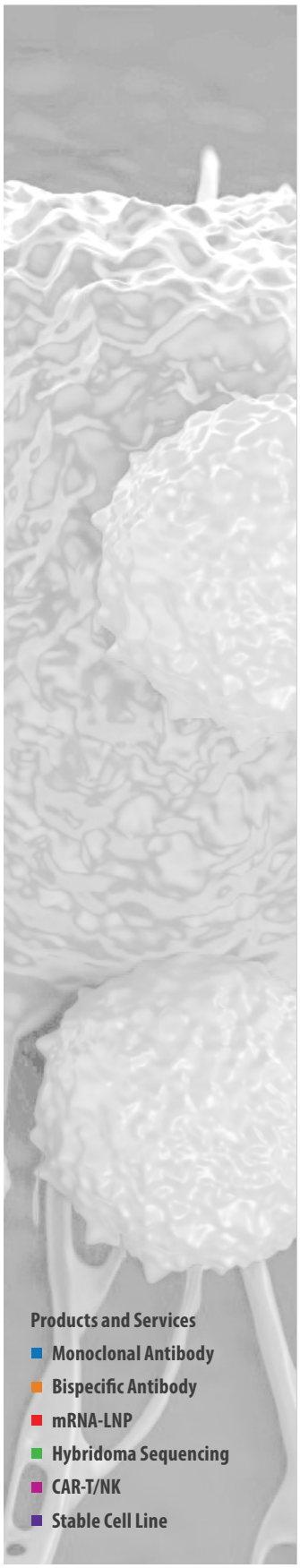
ProMab
Biotechnologies, Inc.

COVID-19 Spike Protein (Alpha Variant) mRNA-LNP

Ready-to-use lipid nanoparticles



Order Information

Catalog#	Size	GenPept No.
PM-LNP-0010	200uL	YP_009724390

Description

This product utilizes the lipid nanoparticle (LNP) technology platform for The spike protein of COVID-19 is a glycoprotein that helps the virus attach to various surfaces in the built environment, increasing the potential for virus transmission. The best-known vaccines we use are the spike protein vaccines delivered via mRNA. While the role of vaccination in controlling outbreaks is undeniable, the recurring emergence of new variants of Covid-19, such as the Delta and Omega variants, poses new challenges, particularly their rapid global spread. This product is designed as a tool for the delivery and expression of full-length spike protein mRNA of COVID-19 Strain Alpha for vaccine research. This product utilizes the lipid nanoparticle (LNP) technology platform for simple and efficient delivery of

Composition

mRNA-LNP contains ethanol, PBS, sodium acetate,

Translated Protein sequence

MFVFLVLLPLVSSQCVNLTTRTQLPPAYTNSFTRGVYYPDKVFRSSVLHSTQDLFLPFFSN-
VTWFHAIHVSGTNGTKRFDNPVLPFNDGVYFASTEKSNIIRGWIFGTTLDSKTQSLLI-
VNNATNVVIKVCEFQFCNDPFLGVYYHKNNKSWMESEFRVYSSANNCTFEYVSQP-
FLMDLEGKQGNFKNLREFVFKNIDGYFKIYSKHTPINLVRDLPQDFSALEPLVDLPIGINI-
TRFQTLLALHRSYLTPGDSSSGWTAGAAAYYVGYLQPRTFLLKYNENGTITDAVDCALD-
PLSETKCTLKSFTVEKGIYQTSNFRVQPTESIVRFPNITNLCPFGEVFNATRFASVYAWN-
RKRISNCVADYSVLYNSASFSTFKCYGVSPTKLNDLCFTNVYADSFVIRGDEVRQIAPGQT-
GKIADYNYKLPDDFTGCVIAWNSNNLDSKVGGNYNYLYRLFRKSNLKPFERDISTEIYQAG-
STPCNGVEGFNCYFPLQSYGFQPTNGVGYQPYRVVVLSFELLHAPATVCGPKKSTNLVKNK-
CVNFNFNGLTGTGVLTESNKKFLPFQQFGRDIADTTDAVRDPQTLEILDITPCSFGGVSVITP-
GTNTSNQVAVLYQDVNCTEVPVAIHADQLTPTWRVYSTGSNVFQTRAGCLIGAEHVNNSYE-
CDIPIGAGICASYQTQTNSPRRARSVASQSIIAYTMSLGAENSVAYSNNSIAIPTNFTISVTTEIL-
PVSMTKTSVDCTMYICGDSTECSNLLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQI-
YKTPPIKDFGGFNFSQILPDPSKPSKRSFIEDLLFNKVTLADAGFIKQYGDCLGDIAARD-
LICAQKFNGLTVLPPLLTDEMIAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFN-
GIGVTQNVLYENQKLIANQFNSAIGKIQDSLSSTASALGKLQDVVNQNAQALNTLVKQLSSN-
FGAISSVLNDILSRLDPPEAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKM-
SECVLGQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTYVPAQEKNFTTAPAICHDGKAH-
FPREGVFVSNGTHWFVTQRNFYEPQIITTDNTFVSGNCDVVIGIVNNTVYDPLQPELDS-
FKEELDKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEQYIK-
WPWYIWLGFIAGLIAIVMVTIMLCCMTSCCSCLKGCCSCGSCCKFDEDDSEPVLKGVKLHYT

ProMab Biotechnologies, Inc. | 2600 Hilltop Drive, Building B, Suite C320, Richmond, CA 94806 USA
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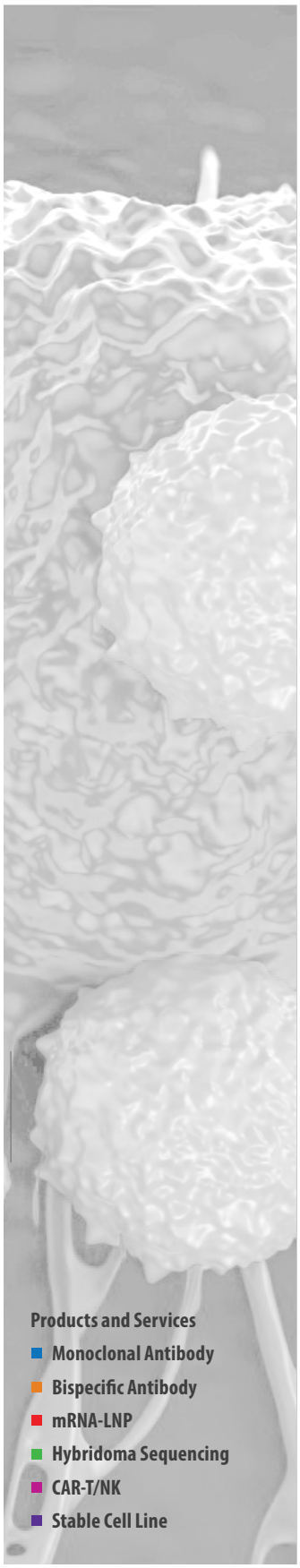

Storage

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

Application & Handling

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. It is important to 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.

Safety & Research Disclosure

*(no alterations) All ProMab mRNA lipid nanoparticle products are for in vitro research use only. Products are not FDA approved for human use.

General Protocol

1. Prior to transfection, in a 12 well culture plate, plate your cells at [1.0E6 cells/ml] in a total of 1ml per well. Ensure the cells you are using are viable and healthy. Try not to let your cells sit for longer than 5 minutes prior to transfection; cell clumping at the time of transfection may reduce transfection efficiency.

2. Briefly pipette mRNA-LNP mix up and down to resuspend. Add 30ul of the mRNA-LNP mix dropwise directly to your 1ml culture. Gently tilt the plate back and forth to mix (not necessary if you are using cells which will be immediately placed back into a shaker) Place your transfected cells back into their original culture conditions.

3. Check cell expression by FACS at 24hr intervals after transfection. *Note: This is a generalized protocol for transfection using mammalian cells. Transfection volume may be scaled down/up proportionately. Cells shown in Figure 1. HEK293S with culturing medium Gibco Freestyle F17 (A13835-01), Gibco GlutaMax (35050-061), and Gibco 10% Pluronic F-68 (24040-032).

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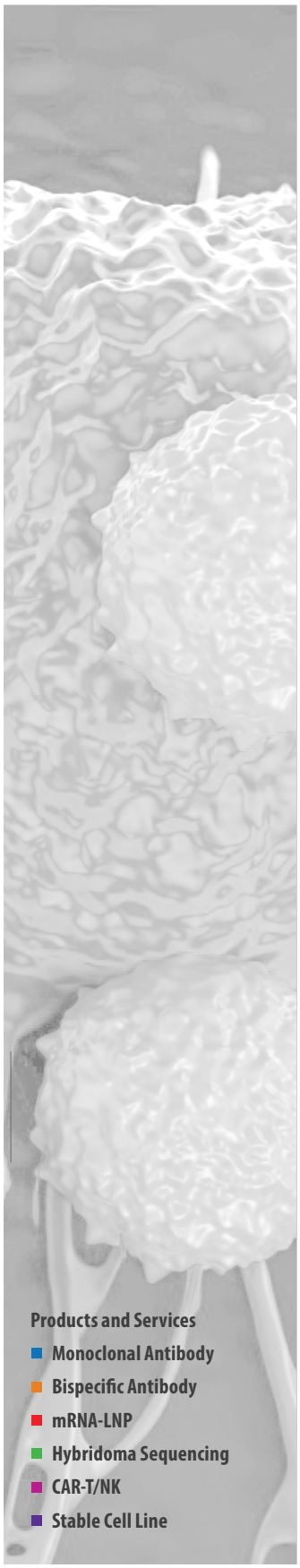

Products and Services

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

COVID-19 Spike Protein (Alpha Variant) Expression in HEK-293s Cells 48 Hours Post Transfection with PM-LNP-0010

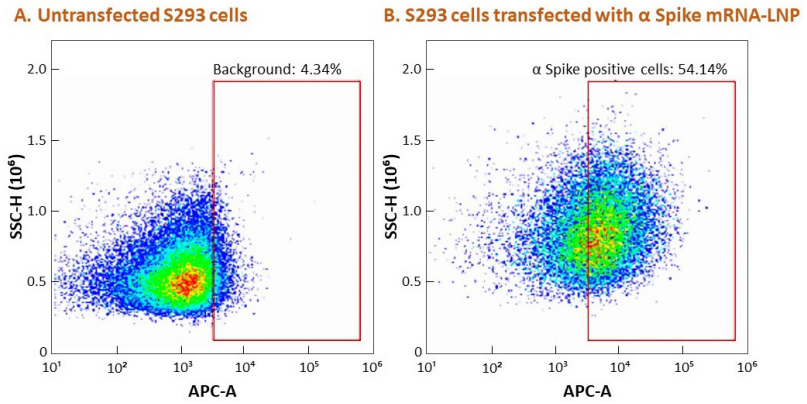

Figure 1. Quantification of COVID-19 Spike Protein expression in S293 cells transfected with or without COVID-19 Alpha Spike mRNA-LNP (Catalog No. PM-LNP-0010). Forty-eight hours post transfection, cells were analyzed by FACS with anti-SARS-CoV-2 S1 (R&D Systems) and Alexa Fluor 647 anti-mouse IgG (Jackson ImmunoResearch Laboratories).

Antibody Titer

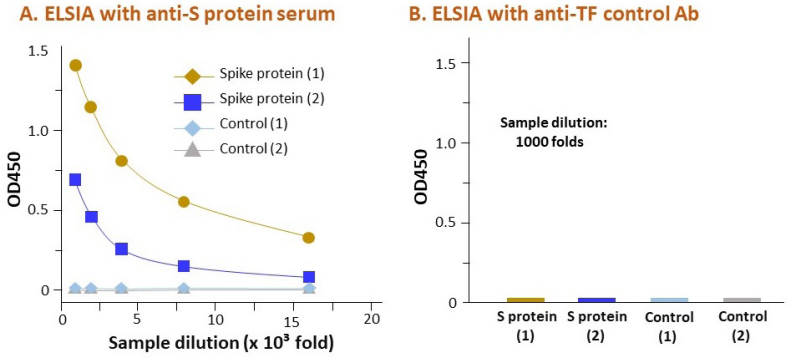

Figure 2. ELISA was done on S-protein 2 ug/ml-coated ELISA plate using serum taken from mouse after 3 injections of mRNA-LNP encoding S-protein.

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