

DC67602 | ILB-3132(E12LA6B603)

Instructions for Use

E12LA6B603(ILB3132(ILB-3132)) is a novel ionizable amino lipid disclosed in patent WO2024198497A1, developed by MagicRNA, representing a highly efficient component for lipid nanoparticle (LNP) delivery systems. When formulated into LNPs, E12LA6B603 LNP achieves a remarkable 98.26% encapsulation efficiency for mRNA. It mediates superior in vitro transfection in dendritic cells (1.8E+05 intensity) and demonstrates best-in-class in vivo protein expression after intramuscular injection (2.2E+09 intensity). Most notably, in a B16-OVA melanoma model, therapeutic OVA-mRNA vaccines delivered by E12LA6B603 LNPs induced 100% complete tumor regression, highlighting its superior efficacy over benchmarks like DLin-MC3 and SM-102. Its biodegradable ester linkages and balanced structure make it a promising, potent candidate for next-generation mRNA vaccines and therapeutics.

Product information

CAS No.	Not available
Chemical Name	ILB-3132(E12LA6B603)
Formula	C51H97NO9
M.Wt	868.335
Purity	ELSD-HPLC>95%
Storage	Original product: up to 1 year under the storage conditions stated on the vial, kept tightly sealed. Stock solutions: aliquots at -20°C, generally up to one month.
Shipping condition	Ships from Shanghai. Pure lipid is stable during ice-pack transport.

Formulation & study context

Literature values apply to the cited study only. Administration routes describe research, not clinical instructions.

A complete product-specific formulation has not been verified. No standard ratio is substituted.

N/P ratio	Not reported in the verified record
Cargo	Not available in the verified record
Administration route	Not available in the verified record
Animal model	Not available in the verified record
Formulation process	Not available in the verified record

N/P is a nitrogen-to-phosphate molar ratio. Lipid:cargo mass ratio is a different quantity and must not be used as N/P.

Stock-solution preparation table

Calculated using product-page MW: 868.335 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	11.516 mL	2.303 mL	1.152 mL
25 mg	28.791 mL	5.758 mL	2.879 mL
50 mg	57.581 mL	11.516 mL	5.758 mL
100 mg	115.163 mL	23.033 mL	11.516 mL
250 mg	287.907 mL	57.581 mL	28.791 mL

Volume (mL) = mass (mg) × 1000 / [MW (g/mol) × concentration (mM)]. Mathematical conversions only; not measured solubility. Confirm solvent compatibility and the exact material before preparation.

Handling & storage

Provided that storage conditions are as stated on the product vial and the vial is kept tightly sealed, the product can be stored for up to 1 year.

Wherever possible, prepare and use solutions on the same day. If stock solutions must be prepared in advance, store them as aliquots in tightly sealed vials at -20°C. Generally, these will be usable for up to one month.

Before use, and prior to opening the vial, allow the product to equilibrate to room temperature for at least 1 hour.

References

In vivo CD19-CAR T-Cell Therapy for Refractory Systemic Lupus Erythematosus-Qian Wang etl. N Engl J Med. 2025 Sep 17. doi: 10.1056/NEJMc2509522

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