

# PRODUCT INFORMATION



## Sulfatide (bovine) (sodium salt)

Item No. 24323

**Formal Name:** 1-O-(3-O-sulfo-β-D-galactopyranosyl)-ceramide, monosodium salt

**Synonyms:** Galactosylceramide I<sup>3</sup>-sulfate, Ganglioside SM<sub>4</sub>, I<sup>3</sup>SO<sub>3</sub>-GalCer, SM<sub>4</sub> Sulfated Galactocerebroside, 3-O-Sulfogalactosylceramide

**MF:** C<sub>42</sub>H<sub>80</sub>NO<sub>11</sub>S • Na (for stearoyl)

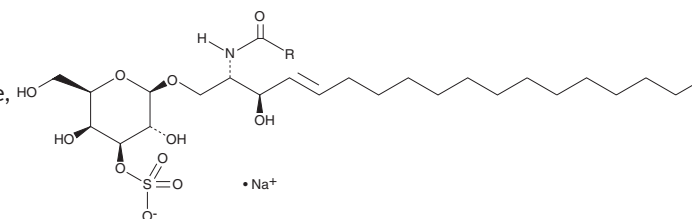
**FW:** 830.1

**Purity:** ≥98%

**Supplied as:** A solid

**Storage:** -20°C

**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Sulfatide (bovine) (sodium salt) is supplied as a solid. A stock solution may be made by dissolving the sulfatide (bovine) (sodium salt) in the solvent of choice, which should be purged with an inert gas. Sulfatide (bovine) (sodium salt) is soluble in the organic solvent DMSO.

### Description

Sulfatide are endogenous sulfoglycolipids with various biological activities in the central and peripheral nervous systems, pancreas, and immune system.<sup>1</sup> They are produced from the combination of ceramide and UDP-galactose in the endoplasmic reticulum followed by sulfation in the Golgi apparatus. The ceramide portion contains variable fatty acid chain lengths, which are tissue- and pathology-dependent. Sulfatide are primarily found in the myelin sheath of oligodendrocytes and Schwann cells, with smaller chain lengths predominant during development and longer chain lengths predominant in mature cells.<sup>2</sup> They accumulate in the lysosome of patients with metachromatic leukodystrophy, a disorder characterized by arylsulfatase A deficiency.<sup>1,3</sup> Sulfatide are also located in pancreatic β-cells and inhibit insulin release from isolated rat pancreatic islet cells, suggesting a potential role in diabetes.<sup>4</sup> Sulfatide can induce inflammation in glia *in vitro* and certain sulfatides, such as C24:1 3'-sulfo-galactosylceramide, can induce an immune response *in vitro* in mouse splenocytes.<sup>5,6</sup> This product contains sulfatide molecular species with primarily C24:1 fatty acyl chain lengths. As this product is derived from a natural source, there may be variations in the sphingoid backbone.

### References

1. Takahashi, T. and Suzuki, T. *J. Lipid Res.* **53**(8), 1437-1450 (2012).
2. Svennerholm, L. and Ståhlberg-Stenhagen, S. *J. Lipid Res.* **9**(2), 215-225 (1968).
3. Saville, J.T., Smith, N.J.C., Fletcher, J.M., et al. *Anal. Chim. Acta* **955**, 79-85 (2017).
4. Buschard, K., Høy, M., Bokvist, K., et al. *Diabetes* **51**(8), 2514-2521 (2002).
5. Jeon, S.-B., Yoon, H.J., Park, S.-H., et al. *J. Immunol.* **181**(11), 8077-8087 (2008).
6. Zajonc, D.M., Maricic, I., Wu, D., et al. *J. Exp. Med.* **202**(11), 1517-1526 (2005).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
[WWW.CAYMANCHEM.COM](http://WWW.CAYMANCHEM.COM)