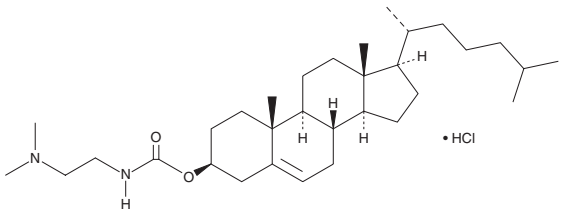
PRODUCT INFORMATION

DC-Chol (hydrochloride)

Item No. 16943

CAS Registry No.: 166023-21-8
Formal Name: (3β)-cholest-5-en-3-ol 3-[N-[2-(dimethylamino) ethyl]carbamate], monohydrochloride
Synonym: Cholesteryl 3β-N-(dimethylaminoethyl)carbamate
MF: $C_{32}H_{56}N_2O_2$ • HCl
FW: 537.3
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

DC-Chol (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the DC-chol (hydrochloride) in the solvent of choice. DC-Chol (hydrochloride) is soluble in organic solvents such as methanol and DMSO, which should be purged with an inert gas. The solubility of DC-chol (hydrochloride) in these solvents is approximately 10 and 5 mg/ml, respectively.

Description

DC-Chol is a cationic cholesterol derivative.[1] DC-Chol, as a component of lipoplexes with 1,2-Dioleoyl-*sn*-glycero-3-PE (1,2-DOPE; Item No. 15091), has been used for transfection of mRNA into A549 cells without affecting cell viability. Incubation of DC-chol/1,2-DOPE liposomes or lipoplexes with human whole blood has no effect on neutrophil elastase or β-thromboglobulin levels or the number of platelets and red and white blood cells, indicating hemocompatibility. DC-Chol has also been widely used in the synthesis of liposomes for the delivery of siRNA, DNA, and chemotherapeutic agents into cells and mice.[2-5]

References

1. Michel, T., Luft, D., Abraham, M.K., *et al.* Cationic nanoliposomes meet mRNA: Efficient delivery of modified mRNA using hemocompatible and stable vectors for therapeutic applications. *Mol. Ther. Nucleic Acids* **8**, 459-468 (2017).
2. Gao, J., Sun, J., Li, H., *et al.* Lyophilized HER2-specific PEGylated immunoliposomes for active siRNA gene silencing. *Biomaterials* **31(9),** 2655-2664 (2010).
3. Zhang, R., Wang, S.B., Chen, A.Z., *et al.* Codelivery of paclitaxel and small interfering RNA by octadecyl quaternized carboxymethyl chitosan-modified cationic liposome for combined cancer therapy. *J. Biomater. Appl.* **30(3),** 351-360 (2015).
4. Men, Y., Wang, X.X., Li, R.J., *et al.* The efficacy of mitochondrial targeting antiresistant epirubicin liposomes in treating resistant leukemia in animals. *Int. J. Nanomedicine* **6**, 3125-3137 (2011).
5. Xing, X., Liu, V., Xia, W., *et al.* Safety studies of the intraperitoneal injection of E1A-liposome complex in mice. *Gene Ther.* **4(3),** 238-243 (1997).

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