

Candice C. Askwith

Department of Neuroscience
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EDUCATION

- December, 1997 **Ph.D.** in Experimental Pathology from the University of Utah, Salt Lake City, Utah.
- May, 1991 **B.S.** in Cellular and Molecular Biology from the University of Michigan, Ann Arbor, Michigan.

RESEARCH EXPERIENCE

September 2003-Present

Assistant Professor.

Department of Neuroscience, The Ohio State University, Columbus, Ohio

Focus: Role of ASIC channels in synaptic plasticity and sensory transduction

December, 1998- August 2003

Howard Hughes Postdoctoral Research Associate.

Howard Hughes Medical Institute at the University of Iowa College of Medicine, Iowa City, Iowa.

Focus: Activation Mechanisms of ASIC Channels.

Mentor: Michael J. Welsh, M.D.

January-November, 1998

Postdoctoral Research Associate.

Department of Pathology, Division of Immunology and Cell Biology, University of Utah, Salt Lake City, Utah.

Focus: Structure and Function of the Iron Oxidase, Fet3.

Mentor: Jerry Kaplan, Ph.D.

1991-December, 1997

Graduate Student.

Department of Pathology, Division of Immunology and Cell Biology, University of Utah, Salt Lake City, Utah.

Focus: Identification and Characterization of an Iron Oxidase Required for Iron Transport in Yeast.

Mentor: Jerry Kaplan, Ph.D.

HONORS/AWARDS

April, 2002 Internal Medicine Research Day Postdoctoral Associate Poster Award.

September, 1997 Travel Fellowship to attend the 17th International Congress of Biochemistry and Molecular Biology and the Young Scientists' Program.

1995-1997 Genetics Training Grant Recipient.

TEACHING EXPERIENCE

1993 Teaching Assistant, Principles of Cell Biology (Biol 240).
1993 Teaching Assistant, Pathogenic Microbiology (MDLB 450).
1996 Teaching Assistant, Molecular Biology of Cancer and Cell Growth (Path 734).

PUBLICATIONS

1. C.C. Askwith, J.A. Wemmie, M.P. Price, and M.J. Welsh: ASIC2 modulates acid-activated currents in hippocampal neurons. Manuscript submitted *J. Neuroscience*.
2. J.A. Wemmie, C.C. Askwith, E. Lamani, M.D. Cassell, J.H. Freeman, and M.J. Welsh: Acid-sensing ion channel 1 is localized in brain regions with high synaptic density and contributes to fear conditioning. (2003) *J. Neuroscience* 23(13), 5496-5502.
3. J. Xie, M. P. Price, J. A. Wemmie, C. C. Askwith, and M. J. Welsh: Modulation by FMRFamide-related peptides of H⁺-gated currents in cultured dorsal root ganglion neurons. (2003) *J. Neurophys.* 89, 2459-2465.
4. A. S. Leonard, O. Yermolaieva, A. Hruska-Hageman, C. C. Askwith, M. P. Price, J. A. Wemmie, and M. J. Welsh: cAMP-dependent protein kinase phosphorylation of the acid-sensing ion channel-1 regulates its binding to PICK1. (2003) *Proc. Natl. Acad. Sci. U S A.* 100, 2029-2034.
5. J. A. Wemmie, J. Chen, C. C. Askwith, A. M. Hruska-Hageman, M. P. Price, B. C. Nolan, P. G. Yoder, E. Lamani, T. Hoshi, J. H. Freeman, and M. J. Welsh: The acid-activated channel ASIC contributes to synaptic plasticity, learning, and memory. (2002) *Neuron* 34, 463-477.
6. C. C. Askwith, C. Benson, M. Welsh, and P. Snyder: DEG/ENaC ion channels involved in sensory transduction are modulated by cold temperature. (2001) *Proc. Natl. Acad. Sci. U S A.* 98, 6459-6463.
7. C. C. Askwith, C. Chen, M. Ikuma, C. Benson, M. P. Price, and M. J. Welsh: Neuropeptide FF and FMRFamide potentiate acid-evoked currents from sensory neurons and proton-gated DEG/ENaC channels. (2000) *Neuron* 26, 133-141.
8. C. D. Vulpe, Y. M. Kuo, T. L. Murphy, L. Cowley, C. C. Askwith, N. Libina, J. Gitschier, G. J. Anderson: Hephaestin, a ceruloplasmin homologue implicated in intestinal iron transport, is defective in the sla mouse. (1999) *Nat. Genet.* 2, 195-199.
9. C. C. Askwith and J. Kaplan: The biochemistry and molecular biology of iron metabolism in yeast. In "Iron Metabolism; Inorganic Biochemistry and Regulatory Mechanisms." (1999) Wiley-VCH Press, Weinheim, Federal Republic of Germany, 51-63.

10. S. R. Davis-Kaplan, C. C. Askwith, A. C. Bengtzen, D. Radisky, and J. Kaplan: Chloride is an allosteric effector of copper assembly for the yeast multicopper oxidase Fet3p: an unexpected role for intracellular chloride channels. (1998) *Proc. Natl. Acad. Sci. U S A.* 95, 13641-13645.
11. C. C. Askwith and J. Kaplan: Site-directed mutagenesis of the yeast multicopper oxidase Fet3p. (1998) *J. Biol. Chem.* 273, 22415-22419.
12. C. C. Askwith and J. Kaplan: Iron and copper transport in yeast and its relevance to human disease. (1998) *TIBS.* 23, 135-138.
13. C. C. Askwith and J. Kaplan: An oxidase-permease-based iron transport system in *Schizosaccharomyces pombe* and its expression in *Saccharomyces cerevisiae*. (1997) *J. Biol. Chem.* 272, 401-405.
14. D. M. de Silva, C. C. Askwith, and J. Kaplan: Molecular mechanisms of iron uptake in eukaryotes. (1996) *Phys. Rev.* 76, 31-47.
15. C. C. Askwith, D. M. de Silva, and J. Kaplan: Molecular biology of iron acquisition in *Saccharomyces cerevisiae*. (1996) *Mol. Microbiol.* 20, 27-34.
16. D. M. de Silva, C. C. Askwith, D. Eide, and J. Kaplan: The FET3 gene product required for high affinity iron transport in yeast is a cell surface ferroxidase. (1995) *J. Biol. Chem.* 270, 1098-1101.
17. A. Dancis, D. S. Haile, C. C. Askwith, D. Eide, C. Moehle, J. Kaplan, and R. D. Klausner: Molecular characterization of a copper transport protein in *S. cerevisiae*: an unexpected role for copper in iron transport. (1994) *Cell* 76, 393-402.
18. C. C. Askwith, D. Eide, A. Van Ho, P. S. Bernard, L. Li, S. Davis-Kaplan, D. Sipe, and J. Kaplan: The FET3 gene of *S. cerevisiae* encodes a multicopper oxidase required for ferrous iron uptake. (1994) *Cell* 76, 403-410.

ORAL PRESENTATIONS

- 2002 University of Iowa School of Medicine Internal Medicine Research Day Awards Symposium, "ASIC2 modulates proton-gated currents in hippocampal neurons." Iowa City, Iowa.
- 2001 45th Annual Meeting of the Biophysical Society, "Cold Temperature Modulates the Mammalian DEG/ENaC Ion Channels." Boston, Massachusetts.
- 2000 30th Annual Meeting of the Society for Neuroscience, "FMRFamide-related peptides potentiate acid-evoked currents from sensory neurons and DEG/ENaC channels." New Orleans, Louisiana.

- 1998 Symposium on Inorganic Biochemistry and Regulatory Mechanisms of Iron Metabolism, “Iron Transport and Homeostasis in Yeast.” Sintra, Portugal.
- 1997 Annual University of Utah Bioscience Symposia, “Iron transport in *S. cerevisiae*.” Salt Lake City, Utah.

POSTER PRESENTATIONS

- 2002 47th Annual Meeting of the Society for Neuroscience, “ASIC2 modulates proton-gated currents in hippocampal neurons.” Orlando, Florida.
- 2001 46th Annual Meeting of the Society for Neuroscience, “ASIC1 is essential and BNC1 modulated acid-activated currents in cultured hippocampal neurons.” San Diego, California.
- 1997 17th International Congress of Biochemistry and Molecular Biology and the Young Scientists' Program, “Site directed mutagenesis of the type I copper ligands of Fet3p, a protein required for high affinity iron transport in *S. cerevisiae*.” San Francisco, California.
- 1996 36th Annual Meeting of the American Society for Cell Biology, “Identification of an oxidase-permease iron transport system in *Schizosaccharomyces pombe* and its expression in *Saccharomyces cerevisiae*.” San Francisco, California.

