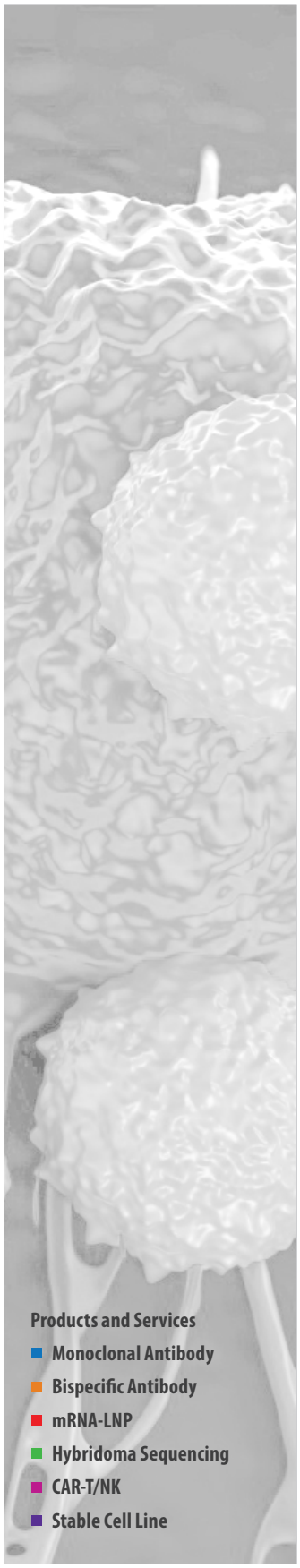
ProMab Biotechnologies, Inc.

Hsp70-TF mRNA-LNP

Ready-to-use lipid nanoparticles



Order Information

Catalog# PM-LNP-0129 Size 200uL

Description

Hsp70 (70 kDa heat shock protein), encoded by the HSPA1A (heat shock protein 70 alpha family class A member 1) gene, is an ATPase that binds to proteins as they are being constructed in the cytoplasm. Binding allows the protein to finish construction without misfolding or binding to other proteins. When construction is finished, Hsp70 binds to its co-chaparone Hsp40 and releases the new protein in an ATP-dependent manner. Hsp70 also uses this mechanism to protect and re-fold misfolded proteins during cellular stress. Hsp70 is upregulated in many solid and hematologic cancers, aiding tumor cells by stabilizing growth factors and signaling proteins, protecting mutated proteins, and inducing pro-angiogenic proteins. Hsp70 also protects tumor cells from apoptosis inducers and chemotherapeutics, and Hsp70 inhibitors can cause tumor regression. Hsp70 consists of 732 amino acids and its GenPept accession number is NP_002145. ProMab's PM-LNP-0129 nanoparticles contain an mRNA encoding Hsp70 and a C-terminal TF tag protected by a lipid shell. The nanoparticles 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 in vitro and in vivo.

Composition

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

Storage

Product is delivered on wet ice. Store at 4°C for up to 3 months.

Handling

Upon receipt, centrifuge the vial for a few seconds to ensure the contents are located at the bottom of the vial. Vortex mixing or prolonged centrifugation may rupture the nanoparticles. Store the vial of nanoparticles in the refrigerator and keep on ice when in use. Do not allow the nanoparticles to warm to room temperature. mRNA-LNP suspensions should only be handled with certified RNase-free reagents and consumables. The use of filtered pipette tips is highly recommended.

ProMab Biotechnologies, Inc. | 2600 Hilltop Drive, Building B, Suite C320, Richmond, CA 94806 USA
Toll free 1-866-339-0871 | 1-510-860-4615 (Sales) | 1-510-860-4614 (Technical Support) | Fax 1-510-740-3625 | info@ProMab.com | www.ProMab.com

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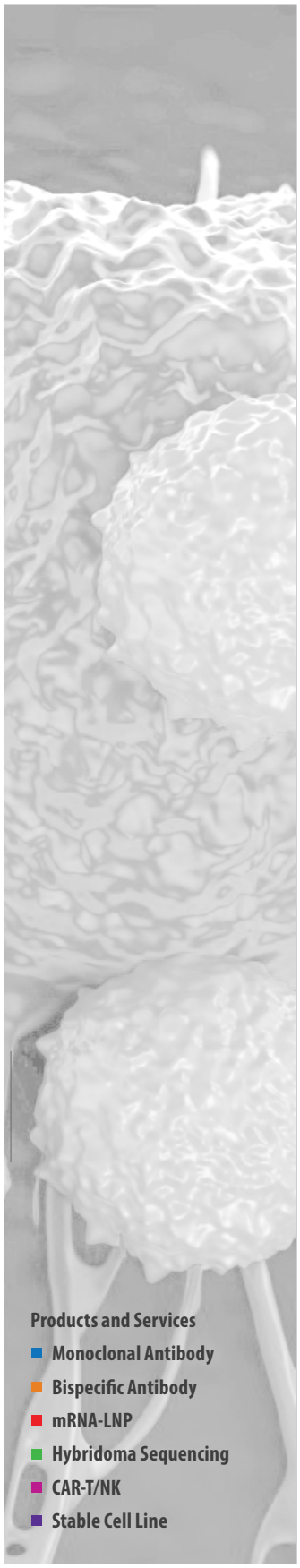

Products and Services

- Monoclonal Antibody
- Bispecific Antibody
- mRNA-LNP
- Hybridoma Sequencing
- CAR-T/NK
- Stable Cell Line

Safety & Research Disclosure

All ProMab mRNA lipid nanoparticle products are for in vitro research use only. Products are not FDA approved for human use.

Protocol for Transfecting Suspension Cells

Suspend 0.5 - 1 million cells in 1 ml of culture medium. Ensure the cells are healthy and well-dispersed, as cell clumping may reduce transfection efficiency. Disperse the nanoparticle suspension by gently pipetting up and down several times, then slowly add 20-40 ul to the cells, dropwise. Gently mix the cells and incubate them overnight in a culture incubator. The next day, and every day thereafter, check the culture for expression of the protein encoded by the mRNA-LNP. Cell-bound proteins can be detected by flow cytometry or western blotting using the transfected cells, whereas secreted proteins can be detected by ELISA, western blotting or flow cytometry (on a target cell line) using the medium collected from the transfected cells.

Hsp70 Expression in HEK293S Cells Treated with PM-LNP-0129

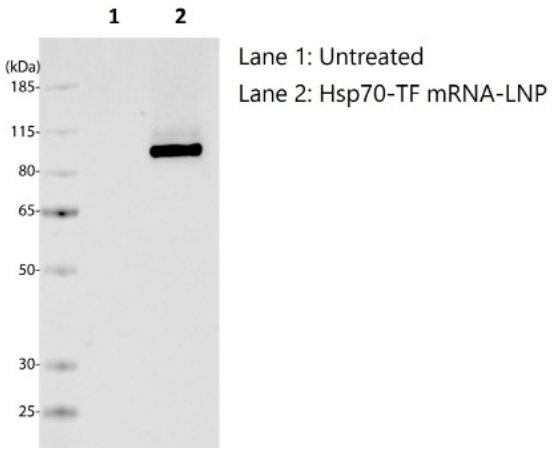

Figure 1. Western blot. Lysed PM-LNP-0129 nanoparticle-treated HEK293S cells contain TF-tagged Hsp70, detected with an anti-TF antibody.

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