

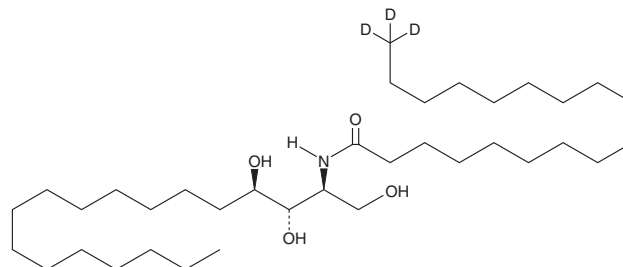
# PRODUCT INFORMATION



## C18 Phytoceramide-d<sub>3</sub> (t18:0/18:0-d<sub>3</sub>)

Item No. 27199

**CAS Registry No.:** 1354806-91-9  
**Formal Name:** N-[(1S,2S,3R)-2,3-dihydroxy-1-(hydroxymethyl)heptadecyl]-octadecanamide-18,18,18-d<sub>3</sub>  
**Synonyms:** Cer(t18:0/18:0)-d<sub>3</sub>, Ceramide (t18:0/18:0)-d<sub>3</sub>, N-Octadecanoyl Phytosphingosine-d<sub>3</sub>, C18:0 Phytoceramide-d<sub>3</sub>, N-Stearoyl Phytosphingosine-d<sub>3</sub>  
**MF:** C<sub>36</sub>H<sub>70</sub>D<sub>3</sub>NO<sub>4</sub>  
**FW:** 587.0  
**Chemical Purity:** ≥98% C18 Phytoceramide (t18:0/18:0) Deuterium  
**Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>3</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

C18 Phytoceramide-d<sub>3</sub> (t18:0/18:0-d<sub>3</sub>) (Cer(t18:0/18:0)-d<sub>3</sub>) is intended for use as an internal standard for the quantification of Cer(t18:0/18:0) (Item No. 22686) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Cer(t18:0/18:0)-d<sub>3</sub> is supplied as a solid. A stock solution may be made by dissolving the cer(t18:0/18:0)-d<sub>3</sub> in the solvent of choice, which should be purged with an inert gas. Cer(t18:0/18:0)-d<sub>3</sub> is soluble in organic solvents such as chloroform, DMSO, and dimethyl formamide.

### Description

Cer(t18:0/18:0) is a bioactive sphingolipid found in *S. cerevisiae*, wheat grains, and the stratum corneum layer of mammalian epidermis.<sup>1-4</sup> Cer(t18:0/18:0) is composed of a phytosphingosine (Item No. 20217) backbone amine-linked to a C18 fatty acid chain. Cer(t18:0/18:0) has a role in regulation of apoptosis, cell differentiation, proliferation of smooth muscle cells, and inhibition of the mitochondrial respiratory chain.<sup>5-7</sup> It also inhibits expression of the allergic cytokines IL-4, TNF-α, and transcription factors c-Jun and NF-κB in histone-stimulated murine skin tissue.<sup>1</sup> Formulations containing cer(t18:0/18:0) have been used in cosmetics as a skin protectants as they reduce water loss to prevent epidermal dehydration and irritation.<sup>2,3</sup>

### References

1. Ryu, K.-R., Lee, B., Lee, I.-A., et al. *Lipids* **45(7)**, 613-618 (2010).
2. Huang, H.-C. and Chang, T.-M. *Int. J. Dermatol.* **47(8)**, 812-819 (2008).
3. Corcoran, C. and Hendry, J. *Elizabeth Arden Company, Division of Conpco.* **5,368,857** (1994).
4. Bizot-Foulon, V., Godeau, G., Guessous, F., et al. *Int. J. Cosmet. Sci.* **17(6)**, 255-264 (1995).
5. Testi, R. *Trends Biochem. Sci.* **21(12)**, 468-471 (1996).
6. Augé, N., Andrieu, N., Nègre-Salvayre, A., et al. *J. Biol. Chem.* **271(32)**, 19251-19255 (1996).
7. Gudz, T.I., Tserng, K.Y., and Hoppel, C.L. *J. Biol. Chem.* **272(39)**, 24154-24158 (1997).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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