

**NAME**

Anne Burton Theibert

**BUSINESS ADDRESS**

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**EDUCATION**

1987-1991 Johns Hopkins University, Baltimore, MD; Department of Biological Chemistry, Postdoctoral Fellow in laboratory of Dr. Solomon Snyder

1985-1987 Johns Hopkins University, Baltimore, MD; Department of Neuroscience, Postdoctoral Fellow in laboratory of Dr. Peter Devreotes

1979-1985 Johns Hopkins University, Baltimore, MD; Biochemistry, Ph.D.

1975-1979 Goucher College, Baltimore, MD; Chemistry B.A.

**POSITIONS HELD**

1996-present

Assistant Professor (primary), Department of Neurobiology, University of Alabama at Birmingham

1996-present

Assistant Professor (secondary), Department of Cell Biology, University of Alabama at Birmingham

1998 Associate

Scientist, Cell Adhesion & Matrix Research Center, University of Alabama at Birmingham

1991-1996

Associate Scientist, Neurobiology Research Center, University of Alabama at Birmingham

1991-1996

Assistant Professor (primary), Department of Cell Biology, University of Alabama at Birmingham

1991-present

Assistant Professor (secondary), Department of Physiology and Biophysics, University of Alabama at Birmingham

1987-1991

Postdoctoral Fellow, The Johns Hopkins University School of Medicine, Department of Biological Chemistry

1985-1987

Postdoctoral Fellow, The Johns Hopkins University School of Medicine, Department of Neuroscience

## **AWARDS AND HONORS**

Dean's Scholar; Student-Athlete Award: Goucher College, 1979;

Young Investigators Pre-doctoral Student Award: Johns Hopkins University School of Medicine, 1984;

1998 Rolex Achievement Award

## **PROFESSIONAL AFFILIATIONS**

Society for Neuroscience

Biophysical Society

American Society for Cell Biology

## **PUBLICATIONS**

### **Articles**

Burton, W.A., M.G. Scher, and C.J. Waechter. Enzymatic phosphorylation of dolichol in central nervous tissue. J. Biol. Chem., 254:7129-7136, 1979.

Scher, M.G., W.A. Burton, and C.J. Waechter. Enzymatic glycosylation of dolichol monophosphate formed via cytidine triphosphate in calf brain membranes. J. Neurochem., 35:844-849, 1980.

Burton, W.A., J.J. Lucas, and C.J. Waechter. Enhanced chick oviduct kinase activity during estrogen-induced differentiation. J. Biol. Chem., 256:632-635, 1981.

Burton, W.A., M.G. Scher, and C.J. Waechter. Enzymatic dephosphorylation of endogenous and exogenous dolichol monophosphate by calf brain membranes. Arch. Biochem. Biophys., 208:409-417, 1981.

Theibert, A., P. Klein, and P. Devreotes. Specific photoaffinity labeling of the cAMP receptor in *Dictyostelium*. J. Biol. Chem., 259:12318-12321, 1984.

Klein, P., A. Theibert, D. Fontana, and P. Devreotes. Identification and cAMP induced modification of the cAMP receptor in *Dictyostelium discoideum*. J. Biol. Chem., 260:1757-1764, 1984.

Theibert, A. and P. Devreotes. Adenosine and its derivatives inhibit the cyclic AMP signaling response in *Dictyostelium*. Dev. Biol., 106:166-173, 1984.

Devreotes, P., D. Fontana, P. Klein, J. Sherring, and A. Theibert. Transmembrane signaling in *Dictyostelium*. Meth. Cell Biol., 1,28:299-331, 1985.

Theibert, A., D. Fontana, T.-Y. Wong, and P. Devreotes. Cell-cell interactions in the development of *Dictyostelium*. Amer. Zool., 26:549-551, 1986.

Theibert, A., M. Palmisano, B. Jastorff, and P. Devreotes. The specificity of the cAMP receptor mediating activation of adenylate cyclase in *Dictyostelium discoideum*. Dev. Biol., 114:529-533, 1986.

Reymond, C., R. Gomer, W. Nellen, A. Theibert, P. Devreotes, and R.A. Firtel. Mutated *Dictyostelium* transformants: Implications for cAMP: Receptor mediated signal transduction. Nature, 323:340-343, 1987.

Theibert, A. and P. Devreotes. Guanine nucleotides are required for activation of adenylate cyclase in *Dictyostelium*. J. Biol. Chem., 261:15121-14125, 1987.

Theibert, A., S. Supattapone, P. Worley, J. Baraban, J. Meek, and S. Snyder. Demonstration of inositol 1,3,4,5-tetrakisphosphate receptor binding. Biochem. Biophys. Res. Comm., 148:1283-1289, 1987.

Klein, P., A. Theibert, and P. Devreotes. Identification and ligand-induced modification of the cAMP receptor in *Dictyostelium*. Meth. Enzymol., 159:267-278, 1988.

Lilly P., P. Klein, A. Theibert, R. Vaughan, M. Pupillo, C. Saxe, A. Kimmel, and P. Devreotes. Receptor G-protein interactions in the development of *Dictyostelium*. Botany Acta, 101:123-127, 1988.

Supattapone, S., S. Danoff, A. Theibert, S. Joseph, J. Steiner, and S. Snyder. Cyclic AMP dependent phosphorylation of a brain inositol triphosphate receptor decreases its release of calcium. Proc. Natl. Acad. Sci., USA, 85:8747-8750, 1988.

Theibert, A., S. Supattapone, C. Ferris, S. Danoff, R. Evans, and S. Snyder. Solubilization and separation of inositol 1,3,4,5-tetrakisphosphate- and inositol 1,4,5-triphosphate- binding proteins and metabolizing enzymes in rat brain. Biochem. J., 267:441-445, 1990.

Prestwich, G., J. Maracek, R. Mourey, A. Theibert, C. Ferris, S. Danoff, and S. Snyder. Tethered IP<sub>3</sub> synthesis and biochemical applications of the 1-0-(3-aminopropyl) ester of inositol (1,4,5) triphosphate. J. Amer. Chem. Soc., 113:1822-1825, 1991.

Theibert, A., V. Estevez, C. Ferris, S. Danoff, R. Barrow, G. Prestwich, and S. Snyder. Inositol 1,3,4,5-tetrakisphosphate and inositol hexakisphosphate receptor proteins: Isolation and characterization from rat brain. Proc. Natl. Acad. Sci., USA, 88:3165-3169, 1991.

Theibert, A. and S. Snyder. [<sup>3</sup>H]Inositol 1,3,4,5-tetrakisphosphate (<sup>3</sup>H-IP<sub>4</sub>) and [<sup>3</sup>H]Inositol hexakisphosphate (<sup>3</sup>H-IP<sub>6</sub>) employed to isolate and characterize IP<sub>4</sub> and IP<sub>6</sub> receptor proteins. NEN/Dupont Biotech Update Newsletter, 6:60, 1991.

Theibert, A.B., V.A. Estevez, R.J. Mourey, J.F. Marecek, R.K. Barrow, G.D. Prestwich, and S.H. Snyder. Photoaffinity labeling and characterization of isolated inositol 1,3,4,5-tetrakisphosphate and inositol hexakisphosphate-binding proteins, J. Biol. Chem., 267:9071-9079, 1992.

Voglmaier, S.M., J.H. Keen, J. Murphy, C.D. Ferris, G.D. Prestwich, S.H. Snyder, and A.B. Theibert. Inositol hexakisphosphate receptor protein identified as the clathrin assembly protein AP-2, Biochem. Biophys. Res. Comm., 187:158-163, 1992.

Jackson, T.R., I.J. Blader, L.P. Hammonds-Odie, C.R. Burga, F. Cooke, P.T. Hawkins, A.G. Wolf, K.A. Heldman, and A.B. Theibert. Initiation and maintenance of NGF-stimulated neurite outgrowth requires activation of a phosphoinositide 3-kinase, J. Cell Science, 109:289-300, 1996.

Hammonds-Odie, L.P., T.J. Jackson, I. Blader, A. Profit, C. Turk, G.P. Prestiwch and A.B. Theibert. Identification and cloning of centaurin: a novel phosphatidylinositol (3,4,5) triphosphate binding protein from rat brain, J. Biol.Chem. 271:18859-18868, 1996

Blader, I., G. Prestwich, B. Kearns, K. Cadwalleder and A. Theibert. Phosphatidylinositol-3,4,5 trisphosphate stimulates the nucleotidase activity of GCS1, a putative yeast arf-gap. Implications in vacuolar targeting from the plasma membrane.1997.

Greenwood, J.A., M.A. Pallero, A.B. Theibert and J. E. Murphy-Ullrich. Thrombospondin signaling of focal adhesion disassembly is mediated by phosphoinositide 3-Kinase. J. Biol. Chem., 273 (3):1755-63, 1998.

Zachor, D.A., J. Moore, A. B. Theibert and A. Percy. Prolonged c-fos expression in NGF induced pc12 cells is mediated by cocaine - A possible mechanism for cocaine inhibitory effects on neuronal differentiation. Pediatric Research, April 1997 307(A).

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Kearns, M., Monks, D., Fang, M., Rivas, M., Courtney, P., Prestwich, G., Theibert, A., Dewey, R., and V. Bankaitis. Novel developmentally regulated phosphoinositide binding proteins from soybean whose expression bypasses the requirement for an essential phosphatidylinositol transfer protein in yeast. EMBO Jour., 17(14):4004-4017, 1998.

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Sims, B., R. Sabina and A. Theibert. Elevated adenosine monophosphate deaminase activity in Alzheimer's disease brain. Neurobiology of Aging, in press.

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## **Chapters**

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Fontana, D., T.-Y. Wong, A. Theibert, and P. Devreotes. Cell-cell interactions in the development of *Dictyostelium*. In: The Cell Surface in Development and Cancer, ed. M.S. Steinberg, Plenum Press, 1984.

Klein, P., D. Fontana, A. Theibert, B. Knox, and P. Devreotes. Cyclic AMP receptors controlling cell-cell interactions in the development of *Dictyostelium*. In: Molecular Biology of Development, Cold Spring Harbor Symposium on Quantitative Biology, 55:787-799, 1985.

Vaughn, R., M. Pupillo, A. Theibert, P. Klein, and P. Devreotes. Surface receptor mediated activation and adaptation of adenylate cyclase in *Dictyostelium*. *Nato*

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Theibert, A., G. Prestwich, T.R. Jackson and L. Hammonds-Odie. The purification and assay of inositol polyphosphate binding proteins. In: Signaling by Inositol Lipids and Inositol Phosphates. Ed. Steve Shears, Oxford University Press (UK), 7:117-150, 1997.

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Danoff, S.K., A. Theibert, R. Evans, and S.H. Snyder. Ca<sup>2+</sup>-dependent regulation of Ins-1,4,5-P<sub>3</sub> binding to rat cerebellar receptor. Soc. Neurosci. Abstr., 15:1004, 1989.

Danoff, S.K., W.A. Theibert, E.A. Davis, R.K. Barrow, and S.H. Snyder. Characterization and partial purification of a membrane associated Ins 1,4,5-P<sub>3</sub> 5'-phosphatase from rat cerebellum. Soc. Neurosci. Abstr., 16:629, 1990.

Theibert, W.A., C.D. Ferris, S.K. Danoff, S. Supattapone, R.K. Barrow, and S.H. Snyder. Identification of inositol tetrakisphosphate and hexakisphosphate binding proteins from rat cerebellum. Soc. Neurosci. Abstr., 16:374, 1990.

Theibert, A., V. Estevez, R. Mourey, C. Ferris, R. Barrow, G. Prestwich, and S.H. Snyder. Inositol tetrakisphosphate and hexakisphosphate receptors: Isolation and photoaffinity labeling in rat brain. Soc. Neurosci. Abstr., 17:18, 1991.

Voglmaier, S.M., J.H. Keen, G.D. Prestwich, S.H. Snyder, and A.B. Theibert. Characterization of an inositol polyphosphate receptor from brain: Similarity to the clathrin assembly protein AP-2. Soc. Neurosci. Abstr., 18:68, 1992.

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Hammonds-Odie, L., A. Profit, K. Heldman, A. Marino, J. Eichelberger, M. Fang, G. Prestwich and A.B. Theibert. Inositol polyphosphate binding proteins in rat brain: Labelling with a benzophenone-InsP<sub>4</sub> probe and identification of one insP<sub>4</sub> binding protein as SMP deaminase. Gordon Conference on Calcium Signalling, Henniker, New Hampshire, June, 1993.

Hammonds-Odie, L.P, A. Profit, K. Heldman, A. Marino, G. Prestwich and A. Theibert. Application of a new benzophenone photoprobe to the studies of inositol polyphosphate receptors in mammalian brain. Cell Biology Abstr., 1353, 1993.

Hammonds-Odie, L., C. Burga, M. Carwile, A. Profit, G. Prestwich and A. Theibert. Actin: a possible inositol polyphosphate binding protein? Eastern Student Research Forum at the University of Miami School of Medicine, February, 1994.

Sims, B., K. Heldman and A. Theibert. Characterization of adenosine monophosphate deaminase in PC12 cells. Eastern Student Research Forum at the University of Miami School of Medicine, February, 1994.

Burga, C., A. Wolfe, I. Blader, T. Jackson and A. Theibert. PI 3-Kinase involvement in neurite outgrowth. Alabama Academy of Science Annual Meeting, March, 1994.

Blader, I., T. Jackson, C. Burga, A. Wolfe, L. Fraser, L. Hammonds-Odie, and A. Theibert. Inhibition of PI 3-Kinase blocks nerve growth factor stimulated neurite outgrowth and

maintenance in PC12 cells. Soc. Neurosci. Abstr., 20:1082, 1994.

Hammonds-Odie, L., C. Burga, A. Profit, G. Prestwich, and A. Theibert. Actin: a possible inositol polyphosphate binding protein. Soc. Neurosci. Abstr., 20:929, 1994.

Sims, B. and A. Theibert. Characterization of adenosine monophosphate deaminase in brains from subjects with Alzheimer's Disease. Eastern Student Research Forum, University of Miami, 1995.

Hammonds-Odie, L., T. Jackson, C. Burga, A. Profit, G. Prestwich and A. Theibert. Identification of a putative inositol polyphosphate binding protein. FASEB Abstr, 1995.

Blader, I., J.-L. Guan and A. Theibert. Nerve growth factor regulation of focal adhesion kinase and paxillin in PC12 cells. Gordon Conference Abstr, 1995.

Blader, I., A. Theibert, E. Phillips, L. Hammonds-Odie and T. Jackson. Disruption of membrane trafficking in PC12 cells by wortmannin, an inhibitor of phosphoinositide 3-kinases. Soc. Neurosci. Abstr., 21:49, 1995.

Hammonds-Odie, L.P., T.R.Jackson, A.A. Profit, I.J. Blader, C.W.Truck, G.D.Prestwich, and A.B. Theibert, Centaurin a: A novel phosphatidylinositol (3,4,5)-trisphosphate binding protein from rat brain. Soc. Neurosci. Abstr., 1996.

Blader, I.J., T.R. Jackson, B. Kearns, A. Greenwood, A. Profit, G. Prestwich, K. Cadwallader, S. Cook, and A.B. Theibert. Phosphatidylinositol-3,4,5 trisphosphate stimulates the nucleotidase activity of GCS1, a putative yeast arf-gap. Implications in vacuolar targeting from the plasma membrane. Cell Biology Abstr., 1996.

Sims, B., R.E. Powers, R.L. Sabina and A.B. Theibert. Elevated adenosine monophosphate deaminase activity in the brains of subjects with Alzheimer's Disease. Soc. Neurosci. Abstr., 1997.

Blader, I.J., T.R. Jackson, A. Greenwood and A.B. Theibert. Centaurin a, a novel phosphoinositide target in mammalian brain. Soc. Neurosci. Abstr., 1997.

Zachor, D.A., J.F. Moore, A.B. Theibert and A.K. Percy. Cocaine inhibited neuronal differentiation in NGF-induced PC12 cells and altered c-fos expression are reversed by c-fos antisense oligonucleotide. New York Academy of Sciences meeting. "Cocaine - Effects on the Developing Brain" (P29). Washington DC, September 1997.

Zachor, D., J. Moore, A.B. Theiber, and A. Percy. Prolonged c-fos expression in NGF-induced pc12 cells is mediated by cocaine - A possible mechanism for cocaine inhibitory effects on neuronal differentiation. Developmental Biology section at the "Society for Pediatric Research" meeting. Washington DC, May 1997.