, cholesterol and DMG-PEG2000 at an optimal molar concentration for a high rate of encapsulation and efficient mRNA delivery. The IL-15-IL15RÎ± fusion protein is approximately 59 kD, consisting of full-length human IL-15 (162 amino acids) and IL15RÎ± (353 amino acids) with 15-residue peptide linker GGGGSGGGGSGGGGS between them. The GenPept accession numbers for IL-15 and IL15RÎ± are NP_000576 and NP_001243694 respectively.

Form/Appearance

mRNA-LNPs suspended in PBS (-Ca, -Mg) (pH: 7.0-7.4).

Storage

4°C; ice

Note

For research use only

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Application notes	Upon receiving product, briefly pulse spin before opening to ensure product is at bottom of container. It is important not to spin for too long as this may rupture mRNA-LNPs. Do not vortex. Work with mRNA-LNPs on ice and minimize the time that the product spends at room temperature. After handling the product during experiments, return immediately to ice. mRNA-LNP products should only be handled with certified RNase-free reagents and consumables. Use of filtered pipette tips is highly recommended.
Expiration Date	6 months from date of receipt.

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