

# PRODUCT DATA SHEET

## Mixed Gangliosides, purified, porcine (NH<sub>4</sub><sup>+</sup> salt)

**Catalog number:** 1525

**Common Name:** gangliosides

**Source:** natural, porcine

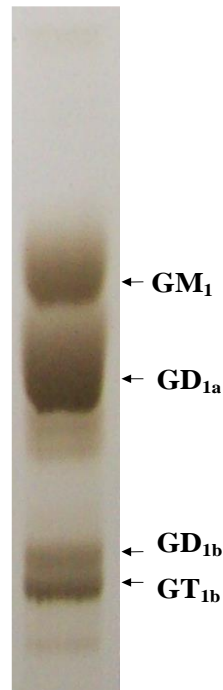
**Solubility:** chloroform/methanol/water  
(2:1:0.1); forms micellar solution in  
water

**Storage:** -20°C

**Purity:** TLC > 98%

**TLC System:** chloroform/methanol/2.5N  
ammonium hydroxide  
(60:40:9 by vol.)

**Appearance:** solid



### Application Notes:

This product contains a natural mixture of gangliosides (approximately 98% GM<sub>1</sub>, GD<sub>1a</sub>, GD<sub>1b</sub>, and GT<sub>1b</sub>) found in the central nervous system of adult bovine. The ratio of different gangliosides changes according to age, species, and organ. Gangliosides<sup>1</sup> are acidic glycosphingolipids that form lipid rafts in the outer leaflet of the cell plasma membrane, especially in neuronal cells in the central nervous system.<sup>2</sup> They participate in cellular proliferation, differentiation, adhesion, signal transduction, cell-to-cell interactions, tumorigenesis, and metastasis.<sup>3</sup> The accumulation of gangliosides has been linked to several diseases including Tay-Sachs and Sandhoff disease. An autoimmune response against gangliosides can lead to Guillain-Barre syndrome. Gangliosides act as receptors for various toxins and bacteria, accumulate in different tumors, and aid in many neuronal functions. Therefore they are very important in therapeutic processes.

### Selected References:

1. L. Svennerholm, et al. (eds.), *Structure and Function of Gangliosides*, New York, Plenum, 1980
2. T. Kolter, R. Proia, K. Sandhoff. Combinatorial Ganglioside Biosynthesis. *J. Biol. Chem.* July Vol. 277, No. 29, pp. 25859-25862, 2002
3. S. Birkle, G. Zeng, L. Gao, R. K. Yu, and J. Aubry, Role of tumor-associated gangliosides in cancer progression. *Biochimie*, 85, 455-463, 2003

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