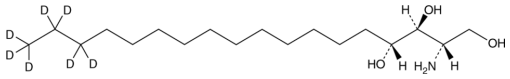
Product Data Sheet

Product Name: Phytosphingosine-d7
Cat. No.: GC91729

Chemical Properties

Cas. No.	N/A		
Formula	$C_{18}H_{32}D_7NO_3$	M.Wt	324.6
Solubility	Methanol: Soluble	Storage	-20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Background

Phytosphingosine-d_7 is intended for use as an internal standard for the quantification of phytosphingosine by GC- or LC-MS. Phytosphingosine is a sphingolipid with a hydroxyl group at the C4 position that is found mainly in fungi and plants but also in animals, including humans.[1],[2] It is metabolized to odd-numbered fatty acids with 2-hydroxy palmitic acid as an intermediate.[3] Phytosphingosine dose-dependently induces cell death of CHO cells and inhibits carbachol-induced activation of phospholipase D (PLD) in CHO cells transfected with *C. elegans* muscarinic acetylcholine receptors (mAChRs).[4] It is essential in the heat stress response in S. cerevisiae. [5]

References:

[1].Dickson, R.C.Sphingolipid functions in Saccharomyces cerevisiae: Comparison to mammalsAnnu. Rev. Biochem.6727-48(1998).
[2].Schürer, N.Y., Plewig, G., and Elias, P.M.Stratum corneum lipid functionDermatologica183(2)77-94(1991).
[3].Kondo, N., Ohno, Y., Yamagata, M., et al.Identification of the phytosphingosine metabolic pathway leading to odd-numbered fatty acidsNat. Commun.55338(2014).
[4].Lee, J.S., Min, D.S., Park, C., et al.Phytosphingosine and C2-phytoceramide induce cell death

Caution: Product has not been fully validated for medical applications. For research use only.
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and inhibit carbachol-stimulated phospholipase D activation in Chinese hamster ovary cells expressing the Caenorhabditis elegans muscarinic acetylcholine receptorFEBS. Lett.499(1-2)82-86(2001).
[5].Hannun, Y.A., Luberto, C., and Argraves, K.M.Enzymes of sphingolipid metabolism: From modular to integrative signalingBiochemistry40(16)4893-4903(2001).