

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed on Form Page 2.
Photocopy this page or follow this format for each person.

NAME		POSITION TITLE		
Wible, Barbara A.		Assistant Professor		
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
Lawrence University, Appleton, Wisconsin		B.S.	1976	Biology
Marquette University, Milwaukee, Wisconsin		Ph.D.	1983	Biology

RESEARCH AND PROFESSIONAL EXPERIENCE: Concluding with present position, list, in chronological order, previous employment, experience, and honors. Include present membership on any Federal Government public advisory committee. List, in chronological order, the titles, all authors, and complete references to all publications during the past three years and to representative earlier publications pertinent to this application. If the list of publications in the last three years exceeds two pages, select the most pertinent publications.

RESEARCH AND PROFESSIONAL EXPERIENCE

- 1981-1982 Instructor, Department of Biology, Marquette University, Milwaukee, Wisconsin, Experimental Genetics, Experimental Cell Biology, Molecular Basis of Biology
- 1983 Research Assistant, Department of Biology, Marquette University, Milwaukee, Wisconsin,
- 1983-1985 Postdoctoral Research Associate, Departments of Biochemistry and Molecular Biology, and Neuroscience, University of Florida, Gainesville
- 1985-1986 Assistant Research Scientist, Department of Neuroscience, University of Florida, Gainesville
- 1986-08/91 Research Associate, Department of Molecular Physiology and Biophysics, Baylor College of Medicine, Houston, Texas
- 09/91-06/92 Research Instructor, Department of Molecular Physiology and Biophysics, Baylor College of Medicine, Houston, Texas
- 07/92-03/95 Research Assistant Professor, Department of Molecular Physiology and Biophysics, Baylor College of Medicine, Houston, Texas
- 04/95-12/95 Research Scientist, Rammelkamp Center for Education and Research, MetroHealth Campus, Case Western Reserve University, Cleveland, Ohio
- 01/96- present Assistant Professor, Dept. of Biochemistry, Case Western Reserve University and Junior Staff Scientist, MetroHealth Medical Center, Cleveland, Ohio

RESEARCH PROJECTS ONGOING OR COMPLETED DURING THE LAST 3 YEARS

“A Novel Accessory Protein Modulating Cardiac K⁺ Channels”

Principal Investigator: Barbara A. Wible, Ph.D.

Agency: NIH (NHLBI)

Type: RO1 (HL60759) Period: 7/01/98-06/30/02

The main goal is the characterization of the functional interaction of a novel K⁺ channel binding protein, KChAP, with voltage-gated K⁺ channel subunits in heart.

“Ion Channels in Mechanosensitive Neurons”

Principal Investigator: Diana L. Kunze, Ph.D.

Agency: NIH

Type: RO1 (HL61436) Period: 12/01/98 – 11/30/02

The main goal is the identification of voltage-gated ion channels expressed in the soma and terminals of baroreceptor neurons.

“Regulation of Inward Rectifier K⁺ Channels

Principal Investigator: A.M. Brown, M.D., PH.D.

Agency: NIH

Type: R01 (HL55404) Period: 12/01/95-11/30/00

The long term objectives are to understand the function and structure of cytoplasmic polyamine modulators on inward rectifier K⁺ channels and a new family of cytoplasmic peptide modulators of Kv α channels.

“Coexpression of Kv1.5 and Kv β 1.2 in a mammalian cell line”

Principal Investigator: Barbara A. Wible, Ph.D.

Sponsor: ChanTek, Inc.

Type: Sponsored research agreement, 04/15/99-04/14/00

The goal is to establish a stable cell expressing both Kv1.5 and Kv β 1.2 to be used for drug screening applications.

SELECTED PUBLICATIONS

- Critz, S.D., **Wible, B.A.**, Lopez, H.S., and Brown, A.M. Stable expression and regulation of a rat brain K⁺ channel. *J. Neurochem.* 60:1175-78, 1993.
- Fedida, D., **Wible, B.A.**, Wang, Z., Fermini, B., Faust, F., Nattel, S., and Brown, A.M. Identity of a novel delayed rectifier current from human heart with a cloned K⁺ channel current. *Circ. Res.* 73:210-216, 1993.
- Rampe, D., **Wible, B.A.**, Fedida, D., Dage, R.C., and Brown, A.M. Verapamil blocks a rapidly activating delayed rectifier K⁺ channel cloned from human heart. *Mol. Pharmacol.* 44:642-648, 1993.
- Rampe, D., **Wible, B.A.**, Brown, A.M., and Dage, R.C. Effects of terfenadine and its metabolites on a delayed rectifier K⁺ channel cloned from human heart. *Mol. Pharmacol.* 44:1240-1245, 1993.
- Tagliatalata, M., **Wible, B.A.**, Caporaso, R., and Brown, A.M. Specification of pore properties by the carboxyl terminus of inwardly rectifying K⁺ channels. *Science* 264:844-847, 1994.
- Wible, B.A.**, Tagliatalata, M., Ficker, E., and Brown, A.M. Gating of inwardly rectifying K⁺ channels localized to a single negatively charged residue. *Nature* 371:246-249, 1994.
- Ficker, E., Tagliatalata, M., **Wible, B.A.**, Henley, C.M., and Brown, A.M. Spermine and spermidine as gating molecules for inward rectifier K⁺ channels. *Science* 266:1068-1072, 1994.
- Wible, B.A.** and Brown, A.M. Function and structure of voltage-dependent potassium channels. *Drug Dev. Res.* 33(3):225-234, 1994.
- Crumb, W.J., **Wible, B.A.**, Arnold, D., Payne, J.P. and Brown, A.M. Blockade of multiple human cardiac potassium currents by the antihistamine terfenadine: Possible mechanisms for terfenadine-associated cardiotoxicity. *Mol. Pharm.* 47:181-90, 1995.
- Wible, B.A.**, DeBiasi, M., Majumder, K., Tagliatalata, M., and Brown, A.M. Cloning and functional expression of an inwardly rectifying K⁺ channel from human atrium. *Circ. Res.* 76:343-350, 1995.
- Majumder, K., DeBiasi, M., Wang, Z., and **Wible, B.A.** Molecular cloning and functional expression of a novel potassium channel β -subunit from human atrium. *FEBS Letters* 361:13-16, 1995.
- Schwalbe, R.A., Wang, Z., **Wible, B.A.**, and Brown, A.M. Potassium channel structure and function reported by a single glycosylation sequon. *J. Biol. Chem.* 270:15336-15340, 1995.
- Rampe, D., Wang, Z., Fermini, B., **Wible, B.A.**, Dage, R.C., and Nattel, S. Voltage- and time-dependent block by perhexiline of K⁺ currents in human atrium and in cells expressing a Kv1.5 type cloned channel. *J.*

- Pharmacol. And Exp. Therap.* 274:444-449, 1995.
- Kiehn, J., **Wible, B.A.**, Ficker, E., Taglialatela, M., and Brown, A.M. A cloned human inward rectifier potassium channel as target for Class III antiarrhythmic drugs. *Circ. Res.* 77:1151-1155, 1995.
- Taglialatela, M., Ficker, E., **Wible, B.A.**, and Brown, A.M. C-terminus determinants for Mg^{2+} and polyamine block of inward rectifier K^+ channel IRK1. *EMBO J.* 14:5532-5541, 1995.
- Taglialatela, M., Ficker, E., **Wible, B.**, and Brown, A.M. Pharmacological implications of inward rectifier K^+ channel regulation by cytoplasmic polyamines. *Pharmacol. Res.* 32: 335-344, 1995.
- Kiehn, J., **Wible, B.A.**, Lacerda, A., and Brown, A.M. Mapping the block of a cloned human inward rectifier potassium channel by dofetilide. *Mol. Pharm.* 50:380-387, 1996.
- Kiehn, J., Lacerda, A., **Wible, B.A.**, and Brown, A.M. Molecular physiology and pharmacology of HERG: Single channel currents and block by dofetilide. *Circulation* 94:2572-2579, 1996.
- Wang, Z., Kiehn, J., Yang, Q., Brown, A.M., and **Wible, B.A.** Comparison of binding and block produced by alternatively spliced $Kv\beta 1$ subunits. *J. Biol. Chem.* 271:28311-28317, 1996.
- DeBiasi, M., Wang, Z., Accili, E.A., **Wible B.A.**, and Fedida, D. Open channel block of human heart $Kv1.5$ by the beta-subunit $hKv\beta 1.2$. *Am. J. Physiol.* 272: H2932-H2941, 1997.
- Wible, B.**, Murawsky, M.K., Crumb, W.J. Jr., and Rampe, D. Stable expression and characterization of the human brain potassium channel $Kv2.1$: blockade by antipsychotic agents. *Brain Res.* 761: 42-50.
- Feng, J., **Wible, B.**, Li, G.R., Wang, Z., and Nattel, S. Antisense oligodeoxynucleotides directed against $Kv1.5$ mRNA specifically inhibit ultrarapid delayed rectifier K^+ current in cultured human atrial myocytes. *Circ. Res.* 80: 572-579, 1997.
- Accili, E.A., Kiehn, J., Yang, Q., Wang, Z., Brown, A.M., and **Wible, B.A.** Separable $Kv\beta$ subunit domains alter expression and gating of potassium channels. *J. Biol. Chem.* 272: 25824-25831, 1997.
- Accili, E.A., Kiehn, J., **Wible, B.A.**, and Brown, A.M. Interactions among inactivating and noninactivating $Kv\beta 1$ subunits and $Kv\alpha 1.2$ produce potassium currents with intermediate inactivation. *J. Biol. Chem.* 272: 28232-28236, 1997.
- Bianchi, L., **Wible, B.A.**, Arcangeli, A., Taglialatela, M., Morra, F., Castaldo, P., Crociani, O., Rosati, B. Faravelli, L., Olivotto, M., and Wanke, E. HERG encodes a K^+ current highly conserved in tumors of different histogenesis: A selective advantage for cancer cells? *Cancer Research* 58: 815-822, 1998.
- Wible, B.A.**, Yang, Q., Kuryshv, Y.A., Accili, E.A., and Brown, A.M. Cloning and expression of a novel K^+ channel regulatory protein, KChAP. *J. Biol. Chem.* 273: 11745-11751, 1998.
- Accili, E.A., Kuryshv, Y.A., **Wible, B.A.**, and Brown, A.M. Separable effects of human $Kv\beta 1.2$ N- and C-termini on inactivation and expression of human $Kv1.4$. *J. Physiol.* 512.2: 325-336, 1998.
- Kuryshv, Y.A., Gudz, T. I., Brown, A.M., and **Wible, B.A.** KChAP as a chaperone for specific potassium channels. *Am. J. Physiol.* 278: C931-C941, 2000.
- Peri, R., **Wible, B.A.**, and Brown, A.M. Mutations in the $Kv\beta 2$ binding site for NADPH and their effects on $Kv1.4$. *J. Biol. Chem.* 276: 738-741, 2001.
- Cukovic, D., Lu, G.W., **Wible, B.**, Steele, D.F., and Fedida, D. A discrete amino terminal domain of $Kv1.5$ and $Kv1.4$ potassium channels interacts with the spectrin repeats of alpha-actinin-2. *FEBS Letts* 498: 87-92, 2001.
- Kuryshv, Y.A., **Wible, B.A.**, Gudz, T.I., Ramirez, A.N., and Brown, A.M. KChAP/ $Kv\beta 1.2$ interactions and their effects on cardiac Kv channel expression. *Am. J. Physiol. Cell Physiol.* 281: C290-9, 2001.

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