

DC68213 | Lipid A1B7C2

Instructions for Use

A1B7C2 is an imidazole-based ionizable lipid from the IMIL library. It features dimethylamino-propyl imidazole head group, paired with B7 hydrophobic tails and C2 degradable ester linkers. LNPs assembled from A1B7C2 can effectively accumulate within the spleen after systemic administration. It mediates mRNA expression in splenic tissue, and is applied as a key control compound to investigate structure-activity relationships for spleen-targeted nucleic acid delivery.

Product information

CAS No.	Not available
Chemical Name	Lipid A1B7C2
Formula	C ₆₁ H ₉₅ N ₃ O ₆
M.Wt	966.7
Purity	>98%
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: 966.7 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	10.344 mL	2.069 mL	1.034 mL

Mass	1 mM	5 mM	10 mM
25 mg	25.861 mL	5.172 mL	2.586 mL
50 mg	51.722 mL	10.344 mL	5.172 mL
100 mg	103.445 mL	20.689 mL	10.344 mL
250 mg	258.612 mL	51.722 mL	25.861 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

Multicomponent Synthesis of Imidazole-Based Ionizable Lipids for Highly Efficient and Spleen-Selective Messenger RNA Delivery-Journal American Chemical Society (2024) 146 (22): 15085–15095.