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Volume 396

Nitric Oxide, Part E

Edited by

Lester Packer

Enrique Cadenas

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UNIVERSITY OF SOUTHERN CALIFORNIA
DEPARTMENT OF MOLECULAR PHARMACOLOGY AND TOXICOLOGY
SCHOOL OF PHARMACY
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Contributors to Volume 396

Article numbers are in parentheses and following the names of contributors.
Affiliations listed are current.

GAMAL EL-DIN ALI AHMED HASSAN ABUO-RAHMA (2), *Medicinal Chemistry Department, Faculty of Pharmacy, Minia University, Minia, 61519, Egypt*

BARRY W. ALLEN (7), *Department of Anesthesiology and Center for Hyperbaric Medicine and Environmental Physiology Duke University Medical Center, Durham, North Carolina 27710*

K. KRISTOFFER ANDERSSON (38), *Department of Molecular Bioscience, University of Oslo, N-0316 Oslo, Norway*

ROBERTO J. ARAI (29), *Department of Biochemistry/Molecular Biology, CINTERGEN—Universidade Federal São Paolo, Escola Paulista de Medicina, Rua Mirassol, 020 São Paulo, Brazil*

MELINDA L. ASBURY (36), *Department of Pharmacology, Joan C. Edward School of Medicine, Marshall University, Huntington, West Virgina, 25704*

JOSEPH S. BECKMAN (19), *Department of Biochemistry and Biophysics, Oregon State University, Environmental Health Science Center, The Linus Pauling Institute, Corvallis, Oregon 97331*

VLADIMIR BERKA (40), *Division of Hematology, Department of Internal Medicine, UT Health Science Center at Houston Medical School, Houston, Texas 77030*

MAURO BERTOTTI (4), *Instituto de Química-USP, Universitdade de São Paulo, Lineu Prestes 748, 05508-900 São Paulo, Brazil*

LISARDO BOSCÁ (49), *Instituto de Bioquimica, Centro Mixto CSIC-UCM, Facultad de Farmacia, Universidad Complutense, 28760 Madrid, Spain*

BETH M. BOULDEN (42), *Wallace H. Coulter Department of Biomedical Engineering, Georgia Institute of Technology, Atlanta, Georgia 30033*

ALBERTO BOVERIS (37), *Laboratory of Free Radical Biology, School of Pharmacy and Biochemistry, University of Buenos Aires, 1113 Buenos Aires, Argentina*

DANIEL A. BRAZEAU (33), *Department of Pharmaceutical Sciences, School of Pharmacy and Pharmaceutical Sciences, University at Buffalo, State University of New York, Buffalo, New York 14260-1200*

HOLLY BROWN-BORG (24), *University of North Dakota, School of Medicine and Health Sciences, Grand Forks, North Dakota, 58202-9037*

YUANLIN CAO (8, 9), *Institute of Biophysics, Academia Sinica, Beijing 100101, China*

MARIA CECILIA CARRERAS (34), *Laboratory of Oxygen Metabolism, University Hospital and School of Pharmacy and Biochemistry, University of Buenos Aires, 1120 Buenos Aires, Argentina*

JEANNEAN CARVER (10), *Department of Pediatrics, Critical Care Medicine, University of Virginia School of Medicine, Charlottesville, Virginia 22908*

YOUNG-NAM CHA (31, 35), *Department of Pharmacology and Toxicology, Medicinal Toxicology Center, College of Medicine, Inha University, Inchon, 402-751, South Korea*

KENNY K. K. CHUNG (14), *Institute for Cell Engineering, Departments of Neurology and Neuroscience, Johns Hopkins University School of Medicine, Baltimore, Maryland 21205*

DANIELA P. CONVERSO (34), *Laboratory of Oxygen Metabolism, University Hospital and School of Pharmacy and Biochemistry, University of Buenos Aires, 1120 Buenos Aires, Argentina*

JACK H. CRAWFORD (47), *Department of Pathology, Unviersity of Alabama at Birmington, Biomedical Research Building II, Birmingham, Alabama 35294-2180*

CLAUDETTE M. ST. CROIX (26), *Department of Environmental and Occupational Heath, University of Pittsburgh Graduate School Public Health, Pittsburgh, Pennsylvania 15261*

MARLI F. CURCIO (29), *Department of Biochemistry/Molecular Biology, CINTERGEN—Universidade Federal Sâo Paolo, Escola Paulista de Medicina, Rua Mirassol, 020 São Paulo, Brazil*

TAYFUN DALBASTI (50), *Department of Neurosurgery, University of Ege, School of Medicine, Bornova, 35100 Izmir, Turkey*

TED M. DAWSON (14, 30), *Institute for Cell Engineering, Departments of Neurology and Neuroscience, Johns Hopkins University School of Medicine, Baltimore, Maryland 21205*

VALINA L. DAWSON (14, 30), *Institute for Cell Engineering, Departments of Neurology and Neuroscience, Johns Hopkins University School of Medicine, Baltimore, Maryland 21205*

SERGEY DIKALOV (52), *Division of Cardiology, Emory University School of Medicine, Suite 319, Woodruff Memorial Research Building, 101 Woodruff Circle, Atlanta, Gainesville 30022*

SERGEY I. DIKALOV (42), *Department of Medicine, Emory University, Atlanta, Georgia 30322*

ALLAN DOCTOR (10), *Department of Pediatrics, Critical Care Medicine, University of Virginia School of Medicine, Charlottesville, Virginia 22908*

SAMUEL C. DUDLEY, JR. (42), *Department of Medicine, Emory University, Atlanta, Georgia 30322*

ANDREW S. DUTTON (3), *Department of Chemistry and Biochemistry, University of California, Los Angeles, Los Angeles, California 90095-1569*

MANUCHAIR EBADI (24), *School of Medicine and Health Sciences, University of North Dakota, Grand Forks, North Dakota, 58202-9037*

ALI EL-EMAN (2), *Department of Pharmaceutical Chemistry, College of Pharmacy, King Saud University, Riyadh 11451, Saudi Arabia*

MICHAEL G. ESPEY (27), *Laboratory of Human Carcinogenesis, National Cancer Institute, Bethesda, Maryland 20892-4255*

BRUNO FINK (52), *NOxygen Science Transfer & Diagnostics, Lindenmatte 42, 79215 Elzach, Germany*

PAOLA FINOCCHIETO (34), *Laboratory of Oxygen Metabolism, University Hospital and School of Pharmacy and Biochemistry, University of Buenos Aires, 1120 Buenos Aires, Argentina*

ROBERT A. FLOYE (45), *Oklahoma Medical Research Foundation, Free Radical Biology and Aging Research Program, Oklahoma City, Oklahoma 73104*

PETER C. FORD (1), *Department of Chemistry and Biochemistry, University of California, Santa Barbara, Santa Barbara, California 93106-9510*

DOUGLAS WAGNER FRANCO (4), *Universidade de São Paulo, Instituto de Química de São Carlos, Departamento de Química e Fisica Molecular, Av. Trabalhador Saocariense, 400, Centro - Cx Postal 780, CEP 13566-590 - São Carlos - SP, Brazil*

MARIA CLARA FRANCO (34), *Laboratory of Oxygen Metabolism, University Hospital and School of Pharmacy and Biochemistry, University of Buenos Aires, 1120 Buenos Aires, Argentina*

XIAMING FU (22), *Center for Cardiovascular Diagnostics and Prevention, Cleveland Clinic Foundation, Department of Cell Biology, Cleveland, Ohio 44195*

JON M. FUKUTO (3, 25), *Department of Chemistry & Biochemistry, University of California, Los Angeles, Los Angeles, California 90095-1569*

HO-LEUNG FUNG (33), *Department of Pharmaceutical Sciences, School of Pharmacy and Pharmaceutical Sciences, University at Buffalo, State University of New York, Buffalo, New York 14260-1200*

RALPH GÄBLER (5, 51), In Vivo *GMBH – Institute for Trace Gas Technology, Brueghel Strasse 4, Sankt Augustin, D-53757, Germany*

SOLEDAD GALLI (34), *Laboratory of Oxygen Metabolism, University Hospital and School of Pharmacy and Biochemistry, University of Buenos Aires, 1120 Buenos Aires, Argentina*

BENJAMIN GASTON (10), *Department of Pediatrics, University of Virginia Health System, Charlottesville, Virginia 22908*

PEDRAM GHAFOURIFAR (24, 36), *University of North Dakota, School of Medicine and Health Sciences, Grand Forks, North Dakota, 58202-9037*

ANTONIUS C. F. GORREN (38), *Department of pharmacology and Toxicology, Karl-Franzens-University Graz, A-8010 Graz, Austria*

MATTHEW B. GRISHAM (12), *Department of Molecular and Cellular Physiology, Louisiana State University Health Sciences Center, Shreveport, Louisiana 71130*

PING GUO (8), *Institute of Biophysics, Academia Sinica, Beijing 100101, China*

CURTIS C. HARRIS (27), *Laboratory of Human Carcinogenesis, National Cancer Institute, Bethesda, Maryland 20892-4255*

C. MICHAEL HART (42), *Department of Medicine, Emory University, Atlanta VA Medical Center, Decatur, Georgia 30033*

STANLEY L. HAZEN (22), *Center for Cardiovascular Diagnostics and Prevention, Cleveland Clinic Foundation, Department of Cell Biology, Cleveland, Ohio 44195*

HARMUT HELLER (51), *Physiologisches Institut I, Bonn Universitat, Nussallee 11, 53115 Bonn, Germany*

KARSTEN HEMMRICH (39), *Department of Plastic Surgery, Hand Surgery, Burn Center, Univeristy Hospital of the Aachen, University of Technology, Pauwelsstr. 30, D-52057 Aachen, Germany*

KENNETH HENSLEY (17), *Oklahoma Medical Research Foundation, Free Radical Biology and Aging Research Program, Oklahoma City, Oklahoma 73104*

LORNE J. HOFSETH (27), *College of Pharmacy, CLS 109, University of South Carolina, Columbia, South Carolina 29208*

SUK J. HONG (30), *Institute for Cell Engineering, Department of Neurology, Johns Hopkins University School of Medicine, Baltimore, Maryland 21205*

SONSOLES HORTELANO (49), *Institute de Bioquimica, Centro Mixto CSIC-UCM, Facultad de Farmacia, Universidad Complutense, 28760 Madrid, Spain*

K. N. HOUK (3), *Department of Chemistry and Biochemistry, University of California, Los Angeles, Los Angeles, California 90095-1569*

JOHN HUGHES (12), *Center for Cardiovascular Sciences, Albany Medical College, Albany, New York 12208*

T. SCOTT ISBELL (47), *Department of Pathology, University of Alabama at Birmington, Biomedical Research Building II, Birmingham, Alabama 35294-2180*

MALCOLM J. JACKSON (43), *Department of Metabolic and Cellular Medicine, School of Clinical Sciences, University of Liverpool, Liverpool L69 3GA, United Kingdom*

SAMIE R. JAFFREY (11), *Department. of Pharmacology, Weill Medical College, Cornell University, New York, New York 10021*

JOY JOSEPH (18), *Department of Biophysics, Free Radical Research Center, Medical College of Wisconsin, Milwaukee, Wisconsin 53226-0509*

SANDEEP S. JOSHI (36), *Department of Pharmacology, Joan C. Edward School of Medicine, Marshall University, Huntington, West Virgina 25704*

DAVID JOURD'HEUIL (12), *Center for Cardiovascular Sciences (MC8), Albany Medical College, Albany, New York 12208*

FRANCES L. JOURD'HEUIL (12), *Center for Cardiovascular Sciences (MC8), Albany Medical College, Albany, New York 12208*

SHASI KALIVENDI (44), *Department of Biophysics, Free Radical Research Center, Medical College of Wisconsin, Milwaukee, Wisconsin 53226-0509*

B. KALYANARAMAN (18, 44), *Department of Biophysics, Free Radical Research Center, Medical College of Wisconsin, Milwaukee, Wisconsin 53226-0509*

JAROSLAW KANSKI (16), *Department of Pharmaceutical Chemistry, University of Kansas, Lawrence, Kansas 66047*

EMRAH KILINC (50), *Department of Analytical Chemistry, School of Pharmacy, University of Ege, Bornova, Izmir, Turkey*

CHAEKYUN KIM (31, 35), *Department of Pharmacology and Toxicology, Medicinal Toxicology Center, College of Medicine, Inha University, Inchon, 402-751, South Korea*

SANG GEON KIM (28, 32), *College of Pharmacy, Seoul National University, Sillim-dong, Kwanak-gu, Seoul 151-742, South Korea*

ERIC D. KINCAID (36), *Department of Pharmacology, Joan C. Edward School of Medicine, Marshall University, Huntington, West Virgina 25704*

HIDEKI KISHIDA (45), *Oklahoma Medical Research Foundation, Free Radical Biology and Aging Research Program, Oklahoma City, Oklahoma 73104*

REINHARD KISSNER (6), *Laboratory F. Anorg. Chemie, CHI H 211, ETH Hönggersberg, CH-8093 Zürich, Switzerland*

DEAN J. KLEINHENZ (42), *Department of Medicine, Emory University, Atlanta VA Medical Center, Atlanta, Gainesville 30033*

JEFFREY R. KOENITZER (47), *Department of Biology, Unviersity of Alabama at Birmington, Birmingham, Alabama 35294-2180*

DORIS KOESLING (41), *Institut für Pharmakologie und Toxi Kologie, Ruhr-Universität Bochum, Medizinische Fakultät MA N1, 44780 Bochum, Germany*

VICTORIA KOLB-BACHOFEN (39, 48), *Research Group Immunobiology, Heinrich-Heine-University of Düesseldorf, D-40001 Düsseldorf, NRW, Germany*

JOERG KONTER (2), *Department of Pharmaceutical Medicinal Chemistry, Institute of Pharmacy, Friedrich-Schiller-University, Philosophenweg 14, D-07743 Jena, Germany*

WILLEM H. KOPPENOL (6), *Laboratory F. Anorg. Chemie, CHI H 211, ETH Hönggersberg, CH-8093 Zürich, Switzerland*

YASHIGE KOTAKE (45), *Oklahoma Medical Research Foundation, Free Radical Biology and Aging Research Program, Oklahoma City, Oklahoma 73104*

SRIGIRIDHAR KOTAMRAJU (44), *Department of Biophysics, Free Radical Research Center, Medical College of Wisconsin, Milwaukee, Wisconsin 53226-0509*

DAVID W. KRAUS (47), *Department of Pathology, University of Alabama at Birmington, Biomedical Research Building II, Birmingham, Alabama 35294-2180*

SANTIAGO LAMAS (13), *Centro de Investigaciones Biologicas, Consejo Superior de Investiaciones Cientificas and Instituto Reina Sofia de Investigaciones Nefrologicas, Ramiro de Maeztu, 9, Madrid E-28040*

REINHARD LANGE (38), *Institut für Pharmakologie und Toxikologie, Karl-Franzens-Universität Graz, Universitätsplatz 2, A-8010 Graz, Austria*

CHANG HO LEE (32), *Department of Pharmacology and Institute of Biomedical Science, College of Medicine, Hanyang University, Seoul 133-791, South Korea*

JOCHEN LEHMANN (2, 5), *Department of Pharamaceutical X Medicinal Chemistry, Institute of Pharmacy, Friedrich-Schiller-University, Philosophenweg 14, D-07743 Jena, Germany*

BRUCE S. LEVISON (22), *Center for Cardiovascular Diagnostics and Prevention, Cleveland Clinic Foundation, Department of Cell Biology, Cleveland, Ohio 44195*

MARK D. LIM (1), *Department of Chemistry and Biochemistry, University of California, Santa Barbara, Santa Barbara, California 93106-9510*

JIE LIU (7), *Department of Chemistry, Duke University, Durham, North Carolina 27708*

BRENDA E. LOPEZ (25), *Department of Pharmacology, School of Medicine, Center for the Health Sciences, University of California, Los Angeles, Los Angeles, California 90095-1772*

IVAN M. LORKOVIĆ (1), *Department of Chemistry and Biochemistry, University of California, Santa Barbara, Santa Barbara, California 93106-9510*

ANTHONY M. LOWERY (12), *Center for Cardiovascular Sciences, Albany Medical College, Albany, New York 12208*

CINZIA MALLOZZI (20), *Department of Cell Biology and Neuroscience, Unit of Free Radical Pathophysiology, Istituto Superiori di Sanita, Viale Regina Elena, 299-00161, Rome, Italy*

ALI R. MANI (15), *Centre for Hepatology, Department of Medicine, Royal Free Campus, University College London, London NW3 2PF United Kingdom*

STEPHANE MARCHAL (38), *INSERM U 710, Université Montpellier, 34095 Montpellier Cédex 5, France*

EMIL MARTIN (40), *Department of Integrative Biology and Pharmacology, UT Health Science Center at Houston Medical School, Houston, Texas 77030*

ANTONIO MARTÍNEZ-RUIZ (13), *Centro de Investigaciones Biologicas, Consejo Superior de Investiaciones Cientificas and Instituto Reina Sofia de Investigaciones Nefrologicas, Ramiro de Maeztu, 9, Madrid E-28040*

BERND MAYER (38), *Institut für Pharmakologie und Toxikologie, Karl-Franzens-Universität Graz, Universitätsplatz 2, A-8010 Graz, Austria*

CRAIG J. MCMACKIN (46), *Evans Department of Medicine and Whitaker Cardiovascular Institute, Boston University School of Medicine, Boston, Massachusetts 02118*

MAURIZIO MINETTI (20), *Department of Cell Biology and Neuroscience, Unit of Free Radical Pathophysiology, Istituto Superiori di Sanita, Viale Regina Elena, 299-00161, Rome, Italy*

HUGO P. MONTIERO (29), *Department of Biochemistry/Molecular Biology, CINTERGEN—Universidade Federal Sâo Paolo, Escola Paulista de Medicina, Rua Mirassol, 020 São Paulo, Brazil*

KEVIN P. MOORE (15), *Centre for Hepatology, Department of Medicine, Royal Free Campus, University College London, London NW3 2PF United Kingdom*

MIRIAM S. MORAES (29), *Department of Biochemistry/Molecular Biology, CINTERGEN—Universidade Federal Sâo Paolo, Escola Paulista de Medicina, Rua Mirassol, 020 São Paulo, Brazil*

VÂNIA MORI (4), *Instituto de Química, Universitdade de São Paulo, Lineu Prestes 748, 05508-900 São Paulo, Brazil*

FERID MURAD (23, 40), *Department of Integrative Biology and Pharmacology, UT Health Science Center at Houston Medical School, Houston, Texas 77030*

DAI NAKAE (45), *Oklahoma Medical Research Foundation, Free Radical Biology and Aging Research Program, Oklahoma City, Oklahoma 73104*

STEPHEN J. NICHOLLS (22), *Center for Cardiovascular Diagnostics and Prevention, Cleveland Clinic Foundation, Department of Cell Biology, Cleveland, Ohio 44195*

CARLOS J. ROCHA OLIVEIRA (29), *Department of Biochemistry/Molecular Biology, CINTERGEN—Universidade Federal Sâo Paolo, Escola Paulista de Medicina, Rua Mirassol, 020 São Paulo, Brazil*

EUN YOUNG PARK (28), *College of Pharmacy, Seoul National University, Sillim-dong, Kwanak-gu, Seoul 151-742, South Korea*

RAKESH P. PATEL (47), *Department of Pathology, University of Alabama at Birmington, Biomedical Research Building II, Birmingham, Alabama 35294-2180*

ADNANA PAUNEL (48), *Research Group Immunobiology, Institute of Molecular Medicine, Heinrich-Heine-University of Düesseldorf, D-40001 Düsseldorf, NRW, Germany*

CLAUDE A. PIANTADOSI (7), *Department of Medicine & Anesthesiology, Duke University Medical Center, Durham, North Carolina 27710*

BRUCE R. PITT (26), *Department of Environmental and Occupational Heath, University of Pittsburgh Graduate School Public Health, Pittsburgh, Pennsylvania 15261*

JUAN JOSÉ PODEROSO (34), *Laboratory of Oxygen Metabolism, University Hospital, and School of Pharmacy and Medicine, University of Buenos Aires, 1120 Buenos Aires, Argentina*

RAFAEL RADI (21), *Departamento de Bioquímica and Center for Free Radical and Biomedical Research, Facultad de Medicina, Universidad de la Repblica Montevideo, Uruguay, Avda. Gral. Flores 2125, 11800 Montevideo, Uruguay*

H. EL RAFAEY (24), *University of North Dakota, School of Medicine and Health Sciences, Grand Forks, North Dakola, 58202-9037*

KRISTINE M. ROBINSON (19), *Department. of Biochemistry and Biophysics, Oregon State University, Environmental Health Science Center, The Linus Pauling Institute, Corvallis, Oregon 97331*

ANA I. ROBLES (27), *Laboratory of Human Carcinogenesis, National Cancer Institute, Bethesda, Maryland 20892-4255*

CHESTER E. RODRIGUEZ (25), *Department of Pharmacology, School of Medicine, Center for the Health Sciences, University of California, Los Angeles, Los Angeles, California 90095-1772*

NATALIA ROMERO (21), *Departamento de Bioquímica and Center for Free Radical and Biomedical Research, Facultad de Medicina, Universidad de la Repblica, Avda. Gral. Flores 2125, 11800 Montevideo, Uruguay*

MICHAEL RUSSWUM (41), *Institut Für Pharmakologie und Toxikologie, Ruhr-Universität Bochum, Medizinische Fakultät MA N1, 44780 Bochum, Germany*

CHRISTIAN SCHÖNEICH (16), *Department of Pharmaceutical Chemistry, University of Kansas, Lawrence, Kanas 66047*

K.-D. SCHUSTER (51), *Physiologisches Institut I, Bonn Universitat, Nussallee 11, 53115 Bonn, Germany*

MAURO SERAFINI (20), *Antioxidant Research Laboratory, Unit of Human Nutrition, National Institute for Food and Nutrition Research, Via Ardeatine, 546, 00178 Rome, Italy*

TIESONG SHANG (44), *Department of Biophysics, Free Radical Research Center, Medical College of Wisconsin, Milwaukee, Wisconsin 53226-0509*

SUSHIL K. SHARMA (24), *University of North Dakota, School of Medicine and Health Sciences, Grand Forks, North Dakola, 58202-9037*

MASARU SHINYASHIKI (25), *Department of Pharmacology, School of Medicine, Center for the Health Sciences, University of California, Los Angeles, Los Angeles, California 90095-1772*

ZHONGZHOU SHEN (22), *Center for Cardiovascular Diagnostics and Prevention, Cleveland Clinic Foundation, Department of Cell Biology, Cleveland, Ohio 44195*

MORTEN SORLIE (38), *Department of Chemistry of Biotechnology, Agricultural University of Norway, N-1432Ås, Norway*

KLAOKWAN SRISOOK (31, 35), *Department of Pharmacology and Toxicology, Medicinal Toxicology Center, College of Medicine, Inha University, Inchon, 400-103, South Korea*

ANNA MARIA MICHELA DI STASI (20), *Department of Cell Biology and Neuroscience, Unit of Free Radical Pathophysiology, Istituto Superiori di Sanita, Viale Regina Elena, 299-00161, Rome, Italy*

MOLLY S. STITT (26), *Department of Environmental and Occupational Heath, University of Pittsburgh Graduate School Public Health, Pittsburgh, Pennsylvania 15261*

CHRISTOPH V. SUSCHEK (39, 48), *Institute of Biochemistry and Molecular Biology II, Heinrich-Heine-University of Düesseldorf, D-40001 Düsseldorf, NRW, Germany*

YI TAO (9), *Institute of Biophysics, Academia Sinica, Beijing 100101, China*

JOSE CARLOS TOLEDO (4), *Universidade de Sâo Pâulo, Instituto de Química de Sao Carlos, Departamento de Química e Fisica Molecular, Saocariense, 400, Centro - Cx Postal 780, CEP 13566-590 - Sâo Carlos - SP, Brazil*

DOANH C. TRAN (33), *Department of Pharmaceutical Sciences, School of Pharmacy and Pharmaceutical Sciences, University at Buffalo, State University of New York, Buffalo, New York 14260-1200*

PAQUI G. TRAVÉS (49), *Instituto de Bioquimica, Centro Mixto CSIC-UCM, Facultad de Farmacia, Universidad Complutense, 28760 Madrid, Spain*

AH-LIM TSAI (40), *Division of Hematology, Department of Internal Medicine, UT Health Science Center at Houston Medical School, Houston, Texas 77030*

ILLARION V. TURKO (23), *Department of Integrative Biology and Pharmacology, UT Health Science Center at Houston Medical School, Houston, Texas 77030*

LAURA B. VALDEZ (37), *Laboratory of Free Radical Biology, School of Pharmacy and Biochemistry, University of Buenos Aires, 1113 Buenos Aires, Argentina*

JOSEPH A. VITA (46), *Evans Department of Medicine and Whitaker Cardiovascular Institute, Boston University School of Medicine, Boston, Masschusetts 02118*

SIMON C. WATKINS (26), *Center for Biological Imaging, Department of Cell Biology and Physiology, University of Pittsburgh, Pittsburgh, Pennsylvania 15261*

C. R. WHITE (47), *Department of Medicine, Center for Free Radical Biology, University of Alabama at Birmington, Birmingham, Alabama 35294-2180*

KELLY S. WILLIAMSON (17), *Oklahoma Medical Research Foundation, Free Radical Biology and Aging Research Program, Oklahoma City, Oklahoma 73104*

YANGCANG XU (8, 9), *Institute of Biophysics, Academia Sinica, Beijing 100101, China*

KHALEQUZ ZAMAN (10), *Department of Pediatrics, Critical Care Medicine, University of Virginia School of Medicine, Charlottesville, Virginia 22908*

PATRICIA ZANICHELLI (4), *Universidade de Sâo Pâulo, Instituto de Química de Sao Carlos, Departamento de Química e Fisica Molecular, Saocariense, 400, Centro - Cx Postal 780, CEP 13566-590 - Sâo Carlos - SP, Brazil*

TAMARA ZAOBORNYJ (37), *Laboratory of Free Radical Biology, School of Pharmacy and Biochemistry, University of Buenos Aires, 1113 Buenos Aires, Argentina*

MIRIAM ZEINI (49), *Instituto de Bioquimica, Centro Mixto CSIC-UCM, Facultad de Farmacia, Universidad Complutense, 28760 Madrid, Spain*

HAO ZHANG (18), *Department of Biophysics, Free Radical Research Center, Medical College of Wisconsin, Milwaukee, Wisconsin 53226-0509*

BAOLU ZHAO (8, 9), *Institute of Biophysics, Academia Sinica, Beijing 100101, China*

Preface

The discovery that nitrogen monoxide or nitric oxide (NO) is a free radical formed in a variety of cell types by nitric oxide synthase and is involved in a wide array of physiological and pathophysiological phenomena has ignited enormous interest in the scientific community. One of the unique features of nitric oxide is its function as an intercellular messenger and, in this capacity, its involvement in the modulation of cell signaling and mitochondrial respiration. Nitric oxide metabolism and the interactions of this molecule with multiple cellular targets are currently areas of intensive research and have important pharmacological implications for health and disease.

Accurately assessing the generation, action, and regulation of nitric oxide in biological systems has required the development of new analytical methods at the molecular, cellular, tissue, and organismal levels. This was the impetus for Methods in Enzymology Volumes 268, 269, 301, and 359 Nitric Oxide Parts A, B, C, and D, respectively. Only a few years later, this new Volume 396 reflects the development of new and important tools for the assessment of nitric oxide action. Nitric Oxide, Part E contains five major sections: Biochemical, Molecular, and Real-Time Detection of Nitric Oxide, (II) Nitration and S-Nitrosylation, (III) Peroxynitrite, (IV) Signaling and Gene Expression, and (V) Cell Biology and Physiology.

In bringing this volume to fruition, credit must be given to the experts in various specialized fields of nitric oxide research who have contributed outstanding chapters to these sections on nitric oxide methodology. To these colleagues, we extend our sincere thanks and most grateful appreciation.

LESTER PACKER
ENRIQUE CADENAS

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VOLUME II. Preparation and Assay of Enzymes
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VOLUME III. Preparation and Assay of Substrates
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VOLUME IV. Special Techniques for the Enzymologist
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