

# PRODUCT DATA SHEET

## 3-keto-Dihydrosphingosine • HCl

**Catalog No:** 1876

**Common Name:** 3-keto-Sphinganine  
hydrochloride

**Source:** synthetic

**Solubility:** ethanol, methanol, chloroform

**CAS No:** 18944-28-0

**Molecular Formula:** C<sub>18</sub>H<sub>37</sub>NO<sub>2</sub> • HCl

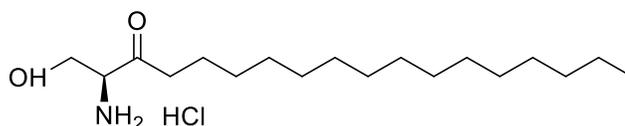
**Molecular Weight:** 300+HCl

**Storage:** -20°C

**Purity:** TLC >98%; identity confirmed by MS

**TLC System:** chloroform/methanol  
(80:20 by vol.)

**Appearance:** solid



### Application Notes:

3-keto-Dihydrosphingosine is a vital intermediate in the biosynthesis of ceramides.<sup>1,2</sup> 3-keto-Dihydrosphingosine is formed by the condensation of L-serine and palmitoyl-CoA by the serine palmitoyl transferase enzyme.<sup>3</sup> It is then reduced to dihydrosphingosine, converted to ceramide, and eventually synthesized into many types of sphingolipids. C18-keto-dihydrosphingosine is the major sphingolipid precursor in the early and intermediate stages of cell life with C20-keto-dihydrosphingosine as a minor component. Towards the end of the cell's life the ratio of C18 to C20 keto-dihydrosphingosine becomes more equal. It seems to be a critical regulating step in the availability of sphingolipids in cells. Vitamin K deficiency results in the inactivation of the serine palmitoyl transferase enzyme causing a resultant shortage of sphingolipids.

### Selected References:

1. N. Bartke and Y. Hannun "Bioactive sphingolipids: metabolism and function" *Journal of Lipid Research*, Vol. 50 pp. S91-S96, 2009
2. G. Jenkins and Y. Hannun "Role for *de Novo* Sphingoid Base Biosynthesis in the Heat-induced Transient Cell Cycle Arrest of *Saccharomyces cerevisiae*" *Journal of Biological Chemistry*, Vol. 276 pp. 8574-8581, 2001
3. A. Batheja et al. "Characterization of Serine Palmitoyltransferase in Normal Human Tissues" *Journal of Histochemistry and Cytochemistry*, Vol. 51 pp. 687-696, 2003

This product is to be used for research only. It is not intended for drug or diagnostic use, human consumption or to be used in food or food additives. Matreya assumes no liability for any use of this product by the end user. We believe the information, offered in good faith, is accurate.