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MECHANISMS
NORMAL AND
ABNORMAL**

EDITORS: **James W. Lash**
Lauri Saxén

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DEVELOPMENTAL MECHANISMS

Normal and Abnormal

**Proceedings of a workshop on Molecular Aspects of
Abnormal Development, held in Salzburg, Austria
October 1983**

Editors

JAMES W. LASH

Department of Anatomy
School of Medicine
University of Pennsylvania
Philadelphia

LAURI SAXÉN

Department of Pathology
University of Helsinki
Helsinki

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Peter B. Armstrong, Department of Zoology, University of California, Davis, CA 95616 [87]

Ruth Bellairs, Department of Anatomy and Embryology, University College London, London WC1E 6BT, UK [25]

Gudrun Blankenburg, Institut für Toxikologie und Embryopharmakologie, Freie Universität Berlin, 1000 Berlin 33, Federal Republic of Germany [241]

Robert L. Brent, Departments of Pediatrics, Radiology, and Anatomy, Jefferson Medical College of Thomas Jefferson University, Philadelphia, PA 19107 [309]

Gerald P. Budzik, Pediatric Surgical Research Laboratory, Massachusetts General Hospital, Boston, MA 02114 and Department of Surgery, Harvard Medical School, Boston, MA 02115 [207]

Srinivasan Chandrasekhar, Laboratory of Developmental Biology and Anomalies, National Institute of Dental Research, National Institutes of Health, Bethesda, MD 20205 [75]

Gerald R. Cunha, Department of Anatomy, University of California, San Francisco, CA 94143 [15]

Patricia K. Donahoe, Division of Pediatric Surgery, Massachusetts General Hospital, Boston, MA 02114 [207]

Peter Ekblom, Department of Pathology, University of Helsinki, 00290 Helsinki 29, Finland [109]

Paul F. Goetinck, Department of Animal Genetics, University of Connecticut, Storrs, CT 06268 [137]

Allen S. Goldman, Section of Teratology, Division of Child Development and Rehabilitation, The Children's Hospital of Philadelphia and Department of Pediatrics, University of Pennsylvania, Philadelphia, PA 19104 [295]

John R. Hassell, Laboratory of Developmental Biology and Anomalies, National Institute of Dental Research, National Institutes of Health, Bethesda, MD 20205 [75]

Elizabeth A. Horigan, Laboratory of Developmental Biology and Anomalies, National Institute of Dental Research, National Institutes of Health, Bethesda, MD 20205 [75]

W.E. Horton, Jr., Department of Anatomy, School of Medicine, University of North Carolina, Chapel Hill, NC 27514 [227]

E.S. Hunter, Department of Anatomy, School of Medicine, University of North Carolina, Chapel Hill, NC 27514 [227]

John M. Hutson, Department of Surgery, Royal Hospital for Sick Children, Glasgow G3 8SJ Scotland, UK [207]

The number in brackets is the opening page number of the contributor's article.

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Hynda K. Kleinman, Laboratory of Developmental Biology and Anomalies, National Institute of Dental Research, National Institutes of Health, Bethesda, MD 20205 [75]

Stephan Klug, Institut für Toxikologie und Embryopharmakologie, Freie Universität Berlin, 1000 Berlin 33, Federal Republic of Germany [241]

Devendra M. Kochhar, Department of Anatomy, Jefferson Medical College of Thomas Jefferson University, Philadelphia, PA 19107 [267]

James W. Lash, Department of Anatomy, School of Medicine, University of Pennsylvania, Philadelphia, PA 19104 [45]

Steven R. Ledbetter, Laboratory of Developmental Biology and Anomalies, National Institute of Dental Research, National Institutes of Health, Bethesda, MD 20205; present address: Diabetes Research, The Upjohn Company, Kalamazoo, MI 49001 [75]

Constanze Lewandowski, Institut für Toxikologie und Embryopharmakologie, Freie Universität Berlin, 1000 Berlin 33, Federal Republic of Germany [241]

General L. Mosley, Laboratory of Developmental Biology and Anomalies, National Institute of Dental Research, National Institutes of Health, Bethesda, MD 20205 [75]

Diether Neubert, Institut für Toxikologie und Embryopharmakologie, Freie Universität Berlin, 1000 Berlin 33, Federal Republic of Germany [241]

Ronald L. Piddington, Department of Histology and Embryology, University of Pennsylvania School of Dental Medicine, Philadelphia, PA 19104 [295]

Leena Rechartt, Department of Biomedical Sciences, University of Tampere, Tampere, Finland [3]

T.W. Sadler, Department of Anatomy, School of Medicine, University of North Carolina, Chapel Hill, NC 27514 [227]

Paul Saenger, Department of Pediatrics, Montefiore Medical Center, Albert Einstein College of Medicine, Bronx, NY 10467 [175]

Hannu Sariola, Department of Pathology, University of Helsinki, 00290 Helsinki 29, Finland [109]

Phillippe Sengel, ERA CNRS 621, Laboratoire de Zoologie et Biologie animale, Université scientifique et médicale de Grenoble, 38402 France [123]

Bernard H. Shapiro, Department of Animal Biology, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, PA 19104 [151]

Anna Simpson, Department of Pediatrics, Montefiore Medical Center, Albert Einstein College of Medicine, Bronx, NY 10467 [175]

Irma Thesleff, Department of Pathology, University of Helsinki, 00290 Helsinki 29, Finland [109]

Rupert Timpl, Max-Planck-Institut für Biochemie, Abteilung Bindegewebsforschung, D-8033 Martinsried b. München, Federal Republic of Germany [63]

Jorma Wartiovaara, Departments of Medical Biology and Electron Microscopy, University of Helsinki, 00280 Helsinki 28, Finland [3]

Ernest F. Zimmerman, Division of Cell Biology, Children's Hospital Research Foundation, Cincinnati, OH 45229 [283]

Preface

These proceedings represent some of the highlights of an EMBO Workshop on "Molecular Aspects of Abnormal Development" which was held in Salzburg, Austria in October 1983. The goal of the workshop was to foster interdisciplinary approaches among teratologists and developmental biologists. Congenital defects and their consequences form a central medical and social problem throughout the world and there has been no overt decrease in their incidence over the past years. As long as more than two-thirds of these defects remain without a causal explanation, preventive measures cannot be effectively implemented. Environmental and other hazards to the developing embryo become more sinister as we realize that our methods of detection and prediction of teratogenicity are limited and inadequate. Only a handful of exogenous factors have been conclusively shown to interfere with human prenatal development. The laborious testing methods for teratogenicity do not allow a systematic surveillance of possible teratogens. In addition, the methods of *in vitro* and *in vivo* testing may create artifacts that render conclusions tenuous at best.

To alleviate the social and financial burdens of congenital defects we need first to understand the mechanisms of normal and abnormal development. The interface between teratology and developmental biology is the focus of this volume. Frequently proceedings of conferences differ from the conference itself in various respects. The focus or emphasis of some presentations has been altered as the result of interchanges at the conference. We have reorganized these chapters to reflect these changes. The focus of the conference as it actually transpired is described in the last chapter of this volume.

The teratologists and developmental biologists at the conference benefited from their intellectual interactions and it is hoped that both disciplines will benefit from these proceedings. As the chapters in this volume attest, both disciplines need to know of the others methodological potential and limitations if advances are to be made in the alleviation of problems associated with congenital defects.

Words of gratitude are in order here for those who helped to make the conference and the ensuing proceedings come to pass. Dr. Klaus Kratochwil

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packaged a near-magical environment and aura for intensive but pleasing interchanges. Drs. Anne McLaren and Allen Goldman were invaluable as consultants and advisors, prior to and during the conference. The most gratitude, however, goes to the participants who, with unfailing goodwill and energy discussed, criticized, and synthesized concepts appropriate to the interface of teratology and developmental biology.

James W. Lash
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