

Sphingolipids IV: Globosides

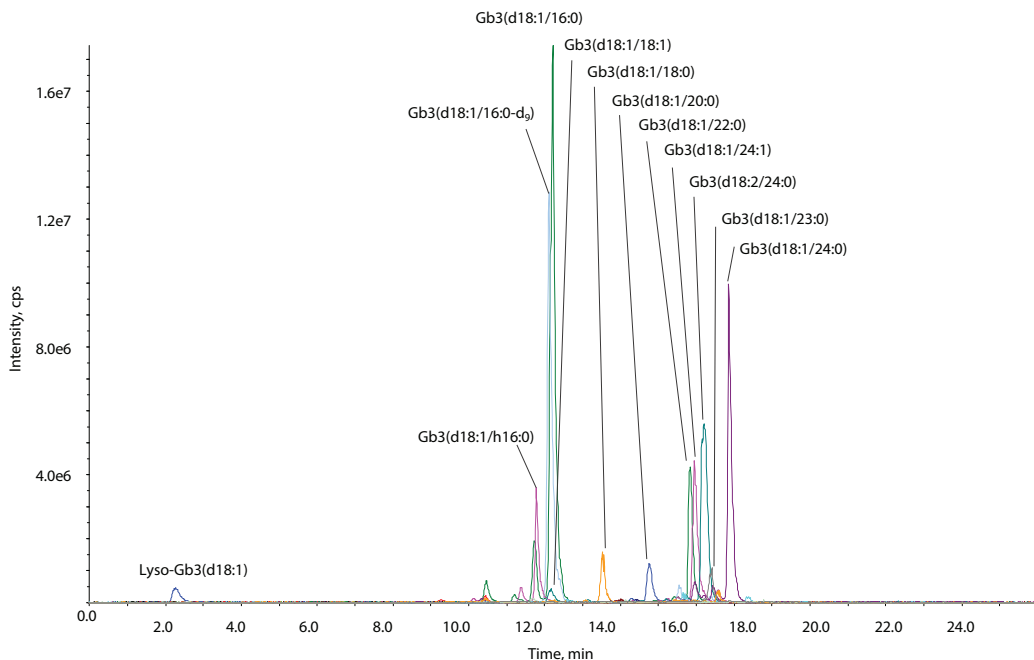
The sphingolipid (SP) category of lipids is very structurally diverse due to the multitude of combinations of sphingoid bases, N-acyl chains, and polar heads, so comprehensive analysis of all relevant sphingolipids in a biological system is not achievable with a single analytical approach. Globosides are a group of glycosphingolipids which are present in a variety of mammalian tissues and have been suggested to be markers of certain diseases, such as hepatocellular carcinoma. The globoside Gb3 (globotriaosylceramide) is known to be involved in neuropathies such as Fabry disease.

This service can be of interest to a wide variety of scientists, including researchers exploring the fundamental mechanisms of biology, clinicians looking for biomarkers or following up on a treatment, or companies testing potential therapeutic tools.

Analyte Coverage

We offer a targeted analytical service for the relative quantitation of molecular species of Gb3 and lyso-Gb3. Globosides other than Gb3 can be added or substituted if required.

Gb3 and LGb3	Gb3	
Sphingoid Bases (examples)	N-Acyl Chains (examples)	Sum Composition (examples)
16:0;O2	16:0	30:1;O2
16:1;O2	16:1	34:1;O2
18:0;O2	18:0	36:2;O2
18:1;O2	18:1	37:1;O2
20:0;O2	20:0	40:1;O2
20:1;O2	22:0	41:1;O2
	23:0	42:2;O2
	24:0	44:2;O2
	24:1	45:2;O2
	24:1;O	
	26:0	
	26:1	



LC-MS chromatogram traces of endogenous globosides extracted from mammalian tissue supplemented with deuterated internal standard.

Our Approach

Samples are extracted using an established liquid-liquid method. Our lab is equipped to handle large sample sets, and the method has been tested with as little as 100 µl plasma or 50 mg brain, liver, heart, or kidney tissue.

Reversed-phase HPLC and tandem mass spectrometry resolve all analytes and enable independent integration and quantitation.

The use of isotopically labeled internal standards helps achieve accurate and precise quantitation of the globosides present in biological samples.

Our Advantages

- Our scientists are expertly trained and have decades of collective experience in the analysis, synthesis, and evaluation of biological roles of lipids.
- State-of-the-art instrumentation, reagents, and methods for all aspects of sample preparation, lipid extraction, LC-MS analysis, and data review ensure consistent, high-quality data.
- Method is scalable, from pilot studies with a few samples to high-throughput studies with hundreds of samples.

 Contact us for more information at www.caymanchem.com/lipidomics