

## PRODUCT DATA SHEET

### Gangliotetraosylceramide and Sialosyl Derivatives Mixture (qualitative)

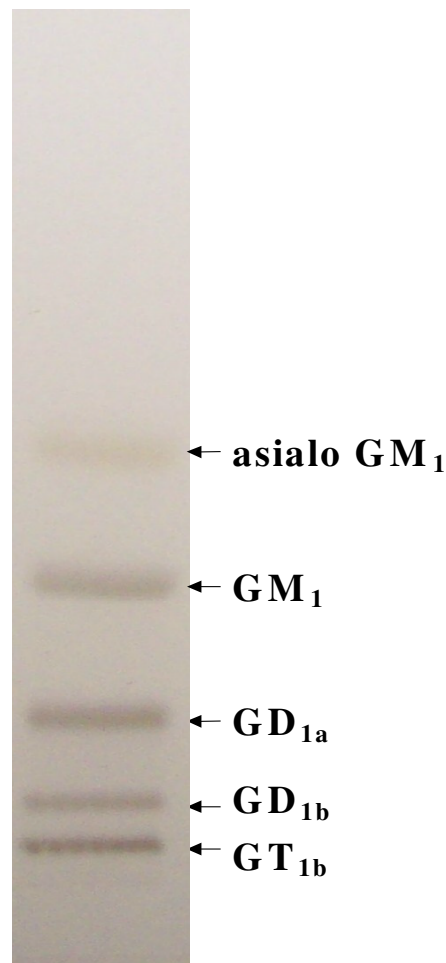
<b>Catalog No:</b>	1511
<b>Components:</b>	asialo GM <sub>1</sub> , GM <sub>1</sub> , GD <sub>1a</sub> , GD <sub>1b</sub> , GT <sub>1b</sub>
<b>Concentration:</b>	0.5mg/ml
<b>Source:</b>	natural, bovine
<b>Quantity:</b>	1ml
<b>Solvent:</b>	chloroform/methanol/DI water (2:1:0.1 by vol.)
<b>TLC System:</b>	chloroform/methanol/0.02% calcium chloride (55:45:10 by vol.)
<b>Storage:</b>	-20°C

#### **Application Notes:**

This product contains the gangliosides asialo GM<sub>1</sub>, GM<sub>1</sub>, GD<sub>1a</sub>, GD<sub>1b</sub>, GT<sub>1b</sub> in approximately equal amounts. It is a qualitative mixture prepared from highly pure materials and is in chloroform/methanol/water (2:1:0.1). The defining characteristic of gangliosides is the sialic acid moiety of the oligosaccharide head group. This mixture contains gangliosides having one, two, and three sialic acids as well as an asialo ganglioside. 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. This is a qualitative mixture and should not be used for quantitative purposes.

#### **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.*, Vol. 277:29 pp. 25859-25862, 2002
3. S. Birkle et al. "Role of tumor-associated gangliosides in cancer progression" *Biochimie*, Vol. 85 pp. 455-463, 2003



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