

CURRICULUM VITAE

NAME: ECKHARD FICKER

DATE: August 2001

PRESENT POSITION AND ADDRESS:

Jr. Staff Scientist
Case Western Reserve University
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BIOGRAPHICAL:

Born: August 23, 1961, Backnang, Germany
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EDUCATION/ TRAINING:

1988 University Stuttgart-Hohenheim, Biologie-Diplom

1993 Ph.D., University of Cologne, Thesis: Eigenschaften von Kaliumstroemen waehrend der Reifung hippo-kampaler Neurone der Ratte (Properties of K^+ currents during the maturation of rat hippocampal neurones). Thesis Adviser: Prof. Dr. U. Heinemann

RESEARCH AND PROFESSIONAL EXPERIENCE:

- 04/91-09/93 Universitaetsassistent, Department of Neurophysiology, University of Cologne, School of Medicine
- 10/93-03/95 Postdoctoral Fellow, Department of Molecular Physiology and Biophysics, Baylor College of Medicine, Houston, Texas, Supervisor: A.M. Brown
- 04/95-09/98 Researcher, Rammelkamp Center for Education and Research, MetroHealth Medical Center, Case Western Reserve University, Cleveland, Ohio
- 10/98- Jr. Staff Scientist, Rammelkamp Center for Education and Research, MetroHealth Medical Center, Case Western Reserve University, Cleveland, Ohio

TEACHING:

- 1989-1993 Medical Physiology, Laboratory Exercise and Lectures: Kidney Physiology, Central Nervous System I (Reflexes), Nerve and Muscle

FELLOWSHIP AWARDS:

- 10/93-9/96 Feodor-Lynen Fellow of the Alexander-von-Humboldt Foundation, Bonn, Germany

RESEARCH PROJECTS ONGOING OR COMPLETED DURING THE LAST 3 YEARS:

Principal investigator:

- 1996-1998 Grant-In-Beginning, American Heart Association, Northeast Ohio Affiliate: Molecular determinants conferring critical functional properties of the human heart potassium channel HERG

Co-investigator:

- 1996-1997 Research Grant, Kidney Foundation of Ohio: Expression of HERG-related K⁺ channel sequences in kidney: cloning and characterization of unique isoforms

US PATENTS (applications pending):

Model system for identifying new classes of antiarrhythmic candidate drugs (#09/255076)

Mink2-Modulator of potassium channels (#09/379201)

SOCIETY MEMBERSHIPS:

1997-present Biophysical Society

REVIEWER FOR:

Journal of Physiology (London)

Circulation Research

American Journal of Physiology

Biophysical Journal

BIBLIOGRAPHY:

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2. EDER, C., FICKER, E., GÜNDEL, J., HEINEMANN, U. Outward currents in rat entorhinal cortex stellate cells studied with conventional and perforated patch recordings. *Eur. J. Neurosci.*, 3, 1271-1280, 1991.
3. FICKER, E., HEINEMANN, U. Slow and fast transient potassium currents in cultured rat hippocampal cells. *J. Physiol. (London)*, 445, 431-455, 1992.
4. STABEL, J., FICKER, E., HEINEMANN, U. Young CA1 pyramidal cells of rats, but not dentate gyrus granule cells, express a delayed inward rectifying current with properties of I_Q . *Neurosci. Lett.*, 135, 231-234, 1992.
5. BECK, H., FICKER, E., HEINEMANN U. Properties of potassium currents in acutely isolated juvenile rat dentate gyrus cells. *J. Neurophysiol.*, 68, 2086-2099, 1992.

6. HEINEMANN, U., BECK, H., DREIER, J.P., FICKER, E., STABEL, J., ZHANG, C.L. The dentate gyrus as a regulated gate for the propagation of epileptiform activity. *Epilepsy Res.*, S7, 273-80, 1992.
7. HEINEMANN, U., ALBRECHT, D., BECK, H., FICKER, E., von HAEBLER, D., STABEL, J. Delayed K⁺ regulation and K⁺ current maturation as factors of enhanced epileptogenicity during ontogenesis of the hippocampus of rats. *Epilepsy Res.*, S9, 107-14, 1992.
8. HEINEMANN, U., DRAGUHN, A., FICKER, E., STABEL, J., ZHANG, C.L. Strategies for the development of drugs for pharmacoresistant epilepsies. *Epilepsia*, 35, S10-S21, 1994.
9. WIBLE, B.A., TAGLIALATELA, M., FICKER, E., BROWN, A.M. Gating of inwardly rectifying K⁺ channels localized to a single negatively charged residue. *Nature*, 371, 246-249, 1994.
10. FICKER, E., TAGLIALATELA, M., WIBLE, B.A., HENLEY, C.M., BROWN, A.M. Spermine and Spermidine as gating molecules for inward rectifier K⁺ channels. *Science*, 266, 1068-1072, 1994.
11. TAGLIALATELA, M., FICKER, E., WIBLE, B.A., BROWN, A.M. C-terminus determinants for Mg²⁺ and polyamine block of the inward rectifier K⁺ channel IRK1. *EMBO J.*, 14, 5532-5541, 1995.
12. KLEE, R., FICKER, E., HEINEMANN, U. Comparison of voltage-dependent potassium currents in rat pyramidal neurons acutely isolated from hippocampal regions CA1 and CA3. *J. Neurophysiol.*, 74, 1982-1995, 1995.
13. KIEHN, J., WIBLE B., FICKER, E., TAGLIALATELA, M., BROWN, A.M. Cloned human inward rectifier K⁺ channel as target for Class III methanesulfonanilides. *Circ. Res.*, 77, 1151-1155, 1995.
14. GLIMM, H., FICKER, E., HEINEMANN, U. Electrophysiological properties of neurones in cultures from postnatal rat dentate gyrus. *Exp. Brain Res.*, 107, 367-381, 1996.
15. BIANCHI, L., ROY, M-L., TAGLIALATELA, M., LUNDGREN, D.W., BROWN, A.M., FICKER, E. Regulation by Spermine of native inward rectifier K⁺ channels in RBL-1 cells. *J. Biol. Chem.*, 271, 6114-6121, 1996.
16. KLEE, R., EDER C., FICKER, E. HEINEMANN, U. Age-dependent variations in potassium sensitivity of A-currents in rat hippocampal neurons. *Eur. J. Neurosci.*, 9, 1970-1976, 1997.

17. TAGLIALATELA, M., CASTALDO, P., IOSSA, S., PANNAZIONE, A., FRESI, FICKER, E., ANNUNZIATO, L. Regulation of the human ether-a-gogo related gene (HERG) K⁺ channels by reactive oxygen species. *Proc. Natl. Acad. Sci. USA*, 94, 11698-11703, 1997.
18. FICKER, E., JAROLIMEK, W., KIEHN, J., BAUMANN, A., BROWN, A.M. Molecular determinants of dofetilide block of HERG potassium channels. *Circ. Res.*, 82, 386-395, 1998.
19. OVERHOLT, J.L., FICKER, E., YANG, T., SHAMS, H., BRIGHT, G.R., PRABHAKAR, N.R. A HERG-like potassium current regulates resting membrane potential in glomus cells of the rabbit carotid body. *J. Neurophysiol.*, 83, 1150-7, 2000.
20. OVERHOLT, J.L., FICKER, E., YANG, T., SHAMS, H., BRIGHT, G.R., PRABHAKAR, N.R. Chemosensing at the carotid body. Involvement of a HERG-like potassium current in glomus cells. *Adv. Exp. Med. Biol.*, 475, 241-248, 2000.
21. EL-MEANAWY, M.A., SCHELLING, J.R., POZUELO, F., CHURPEK, M.M., FICKER, E., IYENGAR, S., SEDOR, J.R. Use of serial analysis of gene expression to generate kidney expression libraries. *Am. J. Physiol. Renal Physiology*, 279, F383-F392, 2000.
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23. FICKER, E., DENNIS, A.T., OBEJERO-PAZ, C.A., CASTALDO, P., TAGLIALATELA, M., BROWN, A.M. Retention in the endoplasmic reticulum as a mechanism of dominant-negative current suppression in human long QT syndrome. *J. Mol. Cell. Cardiol.*, 32, 2327-2337, 2000.
24. THOMAS, D., WENDT-NORDAHL, G., ROCKL, K., FICKER, E., BROWN, A.M., KIEHN, J. High-affinity blockade of human ether-a-go-go-related gene human cardiac potassium channels by the novel antiarrhythmic drug BRL-32872. *J. Pharmacol. Exp. Ther.*, 297, 753-761, 2001.

