N-Heptadecanoyl-ceramide trihexoside

Catalog number: 1523

Synonyms: N-C17:0-Ceramide trihexoside; N-Heptadecanoyl globotriaosylceramide

Source: semisynthetic, porcine RBCs

Solubility: chloroform/methanol 2:1; DMSO; hot methanol

CAS number: 536745-81-0

Molecular Formula: C_{53}H_{99}NO_{18}

Molecular Weight: 1038

Storage: -20°C

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

TLC System: chloroform/methanol/DI water (65:25:4)

Appearance: solid

Application Notes:
This product is a well-defined CTH containing the uncommon heptadecanoic acid acylated to the ceramide making it ideal as an internal standard and for biological studies.1 Ceramide trihexoside (CTH) is a glycosphingolipid found mostly in mammalian cell membranes. It is involved in cellular signaling and has been identified as a receptor for various toxins including shiga toxins and shiga-like toxins.2 Some toxins, such as verotoxins from Escherichia coli, require specific fatty acids on the ceramide portion of CTH to show affinity in binding. An accumulation of CTH in the cellular membranes due to a lack of alpha-galactosidase to convert it into lactosyl ceramide results in Fabry disease.3 This product can be used as an excellent standard for the identification of CTH in Fabry disease by HPLC4 and mass spectrometry. An inability to convert CTH to globoside due to mutations in the gene sequence leads to the P^k blood group phenotype. It appears that under certain conditions CTH can enhance anticoagulant activity. CTH has also been studied as a tool to investigate lymphocyte activation.5

Selected References:
2. S. Ashkenazi and T. G. Cleary, “Rapid method to detect shiga toxin and shiga-like toxin I based on binding to globotriosyl ceramide (Gb3), their natural receptor.” J Clin Microbiol., June; 27(6): 1145-1150, 1989

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.

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