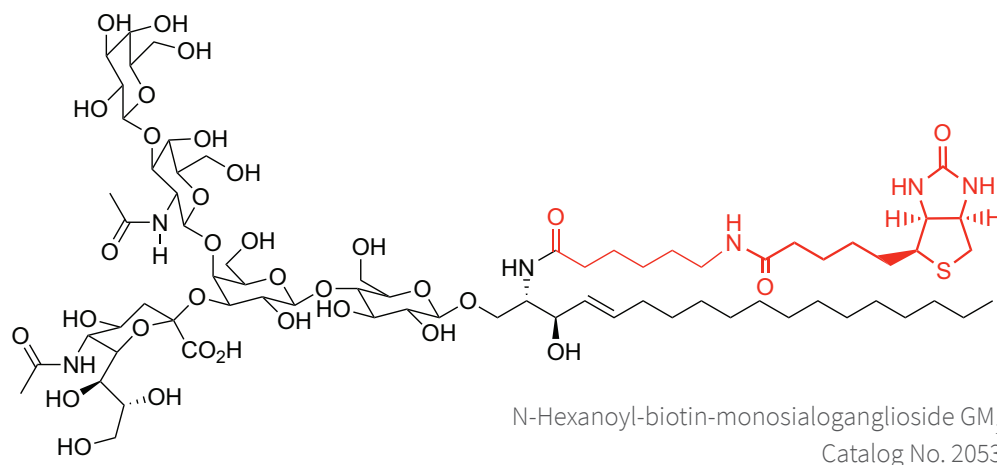


# Biotinylated Sphingolipid Standards



Matreya's line of biotinylated sphingolipids is ideal for use in sphingolipid research, taking advantage of the strong and specific interaction of biotin with streptavidin/avidin. These sphingolipid analogs contain a biotin label attached to the amine of the sphingosine moiety *via* a hexanoic acid linker which maintains the sphingolipid's natural properties. The biotin label allows for easy attachment of the sphingolipid to streptavidin/avidin proteins, making them extremely useful for binding to substrates and for toxin detection. Matreya's biotinylated products combine the natural ceramide backbone with a biotin label to achieve a more natural protein interaction as well as very specific streptavidin/avidin binding.

Mukhopadhyay and coworkers identified the inhibitor 2 of protein phosphatase 2A (I2PP2A) as a ceramide-binding protein using biotin-labeled ceramide. They found that I2PP2A ceramide binding decreased the association between PP2A and the inhibitor, preventing the inhibition of PP2A activity *in vitro*. They also found that the direct interaction of I2PP2A with ceramide plays important biological roles *via* the regulation of PP2A activity and signaling, which in turn controls ceramide-mediated degradation of c-Myc and antiproliferation.<sup>1</sup> Pukin and coworkers used biotin-labeled ganglioside analogs for *E. coli* enterotoxin detection on streptavidin-coated ELISA plates.<sup>2</sup> Enterotoxigenic *E. coli* is a pathogenic form of *E. coli* that is a serious threat to health and food safety around the world, and the detection of enterotoxins is of critical importance in preventing foodborne diseases.

Catalog No.	Product Name	Size	Purity
2081	N-Hexanoyl-biotin-D-erythro-sphingosine	5 mg	98+%
2212	N-Hexanoyl-biotin-D-erythro-dihydrosphingosine	5 mg	98+%
2211	N-Hexanoyl-biotin-phytosphingosine	5 mg	98+%
2203	N-Hexanoyl-biotin-galactosylceramide	5 mg	98+%
2085	N-Hexanoyl-biotin-glucosylceramide	5 mg	98+%
2207	N-Hexanoyl-biotin-sulfatide	1 mg	98+%
2205	N-Hexanoyl-biotin-lactosylceramide	1 mg	98+%
2053	N-Hexanoyl-biotin-monosialoganglioside GM <sub>1</sub>	500 µg	98+%
2055	N-Hexanoyl-biotin-disialoganglioside GD <sub>3</sub>	500 µg	98+%

## References:

1. A. Mukhopadhyay *et al.* (2009) Direct interaction between the inhibitor 2 and ceramide *via* sphingolipid-protein binding is involved in the regulation of protein phosphatase 2A activity and signaling. *FASEB J.*, 23(3), 751-763
2. A.V. Pukin *et al.* (2011) Chemoenzymatic synthesis of biotin-appended analogues of gangliosides GM2, GM1, GD1a and GalNAc-GD1a for solid-phase applications and improved ELISA tests. *Org. Biomol. Chem.*, 9(16), 5809-5815