



CIL

Cambridge Isotope Laboratories, Inc.  
isotope.com

Eurisotop

A CAMBRIDGE ISOTOPE LABORATORIES COMPANY

RESEARCH PRODUCTS

# Glycan Standards and N-Linked Glycan Quantitation Kit

- Glycan Standards
- INLIGHT® Glycan Tagging Kit

Please inquire for ordering and pricing information.

Great strides are continually being made to better understand the composition, structure, and function of glycans in biological systems, however, the large structural diversity and wide range of abundances make the study of glycomics very challenging. Glycans participate in a large number of cellular, molecular, and biological processes and are implicated in a number of diseases, including Alzheimer's<sup>1</sup> and cancer.<sup>2</sup> Unfortunately, basic glycomic research has been hampered by the lack of commercially available standards and research tools.

Cambridge Isotope Laboratories, Inc. (CIL) is pleased to offer standards/ tools to the glycomic research community to aid the detection, identification, and quantification of glycans in biological samples. Specifically, CIL is now supplying authentic glycan standards to complement its innovative glycan-tagging kit termed INLIGHT® (Individuality Normalization when Labeling with Isotopic Glycan Hydrazide Tag).

## Glycan Standards New!

These high-quality glycan standards are available in <sup>13</sup>C and unlabeled forms. They are provided as purified powders and are packaged in sterile, self-standing, microcentrifuge tubes. The standards are supplied in 500 pmol quantities. Bulk quantities may be available; please inquire.

The available glycans encompass these general categories:

- N-linked
- O-linked
- Sialylated
- Linear and branched
- Fucosylated

Each lot of material has been thoroughly tested to ensure accurate identity, high chemical purity, and high isotopic enrichment (if applicable). QC testing includes:

- HPLC and <sup>1</sup>H NMR for chemical purity determination (>98%)
- LC-MS, MALDI-MS, and <sup>1</sup>H-NMR for identity confirmation
- ESI-MS for isotopic enrichment (>99%)

For a complete listing of available glycans, please visit [shop.isotope.com](http://shop.isotope.com).

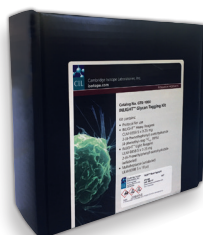


Glycans are synthesized and tested by Cassia, LLC.

### References

1. Schedin-Weiss, S.; Winblad, B.; Tjernberg, L.O. **2014**. The role of protein glycosylation in Alzheimer disease. *FEBS J*, 281(10), 46-62.
2. Taniguchi, N.; Kizuka, Y. **2015**. Glycans and cancer: role of N-glycans in cancer biomarker, progression and metastasis, and therapeutics. *Adv Cancer Res*, 126, 11-51.
3. Hecht, E.S.; McCord, J.P.; Muddiman, D.C. **2016**. A quantitative glycomics and proteomics combined purification strategy. *J Vis Exp*, 109, 53735-53749.

## INLIGHT: A Glycan-Tagging Kit for Glycan Quantification



The INLIGHT kit contains a <sup>13</sup>C-labeled and unlabeled hydrazide reagent, as well as a maltoheptose oligosaccharide (for quality control). The hydrazide tagging derivatization has been demonstrated to increase the hydrophobicity of the enzymatically cleaved glycans and improve their ionization efficiency for enhanced RP-LC-MS analysis.

This kit provides:

- Material for up to 20 runs
- Detailed user manual

The INLIGHT protocol is adept at quantitatively comparing the N-glycan and heparin oligomer profiles of sample digests (e.g., case vs. control) in a rapid and straightforward manner.<sup>3,4</sup> In such experiments, glycan identification is facilitated by authentic standards, while data analysis can be accomplished in Skyline.<sup>5</sup>

Please visit [isotope.com](http://isotope.com) for more information.

Catalog No.	Description	Price (USD)
GTK-1000	INLIGHT Glycan Tagging Kit	\$950

4. Mangrum, J.B., et al. **2017**. Comparative analysis of INLIGHT™-labeled enzymatically depolymerized heparin by reverse-phase chromatography and high-performance mass spectrometry. *Anal Bioanal Chem*, 409(2), 499-509.
5. Loziuk, P.L.; Hecht, E.S.; Muddiman, D.C. **2016**. N-linked glycosite profiling and use of Skyline as a platform for characterization and relative quantification of glycans in differentiating xylem of *Populus trichocarpa*. *Anal Bioanal Chem* [Epub ahead of print].



Eurisotop, Parc des Algorithmes, route de l'orme, 91190 Saint Aubin | France

tel: +33 1 69 41 97 98

fax: +33 1 69 41 93 52

+49 (0) 681 99 63 338 (Germany)

[www.eurisotop.com](http://www.eurisotop.com)