

April 2000

## CURRICULUM VITAE

NAME Marc EKKER

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NATIONALITY Canadian

LANGUAGES French, English

### EDUCATION

1981 BSc Biochemistry, Université Laval, Québec, Canada

1986 PhD Biochemistry, McGill University, Montréal, Canada

### ACADEMIC POSITIONS

1997- present Associate Professor, Department of Medicine  
Faculty of Medicine, University of Ottawa, Canada.

1997 - present Associate Professor (Cross-Appointment)  
Department of Cellular and Molecular Medicine,  
Faculty of Medicine, University of Ottawa.

1992 - present Member, School of Graduate Studies, University of Ottawa.

1992 - 1997      Assistant Professor, Department of Medicine  
Faculty of Medicine, University of Ottawa, Canada.

1992 - 1997      Assistant Professor (Cross-Appointment)  
Department of Anatomy & Neurobiology  
Faculty of Medicine, University of Ottawa.

#### ACADEMIC AWARDS

2000-2005      MRC Scientist Award

1999-2002      Premier's Research Excellence Award

1992- 1996      Scholarship from the Medical Research Council of Canada

1989-91      Centennial Fellowship from the Medical Research Council of Canada

1986-89      Research Fellowship from the Medical Research Council of Canada

1986      Dean's Honour List, Faculty of Graduate Studies and Research,  
McGill University.

1981-1985      Sciences 1967 Studentship of the Natural Sciences and Engineering  
Research Council of Canada.

#### RESEARCH EXPERIENCE

1992 - present    Research scientist (Active Scientific Staff)

Division of Endocrinology & Metabolism

Department of Medicine, Ottawa Civic Hospital

Ottawa, Ontario, Canada K1Y 4E9

Projects: Function and regulation of the *Dlx* family of homeobox genes in zebrafish.

Analysis of the zebrafish genome with a collection of zebrafish/mouse  
somatic hybrids.

1989- 1992    Research Associate, Institute of Neuroscience, University of Oregon, Eugene,  
USA.

Supervisor: Monte Westerfield

- Project: Cloning and expression of the *msh*, *distal-less* and *engrailed* genes in zebrafish.
- 1986 - 1989 Postdoctoral fellow, Dept of Immunology, Institut Pasteur, Paris.  
Supervisor: François Rougeon  
Project: Regulation of expression of the mouse renin genes.
- 1981 - 1985 Graduate student, Depts. of Biochemistry and Psychiatry, McGill University, Montreal.  
Supervisor: Theodore L. Sourkes  
PhD Thesis: Regulation of polyamine formation in the rat adrenal gland.
- 1981 Summer student, Swiss Federal Institute for Reactor Research (EIR), Würenlingen, Switzerland. Supervisor: Roger Andress. Project: Development of a RIA kit for the detection of melatonin.
- 1991 - present **SERVICE FOR GRANTING AGENCIES**  
External referee for: Medical Research Council of Canada, Canadian Genome Analysis and Technology Program, Natural Sciences and Engineering Research Council of Canada, National Institutes of Health, National Science Foundation (USA); Wellcome Trust, Alberta Heritage Foundation, B.C. Health Foundation (about 50 grants reviewed in the last six years).
- 1997-1999: Member of the "Molecular Biology-C" grant panel. Cancer Research Society.
- 1997-present: Member of the "Scholarship D" Committee, Medical Research Council of Canada
- 2000-present Chair, Ontario Graduate Scholarship, Genetics, Cellular and Molecular Biology panel 8.

#### REVIEW OF JOURNAL ARTICLES:

- 1995 Reviews of scientific manuscripts for: Genes and Development, Development, Mechanisms of Development, Developmental Biology, Genome Research, Developmental Genetics, International Journal of Developmental Biology; European Journal of Neuroscience, Roux's archives of Developmental Biology, DNA and Cell Biology, J. Exp. Zool.

#### RESEARCH FUNDING

1998-present	National Institutes of Health, Sub-contract on Research Grant. P.I. Len Zon.
1998- present	March of Dimes Birth Defects Foundation, Research Grant.
1998- present	National Institutes of Health. Contract from Director's Funds.
1994- present	Medical Research Council, Operating grant (with Mario Chevrette). Project formerly funded by the Canadian Genome Analysis and Technology Program.
1997- present	Medical Research Council of Canada Operating grant
1993- present	Natural Sciences & Engineering Research Council. Individual Research Grant
1993- 1996	Medical Research Council of Canada. Operating grant
1992-1994	National Cancer Institute of Canada. Research Grant
1992- 1996	Medical Research Council of Canada Scholarship.

## INVITED LECTURES

MidWest Regional Zebrafish Meeting, Chicago, June 18-20. Organizers, Christine Beattie and Victoria Prince. Keynote Lecture: Genomics for the Zebrafish: an overview.

Aquarama 99; Singapore, June 3-6, 1999. Radiation hybrid mapping of the zebrafish genome. Symposium on Development and Genetics of the Zebrafish; Academia Sinica, Taipei, Taiwan, June 8-9, 1999. Radiation hybrid mapping of the zebrafish genome.

Workshop: Genomic and Genetic tools for the Zebrafish; Organized by the NIH, Bethesda, Md, May 10-11, 1999. Radiation hybrid mapping of the zebrafish genome.

SARS International Center for Marine Molecular Biology, Bergen, Norway, November 20<sup>th</sup> 1998. Host: Dr. Daniel Chourrout

Centre de Séquençage du Génome Humain, Paris, France, November 25<sup>th</sup> 1998. Analysis of the zebrafish genome with somatic cell hybrids and radiation hybrids. Host: Dr. Alain Bernot.

Guy's Hospital, London, U.K. November 27<sup>th</sup> 1998. Evolution of regulatory mechanisms controlling expression of vertebrate *Dlx* homeobox genes. Host: Dr. Bethan Thomas.

University of Saskatchewan, Dept of Anatomy, August 13<sup>th</sup> 1998. "Evolution of regulatory mechanisms responsible for the coordinated expression of *distal-less*-related homeobox genes in zebrafish, mouse and flies". Host: Dr. Patrick H. Krone.

University of Toronto, Dept. of Zoology, November 7th 1997. "Conservation of Dlx homeobox gene function and regulation in vertebrates". Host: Dr. Ulrich Tepass.

York University, Dept. of Biology. October 27th 1997; "Function and regulation of zebrafish *dlx* homeobox genes" Host: Dr. Peter B. Moens.

Université Paris XI-Orsay, October 1st 1997. Fonction et régulation des gènes *Dlx* du danio (poisson-zèbre). Host: Dr. Jean-Pierre Muller.

2nd IUBS Toronto Symposium: "Advances in the molecular endocrinology of fish". Toronto, Canada, May 16-19 1997. Title of Presentation: regulation of zebrafish *dlx* homeobox gene expression.

Current advances in Defining the Zebrafish genome. Symposium sponsored by the NIH, Boston February 2-4 1997. Title of presentation: "Use of Somatic cell hybrids for the Zebrafish Genome.

Hong Kong University of Science and Technology, January 30th 1997. "Function and regulation of zebrafish *dlx* homeobox genes" Host: Dr. Andy Miller.

Clinical Research Institute of Montreal, Canada, January 10th 1997. As part of the course: "Systèmes modèles en Biologie Moléculaire". Host Martine Raymond.

National Institute of Basic Sciences, Okazaki, Japan. November 24th 1995. Host: Drs Nobuyoshi Shimoda and Hotoshi Hokamoto. Developmental genetics of zebrafish: from cell hybrids to *dlx* genes.

National Research Institute of Aquaculture, Nansei, Japan. November 21st 1995. Host: Dr. Yasuo Inui. Functions and Regulation of *dlx* Homeobox Genes in Zebrafish.

Institute for Marine Biosciences, National Research Council, Halifax, November 8th 1995. Host: Dr. Mark A. Ragan.

Centre de Recherches de l'Hôtel-Dieu de Québec, Université Laval June 6, 1995. Hosts: Drs. Pierre Savard and Lucie Jeannotte.

Institut de Recherches Cliniques de Montréal. January 27th 1995 Host: Dr. Mona Nemer. As part of the course "Systèmes modèles en biologie moléculaire".

Interdisciplinary Endocrine Seminar Series, Royal Victoria Hospital, McGill University, January 26th 1995. Host: Dr. Hugh Bennett. Molecular genetics with zebrafish: ear development, fin regeneration and chromosome transfer.

Dept. of Biology, University of Ottawa, December 1st 1994. Host: Dr. Guy Drouin. Molecular genetics with zebrafish: ear development, fin regeneration and chromosome transfer.

Center for Research in Neuroscience, McGill University, October 12th 1994. Host: Dr. Pierre Drapeau. Molecular genetics with zebrafish: ear development, fin regeneration and chromosome transfer.

McGill University Cancer Center. 15 April 1994. Host: Dr. M. Featherstone. Combinatorial expression of zebrafish *msx* and *dlx* homeobox genes: part of a homeobox gene code for the head.

Institut de Recherches Cliniques de Montréal. 1 February 1994. Host: Dr. Mona Nemer. As part of the course "Systèmes modèles en biologie moléculaire".

University of Ottawa Heart Institute. 8 December 1993. Host: Dr. G. Hetenyi. Combinatorial expression of zebrafish *msx* and *dlx* homeobox genes: part of a new homeobox gene code for the head.

Université de Rennes I (France), Laboratoire de Biologie de la reproduction, URA 256, 14 February 1991, Host: Prof. Jean Joly. Clonage et expression de deux familles de gènes chez le danio rerio.

Montreal Neurological Institute and Hospital, McGill University, 17 December 1990. Host: Dr. Alain Beaudet. *Hox[zf-7]*: a family of genes involved in pattern formation in zebrafish embryos.

Loeb Institute, Ottawa Civic Hospital, Dept. of Medicine, University of Ottawa, 15 June 1990. Host: Dr. Yvonne Lefebvre. *Hox[zf-7]*: a family of genes involved in pattern formation in zebrafish embryos.

Douglas Hospital, Dept. of Psychiatry, McGill University, 13 June 1990. Host: Dr. Remy Quirion. *Hox[zf-7]*: a family of genes involved in pattern formation in zebrafish embryos.

Harvard University, Dept of Microbiology, 10 October 1990. Host: Dr. Bernie Fields. Theory and applications of the polymerase chain reaction.

Laval University, Dept. of Biochemistry, February 1989. Host: Dr Guy Bellemare. Contrôle de l'expression des gènes codant pour la rénine chez la souris et le rat.

Hôpital l'Enfant-Jésus, Dept. of Neurological Sciences, Laval University, February 1989. Host: Dr. Jacques P. Tremblay. Contrôle de l'expression des gènes codant pour la rénine chez la souris et le rat.

Douglas Hospital, Dept. of Psychiatry, McGill University, 28 July 1987 Host: Dr. Nair. Regulation of expression of the mouse renin genes.

University of California in San Diego, Dept of Biology, May 1985. Host: Michael G. Rosenfeld. Regulation of polyamine formation in the rat adrenal gland.

## PUBLICATIONS

### Papers in refereed Journals:

Zerucha, T.S., Stühmer, T., Hatch, G., Park, B.K., Long, Q., Yu, G., Gambarotta, A., Schultz, J., Rubenstein, J.L.R. and **Ekker, M.** A highly conserved enhancer in the *Dlx5/Dlx6* intergenic region is the site of cross-regulatory interactions between *Dlx* genes in the embryonic forebrain. *J. Neurosci.*, 20, 709-721 (2000).

Chevrette, M., Joly, L., Tellis, P., Knapik, E., Miles, J., Fishman, M. and **Ekker, M.** Characterization of a zebrafish /mouse somatic cell hybrid panel. *Genomics*, 64, 119-126 (2000).

Hukriede, N., Joly, L., Tsang, M., Miles, J., Tellis, P., Epstein, J., Barbazuk, W.B., Li, F.N., Paw, B.H., Postlethwait, J.H., Hudson, T.J., Zon, L.I., McPherson, J.D., Chevrette, M., Dawid, I., Johnson, S.L., **Ekker, M.** Radiation hybrid mapping of the zebrafish genome. *Proc Natl. Acad. Sci. USA*, 96, 9745-9750. (1999). *This article was the object of a review by M. Fishman, Proc Natl. Acad. Sci. USA, 96, 10554-10556. (1999).*

Connors, S.A., Trout, J., **Ekker, M.** and Mullins, M.C. The role of tolloid/mini fin in dorsal-ventral patterning of the zebrafish embryo. *Development*, 126, 3119-3130 (1999).

**Ekker, M.** Saving zebrafish mutants *Bioessays* 21, 94-98 (1999).

Martin, C.C., Laforest, L., Akimenko, M.-A. and **Ekker, M.** A role for DNA methylation in gastrulation and somite patterning. *Dev. Biol.* 206, 189-205 (1999).

Amores, A., Force, A., Joly, L., Yan, Y.L., Amemiya, C., Fritz, A., Ho, R., Langeland, J. Prince, V. Wang, Y.L., Westerfield, M., **Ekker, M.\*** and Postlethwait, J.H.\* (\*both considered senior authors). Zebrafish *hox* Clusters and Vertebrate Genome Evolution. *Science*, 282, 1711-1714 (1998).

Laforest, L., Brown, C.W., Poleo, G., Géraudie, J. Tada, M., **Ekker, M.** and Akimenko, M.-A. Involvement of the *Sonic Hedgehog*, *patched 1* and *bmp2* genes in patterning of the zebrafish dermal fin rays. *Development*, 125, 4175-4184 (1998).

Nguyen, V.H., Schmid, B. Trout, J., Connors, S.A., **Ekker, M.** and Mullins, M.C. Ventral and Lateral Regions of the Zebrafish Gastrula, Including the Neural Crest Progenitors, are Established by a *bmp2b/swirl* Pathway of Genes. *Dev. Biol.*, 199, 93-110 (1998).

Knapik, E.W., Goodman, A., **Ekker, M.**, Chevrette, M., Neuhaus, S., Driever, W., Fishman, M.C. and Jacob, H.J. A genetic linkage map of the zebrafish. *Nature Genetics*, 18, 338-343 (1998).

Postlethwait, J.H., Yan, Y.-L., Gates, M.A., Horne, S.A., **Ekker, M.**, Amores, A., Brownlie, A., Donovan, A., Egan, E.S., Force, A., Gong, Z., Goutel, C., Fritz, A., Kelsh, R., Knapik, E., Liao, E., Paw, B., Ransom, D., Singer, A., Thomson, M., Abduljabbar, T.S., Yelick, P., Beier, D., Joly, J.-S., Larhammar, D., Rosa, F.,

Westerfield, M., Zon, L.I., Johnson, S.L., and Talbot, W.S. . Vertebrate genome evolution and the zebrafish gene map. Nature Genetics, 18, 345-349 (1998). **See correction in Vol 19, p303.**

Prince, V.E., Joly, L., **Ekker, M.** and Ho, R.K. Zebrafish *hox* genes: genomic organization and modified colinear expression in the trunk. Development, 125, 407-420 (1998).

Zerucha, T., Muller, J.-P., Chartrand, N. and **Ekker, M.** Cross-interactions between two members of the *dlx* family of homeobox-containing gene during zebrafish development. Biochem. Cell Biol., 75, 613-622 (1997).

Chevrette, M., Joly, L., Tellis, P., and **Ekker, M.** Contribution of zebrafish/mouse cell hybrids to the mapping of the zebrafish genome. Biochem. Cell Biol., 75 641-649 (1997).

Ellies, D.L., Stock, D. W., Hatch, G., Giroux, G., Weiss, K.M. and **Ekker, M.** Relationship between the genomic organization and the overlapping embryonic expression patterns of the zebrafish *dlx* genes. Genomics, 45, 580-590 (1997).

Liu, D., Le Drean, Y., **Ekker, M.**, Xiong, F. and Hew, C.L. Teleost FTZ-F1 homologue and its splicing variant determine the expression of the salmon gonadotropin IIb subunit gene. Mol Endocrinol. 11, 877-890 (1997).

**Ekker, M.**, Akimenko, M.-A., Allende, M., Smith, R., Drouin, G, Langille, R. M., Weinberg, E. and Westerfield, M. Relationship among *msx* gene structure and function in zebrafish and other vertebrates. Mol. Biol. Evol. 14, 1008-1022 (1997).

Ellies, D. L., Langille, R. M., C. Cristofre Martin, Akimenko, M.-A., **Ekker, M.** Specific craniofacial dysmorphogenesis coincides with a loss of *dlx* gene expression in retinoic acid treated zebrafish embryos. Mech. Dev., 61, 23-36(1997).

Stock, D.W., Ellies, D.L., Zhao, Z., **Ekker, M.**, Ruddle, F.H. and Weiss, K.M. The evolution of the vertebrate *Dlx* gene family. Proc. Natl. Acad. Sci. USA, 93, 10858-10863 (1996).

**Ekker, M.**, Speevak, M., Martin, C., Joly, L., Giroux, G. and Chevrette, M. Stable transfer of zebrafish chromosome segments into mouse cells. Genomics, 33, 57-64 (1996).

Shimoda, N., Chevrette, M., **Ekker, M.**, Kikuchi, Y., Hotta, Y., and Okamoto, H. Mermaid: a family of short interspersed repetitive elements widespread in vertebrates. Biochem. Biophys. Res. Comm., 220, 226-232 (1996)

Shimoda, N., Chevrette, M., **Ekker, M.**, Kikuchi, Hotta, and Okamoto, H. Mermaid, a family of short interspersed repetitive elements is useful for the zebrafish genome mapping. Biochem. Biophys. Res. Comm. 220, 233-237 (1996).

Akimenko, M.A. and **Ekker, M.** Anterior duplication of the Sonic hedgehog expression pattern in the pectoral fin buds of zebrafish treated with retinoic acid. Dev. Biol. 170, 243-247 (1995)

Akimenko, M.-A., Johnson, S., Westerfield, M. and **Ekker, M.** Differential induction of four *msx* homeobox genes during fin development and regeneration in zebrafish., Development, 121, 347-357 (1995).

Akimenko, M.-A., **Ekker, M.**, Wegner, J., Lin, W. and Westerfield, M. Combinatorial expression of three zebrafish genes related to *Distal-less*: part of a homeobox gene code for the head. J. Neuroscience, 14, 3475-3486 (1994).

**Ekker, M.**, Wegner, J., Akimenko, M.-A. and Westerfield, M. Coordinate embryonic expression of three zebrafish *engrailed* genes. Development, 116, 1001-1012 (1992).

**Ekker, M.**, Akimenko, M.-A., Bremiller, R. and Westerfield, M. Regional expression of three homeobox transcripts in the inner ear of zebrafish embryos. Neuron, 9, 27-35 (1992).

**Ekker, M.**, Fritz, A. and Westerfield, M. Identification of two families of satellite-like repetitive DNA sequences from the zebrafish (*Brachydanio rerio*). Genomics, 13, 1169-1173 (1992).

**Ekker, M.**, Akimenko, M.-A. Le poisson zèbre (danio rerio), un modèle en biologie du développement. Médecine/Sciences, 7:553-560, (1991).

**Ekker, M.**, Sola, C., Rougeon, F. The activity of the mouse renin promoter in cells that do not normally produce renin is dependent upon the presence of a functional enhancer. FEBS Lett, 225:241-247 (1989).

Akimenko, M.-A., **Ekker, M.**, Doyen, N., Biben, C., Rougeon, F. Determinant differences between the rabbit and mouse immunoglobulin kappa enhancers impair the activity of the rabbit enhancer in mouse myeloma cells. Nucleic Acids Research, 17:4745-4755, (1989).

**Ekker, M.**, Tronik, D., Rougeon, R. Extra-renal transcription of the renin genes in multiple tissues of mice and rats. Proc. Natl. Acad. Sci. USA, 86:5155-5158, (1989).

Tronik, D., **Ekker, M.**, Rougeon, R. Structural analysis of the 5'-flanking regions of rat, mouse and human renin genes reveals the presence in the two mouse genes of a transposable-like element. Gene, 69:71-80, (1988).

**Ekker, M.**, Sourkes, T.L., Gabor, R. Reduced amounts of S-adenosylmethionine decarboxylase in the adrenal glands of rats following administration of piribedil or 2-deoxyglucose. Biochemical Pharmacology, 37:3613-3618, (1988).

**Ekker, M.**, Doyen, N., Leblond-Francillard, M., Rougeon, F. A mouse renin promoter containing the conserved decanucleotide element binds the same B-cell factors as an authentic immunoglobulin heavy chain promoter. FEBS Lett., 222:337-340, (1987).

**Ekker, M.**, Sourkes, T.L. Decreased S-adenosylmethionine decarboxylase activity in the rat adrenal gland following immobilization stress, metabolic stress or dopamine agonist administration. Endocrinology, 120:1299-1307, (1987).

**Ekker, M.**, Sourkes, T.L. Developmental pattern of ornithine decarboxylase activity, S-adenosylmethionine decarboxylase and polyamines of rat adrenal glands. Biology of the Neonate, 51:260-267, (1987).

**Ekker, M.**, Sourkes, T.L. Increased activity of spermidine N<sup>1</sup>-acetyltransferase in the adrenal cortex of rats following administration of exogenous spermidine, carbamylcholine, 2-deoxyglucose and depamine agosnists. Biochim. Biophys. Acta, 888:36-41, (1986).

**Ekker, M.**, Sourkes, T.L. Differential effects of thioridazine clozapine and metoclopramide on the induction of adrenomedullary enzymes by apomorphine. Neuropharmacology, 24:1063-1066, (1985).

**Ekker, M.**, Sourkes, T.L. Effects of a-difluoromethylornithine on polyamine biosynthesis and tyrosine hydroxylase induction in the adrenal glands of the rat subjected to stress or apomorphine. Biochemical Pharmacology 34:1315-1320, (1985).

**Ekker, M.**, Gauthier, S., Sourkes, T.L. Transneuronal induction of adrenal ornithine decarboxylase through descending spinal pathways. Neurochem. Int., 7:467-471, (1985).

**Ekker, M.**, Missala, K. Sourkes, T.L. Quipazine and induction of adrenal enzymes. Biochemical Pharmacology, 33:1687-1689, (1984).

## Chapters in Books:

Ho, R.K., Kanki, J.P., Prince, W.E., Joly, L., **Ekker, M.**, and Fritz, A. Patterning of the zebrafish embryo along the anteroposterior axis. In: Moody, S.A., ed. Cell Lineage and Fate Determination, Academic Press, pp 399-414, (1998).

**Ekker, M.**, Joly, L. Tellis, P. and Chevrette, M. Zebrafish/mouse somatic cell hybrids for the physical mapping of the zebrafish genome. In: Detrich, W.D., Zon, L.I. and Westerfield, M. (eds), The Zebrafish, Genetics and Genomics. Methods in Cell Biology: Vol 60, Academic Press, pp303-321, (1998).

**Ekker, M.**, Giroux, G., Zerucha, T., Lewis, A., Gambarotta, A. and Schultz, J.R. Regulation of *Dlx* homeobox gene expression during development of the zebrafish embryo. In: Le Gal and Halvorson, (eds). New Developments in Marine Biotechnology. Plenum Press pp 109-114 (1998).

Westerfield, M., Akimenko, M.-A., **Ekker, M.** & Püschel, A., Eyes, ears, and homeobox genes in zebrafish embryos. In: Bernfield, M. (ed), Molecular Basis of Morphogenesis, 51st Annual Symposium of the Society for Developmental Biology, John Wiley & Sons, Wiley-Liss Division, New York, NY. 1993, pp 67-75.

Akimenko, M.-A., **Ekker, M.** & Westerfield, M., Characterization of three zebrafish genes related to *Hox-7*. In: J.R. Hinchliffe, J. Hurler and D. Summerbell (eds), Developmental Patterning of the Vertebrate Limb; NATO ASI Series, (Plenum Press 1991) pp 61-63.

Others (Abstracts):

Weerachayanukul, W., Carmona, E., Soboloff, T., Fluharty, A. White, D., Promdee, L., **Ekker, M.**, Buhr, M., and Tanphaichitr, N. (2000) Presence and role of sperm surface arylsulfatase-A (AS-A) in zona pellucida binding. Presented at the xxx meeting of the Society for the Study of Reproduction, Wisconsin 2000.

Stühmer, T., Zerucha, T., Ekker, M., and Rubenstein, J.L.R. (1999) A zebrafish *Dlx* enhancer transgene to analyze the generation and fate of mouse neocortical interneurons. Society for Neuroscience 28th Annual Meeting. Miami Beach, Fla, U.S.A. October 23-28, 1999.

- Zerucha, T., Stühmer, T., Park, B.K., Long, Q., Lachance, P., Hatch, G., Lasko, P., Rubenstein, J.L.R., and Ekker, M. (1999) Evolution of regulatory elements responsible for the overlapping expression patterns of the *Dlx* homeobox-containing genes. Midwest Regional Zebrafish Meeting. Chicago, IL, U.S.A. June 18-20, 1999 (\*\* Selected for platform presentation\*\*)
- Zerucha, T., Stühmer, T., Park, B.K., Long, Q., Lachance, P., Hatch, G., Lasko, P., Rubenstein, J.L.R., and Ekker, M. (1999) Evolution of regulatory elements for *Distal-less*-related homeobox genes. The Developmental Basis of Evolutionary Change. Chicago, IL, U.S.A. May 13-15, 1999.
- Connors, S., Nguyen, V., Schmid, B., Trout, J., Wagner, D., **Ekker, M.**, and Mullins, M. Genetic analysis of a BMP signaling pathway in the zebrafish embryo. Presented at the 58<sup>th</sup> Annual Meeting of the Society for Developmental Biology, Charlottesville, Virginia, USA, June 13-18, 1999.
- Hukriede, N.A., Joly, L., Tsang, M., Miles, J., Tellis, P., Epstein, J., Barbazuk, W.B., Li, F.N., Paw, B., Zon, L., Postlethwait, J., McPherson, J.D., Hudson, T., Chevrette, M., Dawid, I.B., Johnson, S.L. and **Ekker, M.** Radiation hybrid mapping of the zebrafish genome. Presented at the 58<sup>th</sup> Annual Meeting of the Society for Developmental Biology, Charlottesville, Virginia, USA, June 13-18, 1999.
- Zerucha, T., Stuehmer T., Park, B.K., Long, Q., Lachance, P., Hatch, G., Lasko, P., Rubenstein, and Ekker, M. Evolution of regulatory cascades involving *distal-less*-related homeobox genes. Presented at the "Major events in early vertebrate evolution: paleontology, phylogeny, and development" meeting, Natural History Museum, London, U.K. April 8-9, 1999.
- Stühmer, T., Zerucha, T., Anderson, S.A., Ekker, M. and Rubenstein, J.L.R. (1998) Characterization of a zebrafish *Dlx* enhancer element that expresses *lacZ* in a pattern largely indistinguishable from mouse *Dlx5/6*. 28<sup>th</sup> Annual Meeting of the Society for Neuroscience. Los Angeles, California, U.S.A. November 7-12, 1998.
- Quint, E., Long, Q., Zerucha, T.S., Hatch, G., Gambarotta, A., and Ekker, M. Role of intergenic sequences in the regulation of *Dlx* gene expression in the otic and olfactory placodes. Presented at the British Society for Developmental Biology Meeting, University of Sussex., 16-18 September 1998.
- Mullins, M.C., Nguyen, V.H., Schmid, B., Connors, S.A., Wagner, D.S., Trout, J. and **Ekker, M.** A *bmp2b* pathway of genes in the zebrafish establishes ventral and lateral cell fates of the gastrula, including the neural crest. Presented at the 57<sup>th</sup> Annual Meeting of the Society for Developmental Biology, Stanford U., Palo Alto, CA, USA, June 20-25 1998.

- Schmid, B., Nguyen, V.H., Trout, J., Connors, A., **Ekker, M.**, Wagner, D.S., and Mullins, M.C. A *Bmp2B* pathway of genes establishes ventral cell fates likely via the graded action of BMPs. Presented at the third "Zebrafish Development and Genetics" Meeting, ColdSpring Harbor, N.Y., April 29, May 3, 1998.
- Zerucha, T., Lachance, P., Stuehmer, T. Qiu, M., Liu, J.K., Schultz, J., Westerfield, M., Rubenstein, J.L.R., and **Ekker, M.** Evolution of regulatory mechanisms responsible for the coordinated expression of *distal-less*-related homeobox genes. Presented at the third "Zebrafish Development and Genetics" Meeting, Cold Spring Harbor, N.Y., April 29, May 3, 1998.
- Joly, L., Tellis, P., Miles, J., Hukriede, N., Zon, L., Dawid, I., Chevrette, M. and **Ekker, M.** Characterization of three collections of zebrafish/mouse radiation hybrids. Presented at the third "Zebrafish Development and Genetics" Meeting, ColdSpring Harbor, N.Y., April 29, May 3, 1998.
- Amores, A., Force, A., Yan, Y., Wang, Y., Joly, L., Fritz, A., **Ekker, M.**, and Postlethwait, J. Organization and origin of *Hox* clusters in zebrafish. Presented at the third "Zebrafish Development and Genetics" Meeting, ColdSpring Harbor, N.Y., April 29, May 3, 1998.
- Ekker, M.**, Giroux, G., Zerucha, T., Lewis, A., Gambarotta, A., Schultz, J.R. Regulation of *dlx* homeobox gene expression during development of the zebrafish embryo. Presented at the 4th International Marine Biotechnology conference, Sorrento Italy, September 22-29 1997.
- Giroux, G., Zerucha, T., Muller, J.-P., Chartrand, N., Lewis, A., and **Ekker, M.** Regulation of zebrafish *dlx* homeobox gene expression. Presented at the 2nd IUBS Toronto Symposium: "Advances in the molecular endocrinology of fish." Toronto, May 16-19 1997.
- Akimenko, M.-A., Laforest, L., Brown, C., Poleo, G., Beyers, M., and **Ekker, M.** Hedgehog signalling pathway in regenerating fins of zebrafish. Presented at the 36th Annual meeting of the Canadian Society of Zoologists, London, On. May 14-17 1997.
- Ye, F., Martin, C.C., Tellis, P., Giroux, G., **Ekker, M.** and Chevrette, M. Analysis of zebrafish repetitive DNA sequences using a panel of zebrafish X mouse somatic cell hybrids. Presented at the "Human Genome Meeting 97", Toronto, Canada, March 6-8 1997.
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