

DC65850 | VL422

Instructions for Use

VL-422 is an ionizable cationic lipid. VL-422 delivers CRISPR complementary single-guide RNA (sgRNA) and Cas9 mRNA to enable in vitro and in vivo gene editing. LNPs containing VL-422 loaded with Cas9 mRNA and sgRNA targeting the ANGPTL3 gene induce the deletion of premature stop codons within the ANGPTL3 gene in the liver of cynomolgus monkeys. Loss-of-function of ANGPTL3 leads to decreased levels of LDL, HDL and cholesterol in plasma. The VL-422 delivery system can be used for the research of gene editing strategies targeting lipid metabolism diseases.

Product information

CAS No.	Not available
Chemical Name	VL422
Formula	C62H117NO11
M.Wt	1,052.6
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: 1052.6 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	9.500 mL	1.900 mL	0.950 mL

Mass	1 mM	5 mM	10 mM
25 mg	23.751 mL	4.750 mL	2.375 mL
50 mg	47.501 mL	9.500 mL	4.750 mL
100 mg	95.003 mL	19.001 mL	9.500 mL
250 mg	237.507 mL	47.501 mL	23.751 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

Atmuri NDP, et al. Design of cationic ionizable lipids for the delivery of therapeutic nucleic acids. Mol Ther Methods Clin Dev. 2025 Sep 2;33(4):101585.