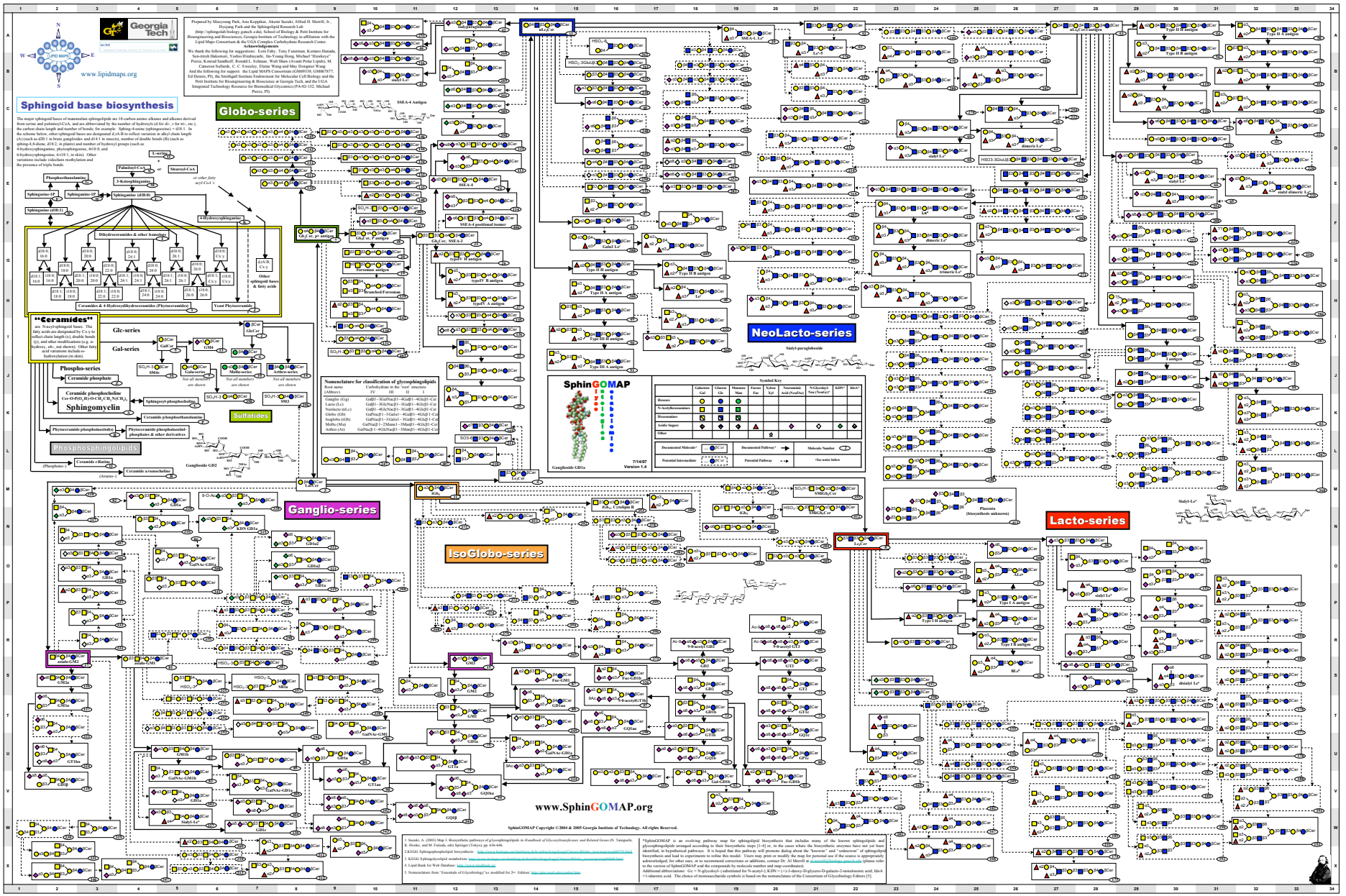

Prepared by Maoyoung Park, Ana Kopitkar, Akemi Suzuki, Alfred H. Merrill, Jr., Hyejung Park and the Sphingolipid Research Lab (http://sphingolab.biology.gatech.edu), School of Biology & Petit Institute for Bioengineering and Bioscience, Georgia Institute of Technology in affiliation with the Lipid Maps Consortium & the UGA Complex Carbohydrate Research Center.

Acknowledgements

We thank the following for suggestions: Eoin Fahy, Tony Futerman, Kentaro Hanada, Sen-itiroh Hakomori, Yoshio Hirabayashi, Jin-Young Hong, Michael "Hawkeye" Pierce, Konrad Sandhoff, Ronald L. Schnaar, Wolf Shaw (Avanti Polar Lipids), M. Cameron Sullards, C. C. Sweeley, Elaine Wang and Mey Dongmei Wang.

And the following for support: The Lipid MAPS Consortium (GM069338, GM069877; Ed Dennis, PI), the Sandhoff Institute Endowment for Molecular Cell Biology and the Petit Institute for Bioengineering & Bioscience at Georgia Tech, and the UGA Integrated Technology Resource for Biomedical Glycomics (P4-92-12; Michael Pierce, PI).

SphinGOMAP Copyright ©2004 & 2005 Georgia Institute of Technology. All rights Reserved.

1. Suzuki, A. (2003) Map 3. Biosynthetic pathways of glycosphingolipids in *Handbook of Glycosyltransferases and Related Genes* (N. Taniguchi, K. Honke, and M. Fukuda, eds) Springer (Tokyo), pp. 636-646.
2. KEGG: Sphingophospholipid biosynthesis: http://www.genome.ad.jp/kegg-bin/show_pathway?map00563.html
3. KEGG: Sphingolycolipid metabolism: http://www.genome.ad.jp/kegg-bin/show_pathway?map00600.html
4. Lipid Bank for Web Database: http://www.lipidbank.jp
5. Nomenclature from "Essentials of Glycobiology" as modified for 2nd Edition: http://arts.ucsf.edu/essentials.htm

*SphinGOMAP is an evolving pathway map for sphingolipid biosynthesis that includes many of the known sphingolipids and glycosphingolipids arranged according to their biosynthetic steps [1-4] or, in the cases where the biosynthetic enzymes have not yet been identified, in hypothetical pathways. It is hoped that this pathway will promote dialog about the "knowns" and "unknowns" of sphingolipid biosynthesis and lead to experiments to refine this model. Users may print or modify the map for personal use if the source is appropriately acknowledged; for other uses, or to recommend corrections or additions, contact Dr. Al Merrill at al.merrill@biology.gatech.edu (please refer to the version of SphinGOMAP and the compounds by molecule number and map coordinates).
Additional abbreviations: Gc = N-glycolroyl- (substituted for N-acetyl-); KDN = (+)-3-deoxy-D-glycero-D-galacto-2-nonulosonic acid; Neu5 = 5-ulosonic acid. The choice of monosaccharide symbols is based on the nomenclature of the Consortium of Glycobiology Editors [5].