CURRICULUM VITAE

J o h n W . E a t o n

ADDRESS: James Graham Brown Cancer Center
Department of Medicine
University of Louisville
529 South Jackson Street
Louisville, Kentucky 40202

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BIRTHDATE: March 13, 1941; Ann Arbor, Michigan

MARITAL: Married; one child

EDUCATION: Florida State University, Tallahassee, Florida
B.A., 1963 (anthropology/archeology)

University of Florida, Gainesville, Florida
M.A., 1964 (biological anthropology)

University of Michigan, Ann Arbor, Michigan
M.S., 1966 (biological anthropology)

University of Michigan, Ann Arbor, Michigan
Ph.D., 1969 (biological anthropology/human genetics)

University of Linköping, Linköping, Sweden
M.D. (*hc*), 2001 (medicine)

EMPLOYMENT: Assistant Field Archeologist, Department of Anthropology, University of Michigan, Ann Arbor, Michigan, 1963

Research Technician, Departments of Cardiology and Biochemistry, University of Florida Medical School, Gainesville, Florida, 1965

Instructor in Anthropology, Department of Anthropology, Florida State University, Tallahassee, Florida, 1965-1966

Research Associate, Department of Human Genetics, University of Michigan, Ann Arbor, Michigan 1969-1970

Assistant Professor of Anthropology, Department of Anthropology, Washington University, St. Louis, Missouri, 1970-1972

Assistant Professor of Medicine and Clinical Investigator, Department of Medicine, University of Minnesota Medical School, Minneapolis, Minnesota, 1972-1977

Associate Professor of Medicine and Clinical Investigator, Department of Medicine, University of Minnesota Medical School, 1977-1979

Director, Division of Medical Genetics, Department of Laboratory Medicine & Pathology, University of Minnesota Medical School, 1979-1990

Professor, Department of Medicine, University of Minnesota Medical School, 1979-1992

Professor, Department of Laboratory Medicine and Pathology, University of Minnesota Medical School, 1979-1992

Vice President, Research and Development, Biomedical Frontiers, Inc., Minneapolis, Minnesota, 1987-1995

Professor, Departments of Pathology and Laboratory Medicine, and Biochemistry and Molecular Biology, Albany Medical College, Albany, New York, 1992-1996

Director, Division of Experimental Pathology, Department of Pathology and Laboratory Medicine, Albany Medical College, 1992-1996

Professor, Department of Physiology and Cell Biology, Albany Medical College, 1994-1996

Professor, Section of Neonatology, Department of Pediatrics, Baylor College of Medicine, Houston, Texas, 1996-2000

James Graham Brown Professor of Cancer Biology, James Graham Brown Cancer Center, University of Louisville, Louisville, Kentucky, 2000-present

Professor, Center for Genetics and Molecular Medicine, University of Louisville, Louisville, Kentucky, 2000-present

Professor, Departments of Medicine and Pharmacology/Toxicology, University of Louisville, Louisville, Kentucky, 2000-present

Deputy Director, James Graham Brown Cancer Center, University of Louisville, Louisville, Kentucky, 2001-present.

ADJUNCT: Adjunct Professor, The Picower Institute for Medical Research, Manhasset, New York, September 1995 - 2001

Adjunct Professor, Department of Pathology and Laboratory Medicine, Albany Medical College, Albany, New York, May 1996 – 2010

Visiting Professor, Medical School, University of Debrecen, Debrecen, Hungary; October 2012-January 2015.
First visit February-April, 2013, second visit September, 2013; third visit February-March 2014; additional dates to be determined. [Supported by a European Union grant to 10 professors at the University of Debrecen; Eaton is the only external professor]

MEMBERSHIPS

American Association for the Advancement of Science
American Chemical Society
American Diabetes Association
American Federation for Clinical Research (AFCR)
American Society for Biochemistry and Molecular Biology
American Society of Clinical Oncology
American Society of Hematology
East Coast Iron Club
Oxygen Society
International Society for Free Radical Research (Australasia)
Red Cell Club
Society of Toxicology
Southern Society for Clinical Investigation
Surfaces in Biomaterials Foundation

HONORS AND AWARDS

Recipient, U. S. Public Health Service Graduate Training Grant, Human Genetics, 1966-1967, 1967-1968, 1968-1969

Recipient, National Institutes of Health Research Career Development Award, 1978-1983

Participant, International Biological Program, Section on Biology of Human Populations at High Altitude

Member, Ad Hoc Committees & Site Visit Teams, Sickle Disease Branch, National Heart, Lung and Blood Institute, National Institutes of Health, 1973, 1974, 1976, 1978, 1981-present

Member, Comprehensive Sickle Cell Centers Parent Review Committee and Site Visit Teams, National Heart, Lung and Blood Institute, National Institutes of Health, 1986-1987, 1991-1992, 2002

Member, Hematology-2 Study Section, National Heart, Lung and Blood Institute, National Institutes of Health, 1988-1992; 1998-2002; Special Reviewer, 1993, 1997

Member, National Institutes of Health Reviewers Reserve, 2002-present

Member, Sickle Cell Disease Therapy Special Study Section, National Heart, Lung and Blood Institute, National Institutes of Health, 1996

Chair, SBIR Phase I (1997) and II (1998) Special Review Groups, National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health

Member, Special Emphasis Panel on Tissue Engineering, National Heart, Lung and Blood Institute, National Institutes of Health, 1998

Member, Research Resource Special Study Section 2 and Site Visit Team, Center for Scientific Review, National Institutes of Health, 1998

Member, Special Emphasis Panel on Iron Overload and Hemochromatosis, National Institute of Diabetes, Digestive and Kidney Diseases, National Institutes of Health, 1999

Member, Organizing Committee, First (1982) and Second (1984) University of Minnesota/3M Research Poster Sessions, Minneapolis, Minnesota; Co-Organizer, Third (1986), Fourth (1988) and Fifth (1990) statewide Uof MN Research Poster Sessions: Basic and Applied Research in Academia and Industry, Minneapolis, Minnesota

Organizer, International Conference on Cellular and Molecular Aspects of Aging: The Red Cell as a Model, September 8-11, 1984, Minneapolis, Minnesota

National Science Foundation Lectureship to India, 1982

FASEB (MARC) Visiting Scientist for Minority Institutions, 1984, 1985, 1990

Visiting Professor, Department of Physiology, University of New England, Armidale, New South Wales, Australia, November 1985

Visiting Professor, Department of Pharmaceutical Chemistry, University of California, San Francisco, February-April 1987

Visiting Professor, The Picower Institute for Medical Research, Manhasset, New York, April 1 - June 30, 1995

Visiting Scientist, International Center for Advanced Studies, Nyzhny Novgorod, Russia, May-June, 1997

Visiting Professor, Medical School of Linköping University, Linköping, Sweden, May-October, 1999 and October-December, 2001

Recipient, Iron Bolt Award, presented at the Gordon Research Conference on Oxygen Radicals in Biology and Medicine, February 1987

Advisor, Biomedical Engineering Graduate Student Society, University of Minnesota, 1989-1992

Recipient, Gordon L. Starr Award for Outstanding Service to Students, University of Minnesota, 1990

Vice-Chairman (1990) and Chairman (1992) Gordon Research Conference on Oxygen Radicals in Biology

Treasurer, The Oxygen Society, January 1993 - December 1994

Head, Scientific Advisory Council, Biomedical Frontiers, Inc., Minneapolis, Minnesota, 1993-present

Member, Scientific Advisory Board, Albany Medical College, 1994-1996

Editor for the Americas (1994-1995) / Co-Editor-in-Chief (1995-2003), *Redox Report: Communications in Free Radical Research* (Maney Publishing)

Member, Scientific Advisory Board, SynZyme Technologies, Inc., Irvine, California, 1994-1999

Member, Editorial Board, *Free Radical Biology & Medicine* (Pergamon Press), 1994-1999

Member, Organizing Committee (Co-organizer, Albany Medical College), First Albany Medical College/ Rensselaer Polytechnic Institute Joint Research Symposium, March 25, 1995; and Second AMC/RPI Joint Research Symposium, March 23, 1996

External Scientific Advisor and Member, Technical Advisory Panel, Focal, Inc., Lexington, Massachusetts, 1996-2000

Member, 1999 Awards Committee, American Society of Hematology

Co-Organizer, First International Conference on Tumor Cell Metabolism, Point Clear, AL, October 27-31, 2001

Organizer, Second International Conference on Tumor Cell Metabolism, Point Clear, AL, Nov. 1-4, 2003

Co-Organizer, Third International Conference on Tumor Cell Metabolism, Louisville, KY, October, 2005

Co-Organizer, Fourth International Conference on Tumor Cell Metabolism, Louisville, KY, October, 2009

United States Patents

Method and Agents for Arresting Infection. Patent No. 4,462,989. July 31, 1984.

Method and Agents for Raising Animal Tolerance to Oxidant Stress-Inducing Antibiotics. Patent No. 4,548,927. October 22, 1985.

Method for the Early Diagnosis of Bordetella Diseases and Kit Therefor. Patent No. 4,652,521. March 24, 1987.

A Method for the Stabilization of Deferoxamine to Chelate Free Ions in Physiological Fluid. Patent No. 4,863,964. September 5, 1989.

Biocompatible Materials Comprising Albumin Binding Dyes. Patent No. 5,073,171. December 17, 1991.

Composition for the Stabilization of Deferoxamine to Chelate Free Ions in Physiological Fluid. Patent No. 5,217,998. June 8, 1993.

Graft Polymer Articles Having Bioactive Surfaces. Patent No. 5,344,455. September 6, 1994.

Articles Having Graft Polymer Bioactive Surfaces. Patent No. 5,476,509. December 19, 1995.

Fixed Tissue Medical Devices Comprising Albumin-Binding Dyes. Patent No. 5,509,932. April 23, 1996.

Method for Administering a Bioactive Agent. Patent No. 5,545,213. August 13, 1996.

Antigenic Modulation of Cells. Patent No. 5,908,624. June 1, 1999 (see below).

Method and Agents for Universal Virus Detection. Provisional.

Method and Agents for Vaccination against Neoplastic Diseases. 1577/7 PCT/US

Antigenic Modulation of cells. Patent No. 8,007,784, August 30, 2011

Consultantships (past and present)

Advanced Surface Technology (AST), Billerica, Massachusetts
Alcon, Inc., Fort Worth, Texas
Alteon, Inc., Northvale, New Jersey
Biometric Systems, Inc., Minneapolis, Minnesota
Cerami Consulting, Inc., Tarrytown, New York
Enzon, Inc., South Plainfield, New Jersey
Focal, Inc., Cambridge, Massachusetts
Genzyme, Inc., Cambridge, Massachusetts
Hunt Mining and Exploration, Dallas, Texas
Infimed Therapeutics, Inc., Cambridge, Massachusetts
Medtronic, Inc., Minneapolis, Minnesota
Minntech, Inc., Minneapolis, Minnesota
Pall Corporation, Port Washington, New York
Pharmacia AB, Uppsala, Sweden
Shearwater Polymers, Inc., Huntsville, Alabama
Sulzer Orthopedics, Austin, Texas
SynZyme Technologies, Inc., Irvine, CaliforniaTeltech, Inc., Minneapolis, Minnesota

Grant Support

Ongoing Research Support

Funding Agency:	National Institutes of Health
Title:	Molecular Targets Center of Biomedical Research Excellence This third 5-year phase of the grant (P30) provides funding for four core facilities [Microarray Core, NMR Suite Core, Molecular Modeling Core, Mouse Model Core], an Administrative Core and a Pilot Project Program (run by Dr. Eaton) for the Molecular Targets Program, James Graham Brown Cancer Center.
Funding Period:	July 1, 2013 - June 30, 2018.
Total Direct Costs:	$3,750,000 (Miller – PI; Eaton Co-Investigator)

Funding Agency:	National Aeronautics & Space Administration
Title:	A Paradigm-shifting Therapy for Humans Exposed to Radiation This grant centers on the problem of radiation exposure to astronauts – how to measure such exposure and how to prevent radiation damage. The overall goals of our work are to (1) determine which cellular response elements are the best reflection of radiation exposure and (2) to find practical approaches to remediate the effects of acute radiation exposure.
Funding Period:	01/01/13 – 12/31/15
Total Direct Costs:	$750,000 (Soucy PSA – PI; Eaton co-PI)

Funding Agency:	Gift
Title:	Immune Basis for Chronic Obstructive Pulmonary Disease
Funding Period:	01/01/03 - 12/31/16
Total Direct Costs:	$86,000 (Eaton – PI)

PUBLICATIONS

-Articles-

1. Eaton, J.W. Pipe stem dating and the date for Silver Bluff, South Carolina. *The Florida Anthropologist*, Volume XV, No. 2, 1962
2. Eaton, J.W. The preservation of wood by the alum process. *The Florida Anthropologist*, Volume XV, No. 4, 1962
3. Eaton, J.W. and Gavan, J.A. Sensitivity to P-T-C among primates. *American Journal of Physical Anthropology* 23:381-388, 1965
4. Eaton, J.W., Brewer, G.J., Beck, C.C. and Shreffler, D.C. ATP and potassium content of sheep erythrocytes. *Biochemical and Biophysical Research Communications* 28:898-903, 1967
5. Brewer, G.J., Eaton, J.W., Knutsen, C.S. and Beck, C.C. A starch-gel electrophoretic method for the study of diaphorase isozymes and preliminary results with sheep and human erythrocytes. *Biochemical and Biophysical Research Communications* 29:198-204, 1967
6. Kitchen, H., Eaton, J.W. and Stenger, V.G. Hemoglobin types of adult, fetal, and newborn sub-human primates: *Macaca speciosa*. *Archives of Biochemistry and Biophysics* 123: 227-234, 1968
7. Kitchen, H., Eaton, J.W. and Taylor, W.J. Rapid production of a hemoglobin by induced hemolysis in sheep: Hemoglobin C. *American Journal of Veterinary Research* 29:281-289, 1968
8. Eaton, J.W. and Brewer, G.J. The relationship between red cell 2,3-diphosphoglycerate and levels of hemoglobin in the human. *Proceedings of the National Academy of Sciences* USA 61:756-760, 1968
9. Brewer, G.J., Eaton, J.W., Beck, C.C., Feitler, L. and Shreffler, D.C. Sodium-potassium stimulated ATPase activity of mammalian hemolysates: Clinical observations and dominance of ATPase deficiency in the potassium polymorphism of sheep. *Journal of Laboratory and Clinical Medicine* 71:744-753, 1968
10. Eaton, J.W. and Brewer, G.J. Red cell ATP and malaria infection. *Nature* 222:389-390, 1969
11. Eaton, J.W., Faulkner, J.A. and Brewer, G.J. Response of the human red cell to muscular activity. *Proceedings of the Society for Experimental Biology and Medicine* 132:886-887, 1969
12. Eaton, J.W., Brewer, G.J. and Grover, R.F. Role of red cell 2,3-diphosphoglycerate in the adaptation of man to altitude. *Journal of Laboratory and Clinical Medicine* 73:603-609, 1969
13. Faulkner, J.A., Brewer, G.J. and Eaton, J.W. Adaptation of the red blood cell to muscular exercise. In: Red Cell Metabolism and Function, G. J. Brewer (ed.), Plenum Press: New York, pp. 213-227, 1970
14. Brewer, G.J., Coan, C., Eaton, J.W., Shreffler, D.C., Sing, C.F., Rasmussen, B. and Beck, C.C. Blood groups and sodium-potassium stimulated ATPase. In: Blood and Tissue Antigens, D. Aminoff (ed.), Academic Press: New York, pp. 51-66, 1970

15. Dinman, B.D., Eaton, J.W. and Brewer, G.J. Effects of carbon monoxide on 2,3-diphosphoglycerate concentrations in the erythrocyte. In: Biological Effects of Carbon Monoxide, Annals of the New York Academy of Sciences 174: 246-251, 1970

16. Brewer, G.J., Eaton, J.W., Weil, J. and Grover, R.F. Studies of red cell glycolysis and interactions with carbon monoxide, smoking and altitude. In: Red Cell Metabolism and Function, G. J. Brewer (ed.), Plenum Press: New York, pp. 95-114, 1970

17. Eaton, J.W., Brewer, G.J., Schultz, J.S. and Sing, C.F. Variation in 2,3-diphosphoglycerate and ATP levels in human erythrocytes and effects on oxygen transport. In: Red Cell Metabolism and Function, G. J. Brewer (ed.), Plenum Press: New York, pp. 21-38, 1970

18. Brewer, G.J. and Eaton, J.W. Erythrocyte metabolism: Interaction with oxygen transport. *Science* 171:1205-1211, 1971

19. Brewer, G.J., Eaton, J.W. Grover, R.F. and Weil, J.V. Cigarette smoking as a cause of hypoxemia in man at altitude. *Chest* 59(Suppl):30, 1971

20. Eaton, J.W. and Mucha, J.I. Increased fertility in males with the sickle cell trait? *Nature* 231:456-457, 1971

21. Seward, C.W., Eaton, J.W. and Chaplin, H. Jr. Artificially-induced thyroid suppression in sickle cell disease. *Blood* 40:905-913, 1972

22. Brewer, G.J., Oelshlegel, F.J. Jr. and Eaton, J.W. Biochemical, physiological, and genetic factors in the regulation of mammalian erythrocyte metabolism and DPG levels. In: Alfred Benzon Symposium IV. Oxygen Affinity of Hemoglobin and Red Cell Acid-Base Status, M. Rorth and P. Astrup (eds.), Munksgaard, Copenhagen, pp. 539-551, 1972

23. Eaton, J.W., Boraas, M. and Etkin, N.L. Catalase activity and red cell metabolism. In: Advances in Experimental Medicine and Biology: Hemoglobin and Red Cell Structure and Function, G. J. Brewer (ed.), Plenum Press: New York, pp. 121-131, 1972

24. Eaton, J.W. Catalase activity and cancer. *Lancet* 2:46, 1972

25. Eaton, J.W. Review of natural selection in human populations. *American Journal of Physical Anthropology* 38:42, 1972

26. Eaton, J.W., Kolpin, C.F., Swofford, H.S., Kjellstrand, C.-M. and Jacob, H.S. Chlorinated urban water: A cause of dialysis-induced hemolytic anemia. *Science* 181:463-464, 1973

27. Eaton, J.W., Skelton, T.D., Swofford, H.S., Kolpin, C.F. and Jacob, H.S. Elevated erythrocyte calcium concentration in sickle cell disease. *Nature* 246:105-106, 1973

28. Brewer, G.J., Sing, C.F., Eaton, J.W., Weil, J., Brewer, L.F. and Grover, R. Effects on hemoglobin oxygen affinity of smoking in residents of intermediate altitude. *Journal of Laboratory and Clinical Medicine* 84:191-205, 1974

29. von Hartitzsch, B., Eaton, J.W., Buselmeier, T.J. and Kjellstrand, C.-M. Dialysis disequilibrium: A manifestation of impaired tissue oxygenation. *Transactions of the American Society of Artificial Internal Organs* 20A:373-376, 1974

30. Kjellstrand, C.-M., Shideman, J.R. and Eaton, J.W. Continuous extracorporeal chemotherapy of blood utilizing hemodialysis: Potential for the treatment of sickle cell

disease. *Transactions of the American Society of Artificial Internal Organs* 20B:574-578, 1974

31. Eaton, J.W. Oxygen affinity and environmental adaptation. In: *Hemoglobin: Comparative Molecular Biology Models for the Study of Disease*, *Annals of the New York Academy of Sciences* 241:491-497, 1974

32. Kjellstrand, C.-M., Eaton, J.W., Yawata, Y., Swofford, H.S., Kolpin, C.F., Buselmeier, T.J., von Hartitzsch, B. and Jacob, H.S. Hemolysis in dialyzed patients caused by chloramines. *Nephron* 13: 427-433, 1974

33. Eaton, J.W. and Brewer, G.J. Pentose phosphate metabolism. In: The Red Blood Cell, D.M. Surgenor (ed.), Academic Press: New York, Volume 1, pp. 435-471, 1974

34. Eaton, J.W., Skelton, T.D. and Berger, E. Survival at extreme altitude: Protective effect of increased hemoglobin-oxygen affinity. *Science* 183:743-744, 1974

35. Grothe, D.R. and Eaton, J.W. Chlorine-induced mortality in fish. *Transactions of the American Fisheries Society* 104:800-802, 1975

36. Etkin, N.L. and Eaton, J.W. Malaria-induced erythrocyte oxidant sensitivity. In: Erythrocyte Structure and Function, G.J. Brewer (ed.), Alan R. Liss: New York, pp. 219-234, 1975

37. Jacob, H.S., Eaton, J.W. and Yawata, Y. Shortened red cell survival in uremic patients: Beneficial and deleterious effects of dialysis. *Kidney International* (Supplement) 2:139-143, 1975

38. Eaton, J.W., Berger, E., White, J.G. and Jacob, H.S. Effects of calcium on hemoglobin SS erythrocytes: Evidence that calcium accumulation underlies the formation of irreversibly sickled red cells. In: Molecular and Cellular Aspects of Sickle Cell Disease, J. I. Hercules, G. Cottam, M. R. Waterman and A. N. Schechter (eds.), Department of Health, Education and Welfare: Washington, Publication No. (NIH) 76-1007, pp. 327-342, 1976

39. Eckman, J.R., Eaton, J.W., Berger, E. and Jacob, H.S. Role of vitamin E in regulating malaria expression. *Transactions of the Association of American Physicians* 89:105-115, 1976

40. Eaton, J.W., Eckman, J.R., Berger, E. and Jacob, H.S. Suppression of malaria infection by oxidant-sensitive host erythrocytes. *Nature* 264:758-760, 1976

41. Eckman, J.R., Modler, S., Eaton, J.W., Berger, E. and Engel, R.R. Host heme catabolism in drug-sensitive and drug-resistant malaria. *Journal of Laboratory and Clinical Medicine* 90:767-770, 1977

42. Hebbel, R.P., Kronenberg, R.S. and Eaton, J.W. Hypoxic ventilatory response in subjects with normal and high oxygen affinity hemoglobins. *Journal of Clinical Investigation* 60:1211-1215, 1977

43. Kuettner, J.F., Dreher, K.L., Rao, G.H., Eaton, J.W., Blackshear, P.L. Jr. and White, J.G. Influence of the ionophore A23187 on the plastic behavior of normal erythrocytes. *American Journal of Pathology* 88:81-94, 1977

44. Eaton, J.W., Berger, E., White, J.G. and Jacob, H.S. Metabolic and morphologic effects of intra-erythrocytic calcium: Implications for the pathogenesis of sickle cell disease. In:

Progress in Clinical and Biological Medicine 14: Zinc Metabolism: Current Aspects in Health and Disease, G.J. Brewer and A.S. Prasad (eds.), Alan R. Liss: New York, pp. 275-298, 1977

45. Rao, G.H.R., Gerrard, J.M., Eaton, J.W. and White, J.G. Arachidonic acid peroxidation, prostaglandin synthesis and platelet function. *Photochemistry and Photobiology* 29:845-850, 1978

46. Eaton, J.W., Berger, E., White, J.G. and Jacob, H.S. Calcium-induced damage of hæmoglobin SS and normal erythrocytes. *British Journal of Hæmatology* 38:57-62, 1978

47. Steinberg, M.H., Eaton, J.W., Berger, E., Coleman, M.B. and Oelshlegel, F. Erythrocyte calcium abnormalities and the clinical severity of sickling disorders. *British Journal of Hæmatology* 40:533-539, 1978

48. Hebbel, R.P., Eaton, J.W., Modler, S. and Jacob, H.S. Extreme but asymptomatic carboxyhemoglobinemia and chronic lung disease. *Journal of the American Medical Association (JAMA)* 239:2584-2586, 1978

49. Hebbel, R.P., Eaton, J.W., Berger, E.M., Kronenberg, R.S., Zanjani, E.D. and Moore, L.G. Hemoglobin oxygen affinity and adaptation to altitude: Evidence for pre-adaptation to altitude in humans with left-shifted oxyhemoglobin dissociation curves. *Transactions of the Association of American Physicians* 91:212-228, 1978

50. Hebbel, R.P., Eaton, J.W., Kronenberg, R.S., Zanjani, E.D., Moore, L.G. and Berger, E.M. Human llamas: Adaptation to altitude in subjects with high hemoglobin oxygen affinity. *Journal of Clinical Investigation* 62:593-600, 1978

51. Neilan, B.A., Ehlers, S.M., Kolpin, C.F. and Eaton, J.W. Prevention of chloramine-induced hemolysis in dialyzed patients. *Clinical Nephrology* 10:105-108, 1978

52. Eaton, J.W., Berger, E., White, J.G. and Nelson, D. Interspecies variation in erythrocyte calcium response. In: Progress in Clinical and Biological Research 20: Erythrocyte Membranes, W. Kruckeberg, J.W. Eaton and G.J. Brewer (eds.), Alan R. Liss: New York, pp. 37-49, 1978

53. Eaton, J.W., Berger, E., Nelson, D., White, J.G. and Rundquist, O. Intracellular calcium: Lack of effect on ovine red cells. *Proceedings of the Society for Experimental Biology and Medicine* 157:506-510, 1978

54. Eaton, J.W., Eckman, J.R., Berger, E. and Jacob, H.S. Malaria infection: Protective effect of oxidant sensitive host erythrocytes. In: Proceedings of the 18th International Congress of Hematology, pp. 495-497, 1978

55. Dreher, K.L., Eaton, J.W., Kuettner, J.F., Breslawec, K.P., Blackshear, P.L. and White, J.G. Retention of water and potassium by erythrocytes prevents calcium-induced membrane rigidity. *American Journal of Pathology* 92:215-225, 1978

56. Rao, G.H.R., Gerrard, J.M., Eaton, J.W. and White, J.G. The role of iron in prostaglandin synthesis: Ferrous iron mediated oxidation of arachidonic acid. *Prostaglandins and Medicine* 1:55-70, 1978

57. Branda, R.F. and Eaton, J.W. Skin color and nutrient photolysis: An evolutionary hypothesis. *Science* 201:625-626, 1978

58. Kjellstrand, C.M., Alfrey, A.C., Eaton, J.W., Friedman, E.A., Ginn, H.E., Hull, A.R. and Ogden, D. Toxicity of materials and medications used in dialysis. *Transactions of the American Society of Artificial Internal Organs* 24:764-769, 1978

59. Hebbel, R.P., Kronenberg, R.S. and Eaton, J.W. Utilization of humans with high oxygen affinity hemoglobins in identifying mediators of physiologic responses to hypoxia. In: Progress in Clinical and Biological Research 21: The Red Cell, G.J. Brewer (ed.), Alan R. Liss: New York, pp. 739-747, 1978

60. Repine, J.E., Eaton, J.W., Anders, M.W., Hoidal, J.R. and Fox, R.B. Generation of hydroxyl radical by enzymes, chemicals, and human phagocytes *in vitro*: Detection using the anti-inflammatory agent, dimethyl sulfoxide. *Journal of Clinical Investigation* 64:1642-1651, 1979

61. Repine, J.E., Hoidal, J.R., Beall, G.D., Fox, R.B., Rasp, F.L., Clifford, D.P., Eaton, J.W., Davies, S., Clawson, C.C. and White, J.G. The effect of temperature on the chemiluminescence response of polymorphonuclear leukocytes *in vitro*. In: Biochemical and Clinical Aspects of Oxygen, W. Caughey (ed.), Academic Press: New York, pp. 725-736, 1979

62. Eckman, J.R. and Eaton, J.W. Dependence of plasmodial glutathione metabolism on the host cell. *Nature* 278:754-756, 1979

63. Eaton, J.W. and Eckman, J.R. Malaria infection and host cell oxidant defense. In: Biochemical and Clinical Aspects of Oxygen, W. Caughey (ed.), Academic Press: New York, pp. 825-838, 1979

64. Eaton, J.W., Jacob, H.S. and White, J.G. Membrane abnormalities of irreversibly sickled cells. *Seminars in Hematology* 16:52-64, 1979

65. Hebbel, R.P., Yamada, O., Moldow, C.F., Jacob, H.S., White, J.G. and Eaton, J.W. Abnormal adherence of sickle erythrocytes to cultured vascular endothelium: Possible mechanism for microvascular occlusion in sickle cell disease. *Journal of Clinical Investigation* 65:154-160, 1980

66. Eaton, J.W., Branda, R.F., Hadland, C. and Dreher, K.L. Anion channel blockade: Effects upon erythrocyte membrane calcium metabolism. *American Journal of Hematology* 9:391-399, 1980

67. Dawson, R.B., Hershey, R.T., Myers, C.S. and Eaton, J.W. Blood preservation XLIV: 2,3-DPG maintenance by dehydroascorbate better than D-ascorbic acid. *Transfusion* 20:321-323, 1980

68. Dreher, K.L., Eaton, J.W., Breslawec, K.P., Berger, E., Blackshear, P.L. and White, J.G. Calcium-induced erythrocyte rigidity: the roles of cellular metabolism, hydration and ionic balance. *American Journal of Pathology* 101:543-556, 1980

69. Burris, S.M., White, J.G. and Eaton, J.W. Calcium-induced erythrocyte shape change: Evidence against involvement of diacylglycerol accumulation. In: Red Blood Cell and Lens Metabolism: Developments in Biochemistry, Volume 9, S.K. Srivastava (ed.), Elsevier North-Holland, pp. 49-54, 1980

70. Hebbel, R.P., Berger, E.M. and Eaton, J.W. Effect of increased maternal hemoglobin oxygen affinity on fetal growth in the rat. *Blood* 55:969-974, 1980

71. Hebbel, R.P., Boogaerts, M.A.B., Eaton, J.W. and Steinberg, M.H. Erythrocyte adherence to endothelium in sickle cell anemia. A possible determinant of disease severity. *New England Journal of Medicine* 302:992-995, 1980

72. Hebbel, R.P., Boogaerts, M.A.B., Koresawa, S., Jacob, H.S., Eaton, J.W. and Steinberg, M.H. Erythrocyte adherence to endothelium as a determinant of vasocclusive severity in sickle cell disease. *Transactions of the Association of American Physicians* 93:94-99, 1980

73. Hebbel, R.P., White, J.G. and Eaton, JW. Erythrocyte membrane damage in Hb SS disease: Possible relationships to circulatory abnormalities. In: The Molecular Basis of Murant Hemoglobin Dysfunction, P. Siegler (ed.), Academic Press: New York, 1980

74. Burris, S.M., Eaton, J.W. and White, J.G. Evaluation of the role of diacylglycerol in calcium-induced erythrocyte shape change and rigidity. *Journal of Laboratory and Clinical Medicine* 96:749-756, 1980

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