

BIOGRAPHICAL SKETCH

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NAME Henrik Gunnar Dohlman		POSITION TITLE Professor and Interim Chair	
eRA COMMONS USER NAME DOHLMAHG			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Wesleyan University, Middletown, CT	BA	1982	Chemistry
Duke University, Durham, NC	PhD	1988	Biochemistry
Duke University, Durham, NC	Post-doc	1989	Medicine/Cardiology
University of California, Berkeley, CA	Post-doc	1989-93	Molec & Cell Biology

A. Positions and honors

6/83-12/88 Graduate Research, Duke University (with Robert J. Lefkowitz).
 1/89-8/89 Postdoctoral Fellow, Duke University (with Robert J. Lefkowitz)
 9/89-2/93 Jane Coffin Childs Postdoc Fellow, University of California Berkeley (with Jeremy Thorner)
 3/93-6/01 Assistant (3/93-6/99) and Associate (7/99-6/01) Professor of Pharmacology, Yale University
 6/01-6/04 Associate Professor of Biochemistry & Biophysics, University of North Carolina, Chapel Hill
 7/04- Professor of Biochemistry & Biophysics, University of North Carolina, Chapel Hill
 1997- Co-organizer and co-founder (with Ravi Iyengar), New York G-protein Signaling Workshop
 1998-03 Member, Scientific Advisory Board, Cellular Genomics, Branford, CT
 1998-00 Member, American Heart Association, Katz Prize Selection Committee
 1998-01 American Heart Association Established Investigator Award
 1998-01 Member, American Heart Association NE Research Consortium Peer Review Group
 1999 Member, NIH-NCI Special Emphasis Panel, Member, NIH-MDCN-3 Special Emphasis Panel
 1999 Co-organizer (with Paul Sternweis), ASPET Colloquium, "RGS proteins", Boston, MA
 2000-03 Member, Scientific Advisory Board, Wyeth-Ayerst Neuroscience, Princeton, NJ
 2002-06 Member, NIH PHRA (later HM) study sections
 2002 Member (ad hoc), NIH-Board of Scientific Counselors
 2004- Member, Scientific Advisory Committee, American Type Culture Collection, Manassas, VA
 2007 Chair, Gordon Research Conf., "Phosphorylation & G protein mediated signaling networks"

B. Peer-reviewed publications (20 most recent and earlier research articles cited >100 times)

5. Dixon, R. A. F., Kobilka, B. K., Strader, D. J., Benovic, J. L., **Dohlman, H. G.**, Frielle, T., Bolanowski, M. A., Bennett, C. D., Rands, E., Diehl, R. E., Mumford, R. A., Slater, E. E., Sigal, I. S., Caron, M. G., Lefkowitz, R. J. and Strader, C. D., Cloning of the gene and cDNA for mammalian β -adrenergic receptor and homology with rhodopsin. *Nature* 321:75-9, 1986.
 7. Kobilka, B. K., Dixon, R.A. F., Frielle, T., **Dohlman, H. G.**, Bolanowski, M. A., Sigal, I. S., Yang-Feng, T. L., Francke, U., Caron, M. G. and Lefkowitz, R. J., cDNA for the human β_2 -adrenergic receptor: A protein with multiple membrane spanning domains and a chromosomal location shared with the PDGF receptor gene. *Proc. Natl. Acad. Sci. USA* 84:46-50, 1987.
 8. Kobilka, B. K., Frielle, T., **Dohlman, H. G.**, Bolanowski, M. A., Dixon, R.A.F., Keller, P., Caron, M. G. and Lefkowitz, R. J., Delineation of the intronless nature of the genes for the human and hamster β_2 -adrenergic receptor and their putative promoter regions. *J. Biol. Chem.* 262:7321-7, 1987.
 10. **Dohlman, H. G.**, Bouvier, M., Benovic, J. L., Caron, M. G. and Lefkowitz, R. J., The multiple membrane spanning topography of the β_2 -adrenergic receptor: Localization of the sites of binding, glycosylation, and regulatory phosphorylation by limited proteolysis. *J. Biol. Chem.* 262:14282-8, 1987.
 13. **Dohlman, H. G.**, Caron, M. G., Strader, C. D., Amlaiky, N. and Lefkowitz, R. J., Identification and sequence of a binding site peptide of the β_2 -adrenergic receptor. *Biochemistry* 27:1813-7, 1988.
 16. **Dohlman, H. G.**, Caron, M. G., DeBlasi, A., Frielle, A., and Lefkowitz, R. J., Role of extracellular disulfide bonded cysteines in the ligand binding function of the β_2 -adrenergic receptor. *Biochemistry* 29:2335-42, 1990.
 18. King, K. K., **Dohlman, H. G.**, Thorner, J., Caron, M. G. and Lefkowitz, R. J., Control of yeast mating signal transduction by a mammalian β_2 -adrenergic receptor and Gs α subunit. *Science* 250:121-3, 1990.

23. **Dohlman, H. G.**, Apaniesk, D., Chen, Y., Song, J., and Nusskern, D., Inhibition of G-protein signaling by dominant gain-of-function mutations in Sst2p, a pheromone desensitization factor in *Saccharomyces cerevisiae*. Mol. Cell. Biol. 15:3635-43, 1995.
(See accompanying news articles by W. Roush (*Science* 271:1056-8, 1996) and R. Iyengar (*Science* 275:42-3, 1997).
25. **Dohlman, H. G.**, Song, J., Ma, D., Courchesne, W. E., and Thorner, J., Sst2, a negative regulator of pheromone signaling in the yeast *Saccharomyces cerevisiae*: Expression, localization, and genetic interaction and physical association with Gpa1 (G-protein α subunit). Mol. Cell. Biol. 16:5194-209, 1996.
29. Gold, S. J., Ni, Y. G., **Dohlman, H. G.**, and Nestler, E. J., Regulators of G-protein signaling proteins: Region-specific expression of nine subtypes in rat brain. J. Neurosci. 17:8024-37, 1997.
46. **Dohlman, H. G.** G proteins and pheromone signaling. Ann. Rev. Physiol. 64:129-52, 2002.
47. Marotti, L., Newitt, R., Wang, Y., Aebersold, R., and **Dohlman, H. G.**, Direct identification of a G protein ubiquitination site by mass spectrometry. Biochemistry 41:5067-74, 2002.
48. Wang, Y., and **Dohlman, H. G.**, Pheromone-dependent ubiquitination of the mitogen-activated protein kinase kinase Ste7. J. Biol. Chem. 277:15766-72, 2002.
49. Burchett, S., Flanary, P., Jiang, L., Aston, C. W., Young, K., Uetz, P., Fields, S., and **Dohlman, H. G.**, Regulation of stress response signaling by the N-terminal DEP (Dishevelled/ EGL-10/Pleckstrin) domain of Sst2, a regulator of G protein signaling in *Saccharomyces cerevisiae*. J. Biol. Chem. 277:22156-67, 2002.
50. **Dohlman, H. G.**, Diminishing returns: Desensitization. Nature 418:591, 2002.
51. Sachpatzidis, A., Benton, B. K., Manfredi, J., Wang, H., Hamilton, A., **Dohlman, H. G.**, and Lolis, E., Identification of allosteric peptide agonists of CXCR4. J. Biol. Chem. 278:896-907, 2003.
52. Wang, Y., Ge, Q., Houston, D., Thorner, J., Errede, B., and **Dohlman, H. G.**, Regulation of Ste7 ubiquitination by Ste11 phosphorylation and the SCF (Skp1/Cullin/F-box) complex. J. Biol. Chem. 278:22284-9, 2003.
53. Chasse, S. A., and **Dohlman, H. G.**, RGS proteins: G protein-coupled receptors meet their match. Assay Drug Dev Technol. 1:357-64, 2003.
54. Guo, M., Aston, C., Burchett, S. A., Dyke, C., Fields, S., Rajarao, S. J. R., Uetz, P., Wang, Y., Young, K., and **Dohlman, H. G.**, The yeast G protein α subunit Gpa1 transmits a signal through an RNA-binding effector protein Scp160. Molecular Cell 12:517-24, 2003.
55. Hao, N., Yildirim, N., Wang, Y., Elston, T. C., and **Dohlman, H. G.**, Regulators of G protein signaling and transient activation of signaling: Experimental and computation analysis reveals negative and positive feedback controls on G protein activity. J. Biol. Chem. 278:46506-15, 2003.
(See accompanying news article in Science STKE, 2003, Issue 210).
56. Wu, Y. L., Hooks, S., Harden, T. K., and **Dohlman, H. G.**, Dominant-negative inhibition of pheromone receptor signaling by a single point mutation in the G protein α subunit. J. Biol. Chem. 279:35287-97, 2004.
57. Yildirim, N., Hao, N., **Dohlman, H. G.**, and Elston, T. C., Mathematical modeling of regulators of G protein signaling and G protein regulation in yeast. Methods Enzymol. 389:383-98, 2004.
58. Chasse, S. A., and **Dohlman, H. G.**, Identification of yeast pheromone pathway modulators by high-throughput agonist response profiling of a yeast gene knockout strain collection. Methods Enzymol. 389:399-409, 2004.
59. Maleri, S., Ge, Q., Hackett, E., Wang, Y., **Dohlman, H. G.**, and Errede, B. Persistent activation by constitutive Ste7 promotes Kss1-mediated invasive growth but fails to support Fus3-dependent mating in yeast. Mol. Cell. Biol. 24:9221-38, 2004.
60. Wang, Y., and **Dohlman, H. G.**, Pheromone signaling mechanisms in yeast: a prototypical sex machine. Science 306:1508-1509, 2004.
61. Wang, Y., Marotti, L., Lee, M. J., and **Dohlman, H. G.**, Differential regulation of G protein α subunit trafficking by mono- and poly-ubiquitination. J. Biol. Chem. 280:284-291, 2005.
62. Parnell, S. C., Marotti, L. A., Jr., Kiang, L., Torres, M. P., Borchers, C. H., and **Dohlman, H. G.**, Phosphorylation of the RGS protein Sst2 by the MAP kinase Fus3 and use of Sst2 as a model to analyze determinants of substrate sequence specificity. Biochemistry 44:8159-66, 2005.
63. Johnson, G. M., **Dohlman, H. G.**, and Graves, L. M., MAPK kinase kinases (MKKKs) as a target class for small-molecule inhibition to modulate signaling networks and gene expression. Curr Opin Chem Biol 9:325-31, 2005.
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65. Wang, X., Hao, N., **Dohlman, H. G.**, and Elston, T. C., Bistability, stochasticity and oscillations in the mitogen activated protein kinase cascade. Biophys J. 90:1-19, 2006.
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