

# PRODUCT INFORMATION



## C8 Ceramide-mPEG(2000)

Item No. 41954

CAS Registry No.: 212116-76-2

Formal Name:  $\alpha$ -[4-[[[(2S,3R,4E)-3-hydroxy-2-[(1-oxooctyl)amino]-4-octadecen-1-yl]oxy]-1,4-dioxobutyl]- $\omega$ -methoxy-poly(oxy-1,2-ethanediyl)]

Synonyms: Capryl Ceramide Methoxy Polyethylene Glycol-2000, N-Capryl-D-erythro-Sphingosine mPEG(2000), N-Octanoyl-D-erythro-Sphingosine mPEG(2000)

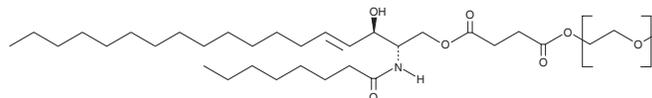
MF:  $(C_2H_4O)_n C_{31}H_{57}NO_6$

Purity:  $\geq 90\%$

Supplied as: A solid

Storage:  $-20^\circ C$

Stability:  $\geq 4$  years



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

### Laboratory Procedures

C8 ceramide-mPEG(2000) is supplied as a solid. A stock solution may be made by dissolving the C8 ceramide-mPEG(2000) in the solvent of choice, which should be purged with an inert gas. C8 ceramide-mPEG(2000) is sparingly soluble (1-10 mg/ml) in methanol.

### Description

C8 ceramide-mPEG(2000) is a PEGylated form of C8 ceramide (Item No. 62540) that has been used in the generation of lipoplexes and lipid particles for the delivery of plasmid DNA and siRNA *in vitro* and *in vivo*.<sup>1-3</sup> Lipid particles encapsulating plasmid DNA and containing C8 ceramide-mPEG(2000) have a higher transfection efficiency than those containing C14- or C20 ceramide mPEG(2000) ceramide in BHK cells.<sup>1</sup> Lipoplexes containing C8 ceramide-mPEG(2000) and encapsulating siRNAs targeting human papillomavirus (HPV) E7 peptide and myeloid cell leukemia-1 (Mcl-1) induce apoptosis in Ca Ski and SiHa cervical cancer cells, which are infected with HPV16.<sup>3</sup> Intravaginal administration of lipoplexes containing C8 ceramide-mPEG(2000) accumulate in vaginal tissue in mice. *As this product is derived from a natural source, there may be variations in the sphingoid backbone.*

### References

1. Mok, K.W., Lam, A.M., and Cullis, P.R. Stabilized plasmid-lipid particles: Factors influencing plasmid entrapment and transfection properties. *Biochim. Biophys. Acta* **1419(2)**, 137-150 (1999).
2. Saravolac, E.G., Ludkovski, O., Skirrow, R., et al. Encapsulation of plasmid DNA in stabilized plasmid-lipid particles composed of different cationic lipid concentration for optimal transfection activity. *J. Drug Target.* **7(6)**, 423-437 (2000).
3. Lechanteur, A., Furst, T., Evrard, B., et al. Promoting vaginal distribution of E7 and MCL-1 siRNA-silencing nanoparticles for cervical cancer treatment. *Mol. Pharm.* **14(5)**, 1706-1717 (2017).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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