Illustrated above is a glycosaminoglycan oligomer docked to the chemokine CCL5. The model was generated using the program Chimera, a crystal structure of CCL5 (PDB ID 1U4L), and an oligosaccharide made with the GLYCAM web tool (http://glycam.ccrc.uga.edu).
Complex Carbohydrate Research Center at UGA

Research Mission. Since its founding in 1985, scientists at the Complex Carbohydrate Research Center (CCRC) have studied the structures and functions of the complex carbohydrates of plants, microbes and animals to determine the role of carbohydrates in growth and development, host-pathogen interactions and disease processes. The seventeen research groups at the CCRC use and develop diverse analytical techniques, including mass spectrometry, nuclear magnetic resonance (NMR) spectroscopy, computer modeling software, tissue culture, confocal microscopy, immunocytochemistry, molecular biology, and chemical and enzymatic synthesis techniques.

Federal Centers. The CCRC is the home of six federally designated centers: the Department of Energy-funded Plant and Microbial Complex Carbohydrate Center, the National Science Foundation-funded Genomics Center: A Monoclonal Antibody Toolkit for Functional Genomics, the National Institutes of Health/NCRR-funded Research Resource for Integrated Glycotechnology, the NIH/NCRR-funded Integrated Technology Resource for Biomedical Glycomics, the NIH/NIGMS-funded Southeast Collaboratory for Biomolecular NMR and DOE-funded BioEnergy Science Center.

The CCRC would like to thank the following sponsors for making this year’s Georgia Glycoscience Symposium possible:

Major Sponsor
Sanofi-Aventis

Sponsors
Associates of Cape Cod, Inc./Northstar BioProducts
Cambridge Isotope Laboratories
Georgia Research Alliance
Thermo Electron Corporation
UGA Biomedical and Health Sciences Institute
Varian, Inc.

www.ccrc.uga.edu

PROGRAM

Low Molecular Weight Heparins to Proteoglycans

9:00 a.m. Introduction
9:10 a.m. Dr. Jeffrey Esko, Professor of Cellular and Molecular Medicine, University of California, San Diego School of Medicine, “Lipoprotein Metabolism Mediated by Proteoglycans.”
9:45 a.m. Dr. Steven Rosen, Professor and Vice Chair of Anatomy, University of California, San Francisco, “The Sulfs As Extracellular Regulators of Heparan Sulfate Proteoglycans.”
10:20 a.m. Coffee Break
10:45 a.m. Dr. T.H. van Kuppevelt, Professor of Biochemistry, Radboud University Nijmegen Medical Centre, Nijmegen Centre for Molecular Life Sciences, The Netherlands, “Single Chain Antibodies to Heparan Sulfates: Looking at Saccharide Sequences Through the Microscope?”
11:20 a.m. Dr. Alan Rapraeger, Professor of Pathology and Laboratory Medicine, School of Medicine and Public Health, University of Wisconsin-Madison, “Syndecan-1 Regulation of Integrins in Tumorigenesis and Angiogenesis.”
11:55 a.m. Dr. Vincent Hascall, Professor, Cleveland Clinic Lerner College of Medicine at Case Western Reserve University, “Hyaluronan is an Inflammatory Proteoglycan.”
12:30 p.m. Lunch / Poster Viewing
1:45 p.m. Dr. Robert Linhardt, Senior Constellation Professor of Biocatalysis and Metabolic Engineering, Rensselaer Polytechnic Institute, “Advances in Glicosaminoglycan Synthesis and Analysis.”
2:20 p.m. Dr. Jeremy Turnbull, Professor and Chair of Biochemistry, School of Biological Sciences, University of Liverpool, United Kingdom, “Decoding the Structure-Activity Relationships of Heparan Sulfates.”
2:55 p.m. Coffee Break
3:20 p.m. Dr. Paul DeAngelis, Professor of Biochemistry and Molecular Biology, University of Oklahoma Health Sciences Center, “Glycoengineering Glicosaminoglycans by Chemoenzymatic Synthesis.”
3:55 p.m. Dr. Joseph Zaia, Associate Director of Mass Spectrometry Resource and Associate Research Professor of Biochemistry, Boston University School of Medicine, “Quantification of Functionally Relevant Glicosaminoglycan Domains.”
4:30 p.m. Discussion - Challenges in Glicosaminoglycan Characterization
5:00 p.m. Reception / Poster Viewing