

## CURRICULUM VITAE

### Kelly G. Ten Hagen, PhD

#### Education:

- 1982-1986 BS with Distinction and Honors (Magna Cum Laude), Biology with a Concentration in Genetics and Development, Cornell University, Ithaca, NY
- 1986-1992 PhD, Genetics, Stanford University, Stanford, CA

#### Employment History:

- 1988-1989 Teaching Assistant, Human Genetics (for Medical and Graduate Students), Stanford University
- 1991 Program Coordinator, Genetics Research Colloquia, Stanford University
- 1992-2001 Research Assistant Professor, Department of Biochemistry and Biophysics, University of Rochester
- 2001-2004 Senior Research Fellow, NIDDK, National Institutes of Health
- Dec. 2004- Chief, Developmental Glycobiology Unit, LCDB/NIDCR, National Institutes of Health

#### Editorial Responsibilities:

- 2007-present Editorial Board Member for *The Journal of Biological Chemistry*  
Reviewer for *Developmental Biology*  
Reviewer for *Developmental Cell*  
Reviewer for *Archives of Biochemistry and Biophysics*  
Reviewer for *The International Journal of Biochemistry and Cell Biology*

#### Membership and Activity in Professional Societies:

- 1992-present American Association for the Advancement of Science
- 2006-present American Society for Biochemistry and Molecular Biology
- 2007-present Society for Glycobiology

#### Extramural Activities:

- 2007 NSF Grant Reviewer

#### Invited Presentations:

- 2002 NIH Drosophila Special Interest Group, NIH, Bethesda, MD

- 2003 Laboratory of Molecular Genetics, NICHD, NIH, Bethesda, MD
- 2003 Hereditary Inclusion Body Myopathy Meeting, Bethesda, MD
- 2004 Laboratory of Cellular and Developmental Biology, NIDDK, NIH, Bethesda, MD
- 2005 Biotechnology in the 21<sup>st</sup> Century: A Symposium Honoring Stanley N. Cohen, Napa Valley, CA
- 2005 Glycobiology Gordon Research Conference, Ventura, CA
- 2006 Complex Carbohydrate Research Center, The University of Georgia, Athens, GA
- 2006 The Glycobiology Interest Group, Johns Hopkins University, Baltimore, MD
- 2006 Frontiers in Glycomics: Bioinformatics and Biomarkers in Disease (Session Chair), Bethesda, MD
- 2006 Glycosciences in Cancer Workshop, NCI, Frederick, MD
- 2007 Boston University, Boston, MA
- 2007 Glycobiology Gordon Research Conference, Ventura, CA
- 2007 The University of Kentucky, Louisville, KY
- 2007 EMBO Workshop on Glycoscience and Development, Lille, France
- 2008 Rochester Oral Biology Research Conference, Rochester, NY

**Intramural Activities Outside the NIDCR DIR:**

- NIH Drosophila Interest Group
- NIH Tenure Track Investigators Committee
- NIH Drosophila Journal Club
- Steering Committee for the NIH Glycobiology Interest Group

**Activities Within the NIDCR DIR:**

- Designed and conducted a “Mentoring Session” for the LCDB
- LCDB Seminar Series organizer (2006-2007)
- Developmental Biology Journal Club co-organizer
- Tertiary mentor for two postdoctoral fellows in LCDB

**Bibliography:**

Peer-reviewed research articles:

1. **Ten Hagen KG**, Gilbert DM, Willard HF, Cohen SN. 1990. Replication timing of DNA sequences associated with human centromeres and telomeres. *Mol Cell Biol.* 10(12): 6348-6355.

2. Ravnan JB, Gilbert DM, **Ten Hagen KG**, Cohen SN. 1992. Random-choice replication of extrachromosomal bovine papillomavirus (BPV) molecules in heterogeneous, clonally derived BPV-infected cell lines. *J Virol.* 66(12): 6946-6952.
3. **Ten Hagen KG**, Cohen SN. 1993. Timing of replication of beta satellite repeats of human chromosomes. *Nucleic Acids Res.* 21(9): 2139-2142.
4. O'Connell BC, **Ten Hagen KG**, Lazowski KW, Tabak LA, Baum BJ. 1995. Facilitated DNA transfer to rat submandibular gland in vivo and GRP-Ca gene regulation. *Am J Physiol.* 268(6 Pt 1): G1074-1078.
5. **Ten Hagen KG**, Ravnan JB, Cohen SN. 1995. Disparate replication properties of integrated and extrachromosomal forms of bovine papilloma virus in ID13 cells. *J Mol Biol.* 254(2): 119-129.
6. Zara J, Hagen FK, **Ten Hagen KG**, Van Wuyckhuysse BC, Tabak LA. 1996. Cloning and expression of mouse UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase-T3. *Biochem Biophys Res Commun.* 228(1): 38-44.
7. Hagen FK, **Ten Hagen KG**, Beres TM, Balys MM, VanWuyckhuysse BC, Tabak LA. 1997. cDNA cloning and expression of a novel UDP-N-acetyl-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase. *J Biol Chem.* 272(21): 13843-13848.
8. Nehrke K, **Ten Hagen KG**, Hagen FK, Tabak LA. 1997. Charge distribution of flanking amino acids inhibits O-glycosylation of several single-site acceptors in vivo. *Glycobiology.* 7(8): 1053-1060.
9. **Ten Hagen KG**, Beres TM, Szpirer J, Szpirer C, Tabak LA. 1997. Chromosomal organization and expression analysis of two distinct genes encoding glutamine/glutamic acid-rich proteins. *Biochem J.* 324 ( Pt 1): 177-184.
10. **Ten Hagen KG**, Hagen FK, Balys MM, Beres TM, Van Wuyckhuysse B, Tabak LA. 1998. Cloning and expression of a novel, tissue specifically expressed member of the UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase family. *J Biol Chem.* 273(42): 27749-27754.
11. **Ten Hagen KG**, Tetaert D, Hagen FK, Richet C, Beres TM, Gagnon J, Balys MM, VanWuyckhuysse B, Bedi GS, Degand P, Tabak LA. 1999. Characterization of a UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase that displays glycopeptide N-acetylgalactosaminyltransferase activity. *J Biol Chem.* 274(39): 27867-27874.
12. Kingsley PD, **Ten Hagen KG**, Maltby KM, Zara J, Tabak LA. 2000. Diverse spatial expression patterns of UDP-GalNAc:polypeptide N-acetylgalactosaminyl-transferase family member mRNAs during mouse development. *Glycobiology.* 10(12): 1317-1323.
13. **Ten Hagen KG**, Balys MM. 2000. Low levels of GRP-Ca expression in transgenic mice. *J Dent Res.* 79(4): 926-929.

14. Melvin JE, Nguyen HV, Nehrke K, Schreiner CM, **Ten Hagen KG**, Scott W. 2001. Targeted disruption of the *Nhe1* gene fails to inhibit beta(1)-adrenergic receptor-induced parotid gland hypertrophy. *Am J Physiol Gastrointest Liver Physiol.* 280(4): G694-700.
15. **Ten Hagen KG**, Bedi GS, Tetaert D, Kingsley PD, Hagen FK, Balys MM, Beres TM, Degand P, Tabak LA. 2001. Cloning and characterization of a ninth member of the UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase family, ppGalNTase-T9. *J Biol Chem.* 276(20): 17395-17404.
16. Tetaert D, **Ten Hagen KG**, Richet C, Boersma A, Gagnon J, Degand P. 2001. Glycopeptide N-acetylgalactosaminyltransferase specificities for O-glycosylated sites on MUC5AC mucin motif peptides. *Biochem J.* 357(Pt 1): 313-320.
17. **Ten Hagen KG**, Balys MM, Tabak LA, Melvin JE. 2002. Analysis of isoproterenol-induced changes in parotid gland gene expression. *Physiol Genomics.* 8(2): 107-114.
18. **Ten Hagen KG**, Tran DT. 2002. A UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase is essential for viability in *Drosophila melanogaster*. *J Biol Chem.* 277(25): 22616-22622.
19. **Ten Hagen KG**, Tran DT, Gerken TA, Stein DS, Zhang Z. 2003. Functional characterization and expression analysis of members of the UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase family from *Drosophila melanogaster*. *J Biol Chem.* 278(37): 35039-35048.
20. Young WW, Jr., Holcomb DR, **Ten Hagen KG**, Tabak LA. 2003. Expression of UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase isoforms in murine tissues determined by real-time PCR: a new view of a large family. *Glycobiology.* 13(7): 549-557.
21. Hang HC, Yu C, **Ten Hagen KG**, Tian E, Winans KA, Tabak LA, Bertozzi CR. 2004. Small molecule inhibitors of mucin-type O-linked glycosylation from a uridine-based library. *Chem Biol.* 11(3): 337-345.
22. Pratt MR, Hang HC, **Ten Hagen KG**, Rarick J, Gerken TA, Tabak LA, Bertozzi CR. 2004. Deconvoluting the functions of polypeptide N-alpha-acetylgalactosaminyltransferase family members by glycopeptide substrate profiling. *Chem Biol.* 11(7): 1009-1016.
23. Muller R, Hulsmeier AJ, Altmann F, **Ten Hagen K**, Tiemeyer M, Hennet T. 2005. Characterization of mucin-type core-1 beta1-3 galactosyltransferase homologous enzymes in *Drosophila melanogaster*. *Febs J.* 272(17): 4295-4305.
24. Tian E, **Ten Hagen KG**. 2006. Expression of the UDP-GalNAc: polypeptide N-acetylgalactosaminyltransferase family is spatially and temporally regulated during *Drosophila* development. *Glycobiology.* 16(2): 83-95.
25. Tian E, **Ten Hagen KG**. 2007. O-linked glycan expression during *Drosophila* development. *Glycobiology.* 17(8): 820-827.

26. Tian E, **Ten Hagen KG**. 2007. A UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase is required for epithelial tube formation. *J Biol Chem*. 282(1): 606-614.

Peer-reviewed review articles:

1. **Ten Hagen KG**, Fritz TA, Tabak LA. 2003. All in the family: the UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferases. *Glycobiology*. 13(1): 1R-16R.

Chapters and proceedings:

2. Hagen FK, **Ten Hagen KG**, Tabak LA. 2002. Polypeptide N-acetylgalactosaminyl-transferases. In: *Handbook of Glycosyltransferases and Related Genes*. Edited by N Taniguchi, K Honke, M Fukuda. Springer-Verlag. p. 167-173.

**List of MTAs:**

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| 2004 | Dr. Thierry Hennett, University of Zurich, Zurich, Switzerland, Glycopeptides and recombinant transferase proteins |
| 2005 | Dr. Carolyn Bertozzi, University of California, Berkeley, CA, Recombinant transferase proteins                     |
| 2005 | Dr. Thomas Gerken, Case Western Reserve University, Cleveland, OH, Recombinant transferase proteins                |
| 2006 | Dr. Boguslaw Wojczyk, Columbia University, Transferase expression vectors  |
| 2007 | Dr. Pier Paolo D'Avino, University of Cambridge, Mutant fly stocks   |
| 2007 | Dr. Deborah Andrew, Johns Hopkins University, Mutant fly stocks  |