

# PRODUCT INFORMATION



## Purified Mixed Gangliosides (porcine) (ammonium salt)

Item No. 24857

**Purity:** ≥98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Special Conditions:** Forms micellar solution in water

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

### Laboratory Procedures

Purified mixed gangliosides (porcine) (ammonium salt) is supplied as a solid. A stock solution may be made by dissolving the purified mixed gangliosides (porcine) (ammonium salt) in the solvent of choice, which should be purged from and inert gas. Purified mixed gangliosides (porcine) (ammonium salt) is soluble in a 2:1:0.1 solution of chloroform:methanol:water.

### Description

Gangliosides are glycosphingolipids found in all vertebrate cells with particularly high levels found in the central nervous system.<sup>1,2</sup> Gangliosides in the brain typically contain a saturated stearic acid as the fatty acyl chain, which is located in the outer leaflet of the plasma membrane with the ceramide chain, and a glycan group that faces outward and mediates cell-cell interactions. Gangliosides pack densely with cholesterol to form lipid microdomains that modulate both intra- and inter-cell signaling events. More than 180 gangliosides have been identified that differ based on the position and number of sialic acid residues. The expression of various gangliosides varies during development indicating specialized roles at distinct stages. Deficiencies in the synthesis or breakdown of gangliosides are associated with seizure and neurodegenerative disorders, respectively. They also regulate receptor function by direct association and receptor trafficking. Gangliosides have been implicated in tumorigenesis because they can modulate cell surface events including proliferation, migration, and adhesion.<sup>3</sup> Purified mixed gangliosides (porcine) contains a mixture of gangliosides with variable oligosaccharide groups isolated from porcine brain.

### References

1. Yu, R.K., Tsai, Y.T., Ariga, T., *et al.* Structures, biosynthesis, and functions of gangliosides--an overview. *J. Oleo. Sci.* **60(10)**, 537-544 (2011).
2. Schnaar, R.L. Gangliosides of the vertebrate nervous system. *J. Mol. Biol.* **428(16)**, 3325-3336 (2016).
3. Seyfried, T.N. and Mukherjee, P. Ganglioside GM3 is antiangiogenic in malignant brain cancer. *J. Oncol.*, 961243 (2010).

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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