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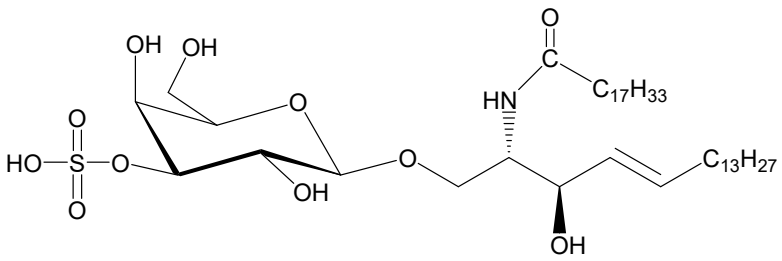
PRODUCT DATA SHEET

N-Octadecenoyl-(*cis*-9)-sulfatide

Catalog number: 1933
Synonyms: N-C18:1-Sulfatide; N-Octadecenoyl-sphingosyl-*beta*-D-galactoside-3-sulfate
Source: semisynthetic, bovine
Solubility: chloroform/methanol, 5:1
CAS number: 1292769-40-4

Molecular Formula: $C_{42}H_{79}NO_{11}S$
Molecular Weight: 806
Storage: -20°C
Purity: TLC: >98%; identity confirmed by MS
TLC System: chloroform/methanol/DI water 60:30:4
Appearance: solid



Application Notes:

This product is a well-defined sulfatide containing an octadecenoyl group acylated to the amine of the sphingosine and is ideal as an internal standard. Sulfatide is a type of sulfolipid that is found primarily in the central nervous system and is a myelin-specific sphingolipid. A deficiency of sulfatide in white and gray matter has been associated with Alzheimer's disease and other types of dementia. Apoliprotein E plays an important regulating role in the metabolism of sulfatides.[1] The production of anti-sulfatide antibodies in the cerebrospinal fluid, leading to a deficiency in sulfatides, may be a cause of degeneration of the myelin sheath, leading to multiple sclerosis and other demyelinating diseases.[2] Metachromatic leukodystrophy is an inherited disorder characterized by a deficiency of the lysosomal enzyme arylsulfatase A and the subsequent accumulation of sulfatide in neural and visceral tissues.[3] Sulfatide also regulates the differentiation of oligodendroblasts. Central nervous system (CNS) myelin is strongly inhibitory to growing axons and sulfatides present in the myelin of the CNS have been identified as major myelin-associated axon growth inhibitors.[4] A low level of serum sulfatides has been linked with an increased risk of cardiovascular disease in some situations. Sulfatides in the myelin, especially *cis*-tetracosenoyl-sulfatides, stimulate a distinct population of CD1d-restricted natural killer T cells giving these sulfatides important implications for the design of therapeutics that target T cells reactive for myelin glycolipids in autoimmune diseases of the central nervous system.[5]

Selected References:

1. H. Cheng, Y. Zhou, D. M. Holtzman, X. Han "Apolipoprotein E mediates sulfatide depletion in animal models of Alzheimer's disease." *Neurobiology of Aging* August *2008*
2. Ramesh C. Halder, A. Jahng, I. Maricic and Vipin Kumar "Mini Review: Immune Response to Myelin-Derived Sulfatide and CNS-Demyelination" *Neurochemical Research,* February, Vol. 32(2): 257, *2007*
3. Phillip D. Whitfield, Peter C. Sharp, David W. Johnson, Paul Nelson and Peter J. Meikle "Characterization of Urinary Sulfatides in Metachromatic Leukodystrophy Using Electrospray Ionization-Tandem Mass Spectrometry" *Molecular Genetics and Metabolism,* May Vol. 73(1): 30, *2001*
4. A. Winzeler et al. "The Lipid Sulfatide Is a Novel Myelin-Associated Inhibitor of CNS Axon Outgrowth" *The Journal of Neuroscience*, vol. 31 pp. 6481-6492, *2011*
5. D. Zajonc et al. "Structural basis for CD1d presentation of a sulfatide derived from myelin and its implications for autoimmunity" *The Journal of Experimental Medicine*, vol. 202 pp. 1517-1526, *2005*

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.