

## Biotin-Lactosylceramide

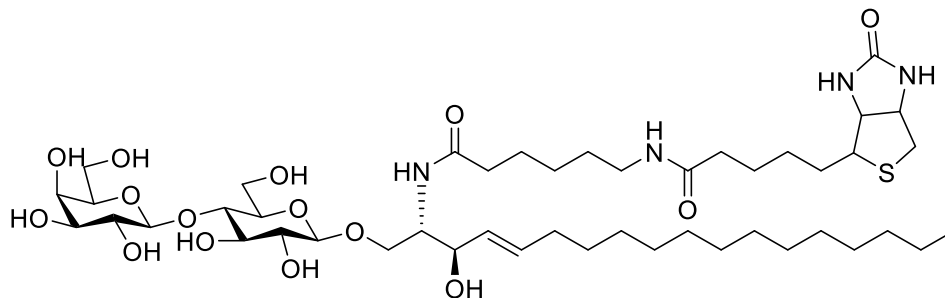
Catalog number: S-600B

Molecular Formula:  $C_{46}H_{82}N_4O_{15}S$

MW: 963.23

CAS: n/a

Solubility: MeOH, >1 mg/mL.



Storage and Handling: Store dry at  $-20^{\circ}\text{C}$ . Stock solutions should be stored frozen ( $-20^{\circ}\text{C}$  or below).

Background: Lactosylceramide (LacCer), synthesized from  $\beta$ -glucosylceramide by lactosylceramide synthase in the Golgi, is a ubiquitous sphingolipid in mammalian tissue. Lactosylceramide is important in many cellular functions such as cell proliferation, migration, adhesion, and angiogenesis. Increased production of LacCer have been shown to increase levels of reactive oxygen species in cardiomyocytes and are implicated in inflammatory pathways.

References: 1) Mishra S, Chatterjee S. "Lactosylceramide promotes hypertrophy through ROS generation and activation of ERK1/2 in cardiomyocytes." *Glycobiology*. 2014 Jun;24(6):518-31. doi:10.1093/glycob/cwu020.  
2) Aouali N, *et al.* "Accumulation of lactosylceramide and overexpression of a PSC833-resistant P-glycoprotein in multidrug-resistant human sarcoma cells." *Oncol Rep*. 2011 Apr;25(4):1161-7. doi:10.3892/or.2011.1180.  
3) Chatterjee S, *et al.* "Regulation of lactosylceramide synthase (glucosylceramide beta1--&gt;4 galactosyltransferase); implication as a drug target." *Curr Drug Targets*. 2008 Apr;9(4):272-81.  
4) Won JS, *et al.* "Lactosylceramide: a lipid second messenger in neuroinflammatory disease." *J Neurochem*. 2007 Nov;103 Suppl 1:180-91.

Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. This product is manufactured and shipped only in small quantities, intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

Warranty and Disclaimer: Echelon warrants the product conforms to the specifications stated herein. In the event of nonconformity, Echelon will replace products or refund purchase price, at its sole option, and Echelon shall not be responsible for any other loss or damage, whether known or foreseeable to Echelon. No other warranties apply, express or implied, including but not limited to warranty of fitness for any purpose or implied warranty of merchantability. Purchaser is solely responsible for all consequences of its use of the product and Echelon assumes no responsibility therefore, including success of purchaser's research and development, or health or safety of any uses of the product.

