

Curriculum Vitae

Name: Gerald P. Brierley
Born: August 14, 1931, Ogallala, Nebraska
Military status: U.S. Air Force, 1954-1956, Captain
Education: University of Maryland 1949-53 B.S. Zoology
University of Maryland 1956-60 Ph.D. Biochemistry
Minor in Chemistry and Physiology
University of Wisconsin 1960-1962 Post-doctoral with
David E. Green

Positions held:

1962-1964 Research Assistant Professor
Institute of Enzyme Research
University of Wisconsin

Research on role of lipid in mitochondrial electron transport reactions, oxidative phosphorylation, accumulation of Mg^{2+} and Ca^{2+} by heart mitochondria, and the association of glycolytic enzymes with the red blood cell membrane.

1964-1965 Assistant Professor
Department of Physiological Chemistry
The Ohio State University

1965-1969 Associate Professor
Department of Physiological Chemistry
The Ohio State University

1969-1995 Professor
Department of Physiological Chemistry/Medicinal Chemistry
(departmental name change)
The Ohio State University

1995-2006 Professor Emeritus
Department of Molecular and Cellular Biochemistry
(departmental name change)

1975-1976 Visiting Professor
University of South Carolina
Department of Biochemistry
Charleston, South Carolina

1980-1982 Acting Chairman
Department of Physiological Chemistry
The Ohio State University

1983-1995 Chairman
Department of Medical Biochemistry
(departmental name change)
The Ohio State University

Honors: Established Investigator, American Heart Association, 1964-1969
American Heart Association Ohio Affiliate Research Merit Award,
1991

Societies American Society of Biological Chemists
American Society for Cell Biology
Biophysical Society
American Heart Association, Basic Science Council
Central Ohio Heart Association, Board of Trustees (1980-1985)
International Society for Heart Research

Editorial Boards:
Archives of Biochemistry and Biophysics
Journal of Bioenergetics and Biomembranes
Molecular and Cellular Biochemistry

Study Sections:
Member, NIH Physical Biochemistry Study Section (1981-85)
Special Reviewer, Biochemistry Study Section
Central Ohio Heart Chapter – Research and Fellowship
Committee, Chairman (1980-82)
American Heart Association, Ohio Affiliate Research Review
Committee (1980-84)
American Heart Associate, Ohio Affiliate Research Committee,
Chairman (1988-89)
American Heart Association, National Review Committee,
Metabolism & Cell Biology (1990-93)
Special Reviewer – VA grant program

Graduate Students

Present Address

George Hunter	PhD 1968	MD, private practice
William Jacobus	PhD 1969	Professor, Department of Anatomy, Medical College of Ohio
Kathryn Scott	PhD 1969	Associate Professor, Physiological Chemistry The Ohio State University

Koh Hwang	PhD	1971	Assistant Professor University of Southern California Department of Medicine
Charles Rafferty	PhD	1974	Electric Power Research Institute Paola Alto, California
Janna Wehrle	PhD	1975	Assistant Professor Johns Hopkins University
G-Y Shi	PhD	1980	Formosan National University
Marianne Jurkowitz	PhD	1982	The Ohio State University Molecular and Cellular Biochemistry
Charlene M. Hohl	PhD	1982	Research Scientist The Ohio State University
Timothy Geisbuhler	PhD	1983	Assistant Professor University of Missouri
Michael Murphy	PhD	1983	Clinical Chemistry Cincinnati, Ohio
W. Wenger	PhD	1984	Steward Pharmaceuticals Wilmington, Delaware
Dorothy Wimsatt	PhD	1990	Grant Hospital, Columbus, Ohio
Kemal Baysal	PhD	1993	The Ohio State University Medical Biochemistry

Post-doctorals

Vincent Knight	1966-68	University of Cardiff, Wales
C. Thomas Settlemire	1966-68	Bowdoin College, Maine
Kathryn Scott Pyant	1969-71	The Ohio State University
Ruth Altschuld	1974-80	The Ohio State University
Edmundo Chavez	1976-77	Institute de Cardiologia Mexico City
Dennis W. Jung	1977-86	The Ohio State University
Marianne Jurkowitz	1983-84	The Ohio State University
Mindy Lambert	1984-86	The Ohio State University
Michael Davis	1986-88	Environmental Testing Marion, Ohio
Tatyana Gudz	1989-91	Case Western Reserve University Cleveland
Sergia Novgorodov	1989-91	Moscow State University, Russia

Unpublished Presentations:

Gordon Conference on Energy Coupling Mechanisms, 1966, 1971.
Princeton Research Conference, 1968
American Physiological Society Refresher Course on Bioenergetics, 1969
Biophysical Society Workshop on Bioenergetics, 1973

Mexican National University – Lecture Series, January, 1979
American Section of the International Society of Heart Research, Houston, May, 1985.
American Heart Association, Santa Fe, New Mexico, July 1989.

Consulting and Program Evaluations:

Program Review – University of Texas Graduate School of Biomedical Sciences, Galveston, 1977.
Program Review – University of Tennessee Graduate School – Medical Sciences, Memphis, 1978.
Review of Laboratory of Cardiovascular Science, National Institute on Aging, Gerontology Research Center, Baltimore, 1987.

RESEARCH PUBLICATIONS

1. Fleischer S, Klouwen H and Brierley GP. 1961. Studies on the Electron Transfer System XXXVIII. Lipid Composition of Purified Enzyme Preparations Derived from Beef Heart Mitochondria. **J Biol Chem** 236:2936-2941.
2. Fleischer S and Brierley GP. 1961. Solubilization of Cholesterol in Phospholipid Micelles in Water. **Biochem Biophys Res Commun** 5:367-372.
3. Fleischer S and Brierley GP. 1961. The Equilibration of Phospholipids between Soluble Micelles of Phospholipids and the Bound Lipid of Mitochondrial Particles. **Biochim Biophys Acta** 53:609-612.
4. Veitch, FP and Brierley GP. 1962. The Quantitative Determination of Tartronic Acid (hydroxylmalonic Acid) in Urine and Tissues. **Biochim Biophys Acta** 58:467-473.
5. Brierley GP, and Merola AJ. 1962. Studies of the Electron Transfer System XLVIII. Phospholipid Requirements in Cytochrome Oxidase. **Biochim Biophys Acta** 64:205-217.
6. Brierley GP, Merola, AJ, and Fleischer S. 1962. Studies of the Electron Transfer System XLVII. Sites of Phospholipid Involvement in the Electron Transfer Chain. **Biochim Biophys Acta** 64:218-228.
7. Fleischer S, Brierley GP, Klouwen H and Slutterback DB. 1962. Studies of the Electron Transfer System, XLVII. The Role of Phospholipids in Electron Transfer. **J Biol Chem** 237:3264-3272.
8. Brierley GP, Bachmann E, and Green DE. 1962. Active Transport of Inorganic Phosphate and Mg^{2+} by Heart Mitochondria. **Proc Natl Acad Sci US** 48:1928-1935.
9. Brierley GP, Murer E and Green DE. 1963. Participation of an Intermediate of Oxidative Phosphorylation in Ion Accumulation by Mitochondria. **Science** 140:60-62.
10. Brierley GP, Murer E, Bachmann E and Green DE. 1963. Studies on Ion Transport II. The Accumulation of P_i and Mg^{2+} by Heart Mitochondria. **J Biol Chem** 238:3482-3489.

11. Brierley GP, Murer E, and Bachmann E. 1964. Studies on Ion Transport III. The Accumulation of Ca^{2+} and P_i by Heart Mitochondria. **Arch Biochem Biophys** 105:89-102.
12. Brierley GP and Slautterback DB. 1964. Studies on Ion Transport IV. An Electron Microscope Study of the Accumulation of Ca^{2+} and P_i by Heart Mitochondria. **Biochim Biophys Acta** 82:183-186.
13. Brierley GP and Murer E. 1964. Ion Accumulation in Heart Mitochondria Supported by the Oxidation of Reduced Cytochrome c. **Biochem Biophys Res Commun** 14:437-442.
14. Brierley GP, Murer E and Bachmann E. 1964. Studies on Ion Transport V. Restoration of the ATP Supported Accumulation of Ca^{2+} in Aged Heart Mitochondria. **J Biol Chem** 239:2706-2712.
15. Brierley GP, Murer E and O'Brien RL. 1964. Studies on Ion Transport VI. Accumulation of Mg^{2+} by Heart Mitochondria in the Absence of P_i . **Biochim Biophys Acta** 88:645-647.
16. Brierley GP and Green. 1965. Compartmentation of the Mitochondrion. **Proc Natl Acad Sci USA** 53:73-79.
17. Brierley, GP. 1965. On the Efficiency of Oxidative Phosphorylation in Isolated Heart Mitochondria. **Biochem Biophys Res Commun** 19:500-505.
18. O'Brien RL and Brierley GP. 1965. Compartmentation of Heart Mitochondria I. Permeability of Isolated Beef Heart Mitochondria. **J Biol Chem** 240:4527-4531.
19. Brierley GP and O'Brien RL. 1965. Compartmentation of Heart Mitochondria II. Mitochondrial Adenine Nucleotides and the Action of Atractyloside. **J Biol Chem** 240:4532-4539.
20. Green DE, Murer E, Hultin HO, Richardson SH, Salmon B, Brierley GP and Baum H. 1965. Association of Integrated Metabolic Pathways with Membranes I. Glycolytic Enzymes of the Red Blood Corpuscle and Yeast. **Arch Biochem Biophys** 112:635-647.
21. Brierley GP and Bhattacharyya RN. 1966. Activation of Mg^{2+} Accumulation in Isolated Heart Mitochondria by Zn^{2+} and by *p*-chloromercuribenzene sulfonate. **Biochem Biophys Res. Commun** 23:647-651.
22. Brierley GP, Bhattacharyya RN and Walker JG. 1966. Induction of K^+ Transport in Heart Mitochondria by Zn^{2+} . **Biochem Biophys Res Commun** 24:269-273.
23. Brierley GP. 1967. Ion Transport in Heart Mitochondria VII. Activation of the Energy-Linked Accumulation of Mg^{2+} by Zn^{2+} and Other Cations. **J Biol Chem** 242:1115-1121.
24. Brierley GP, Jacobus WE and Hunter GR. 1967. Ion Transport in Heart Mitochondria VIII. Activation of the ATP-Supported Accumulation of Mg^{2+} by Zn^{2+} and by *p*-Chloromercuribenzene Sulfonate. **J Biol Chem** 242:2192-2197.
25. Brierley GP, Settlemire CT and Knight VA. 1967. Induction of K^+ Transport and Swelling in Isolated Heart Mitochondria by Mercurial Compounds. **Biochem Biophys Res Commun** 28:420-425.
26. Brierley GP and Settlemire CT. 1967. Ion Transport by Heart Mitochondria IX. Induction of Energy-Linked Uptake of K^+ by Zn^{2+} . **J Biol Chem** 242:4324-4328.

27. Brierley GP and Knight VA. 1967. Ion Transport by Heart Mitochondria X. The Uptake and Release of Zn^{2+} and its Relation to the Energy-Linked Accumulation of Mg^{2+} . **Biochemistry** 6:3892-3902.
28. Brierley GP, Settlemire, CT and Knight VA. 1968. Ion Transport by Heart Mitochondria XI. The Spontaneous and Induced Permeability of Heart Mitochondria to Cations. **Arch Biochem Biophys** 126:276-288.
29. Brierley GP, Knight VA and Settlemire CT. 1968. Ion Transport by Heart Mitochondria XII. Activation of Monovalent Cation Uptake by Sulfhydryl Group Reagents. **J Biol Chem** 243:5025-5043.
30. Settlemire CT, Hunter GR and Brierley GP. 1968. Ion Transport by Heart Mitochondria XIII. The Effect of EDTA on Monovalent Ion Uptake. **Biochim Biophys Acta** 162:487-499.
31. Brierley GP, Fleischman D, Hughes SD, Hunter GR and McConnell DG. 1968. On the Permeability of Isolated Bovine Retinal Outer Segment Fragments. **Biochim Biophys Acta** 163:117-120.
32. Knight VA, Settlemire CT and Brierley GP. 1968. Differential Effects of Mercurial Reagents on Mitochondrial Thiol Groups and Mitochondrial Permeability. **Biochem Biophys Res Commun** 33:287-293.
33. Hunter GR and Brierley GP. 1969. Ion Transport by Heart Mitochondria XIV. The Mannitol-Impermeable Compartment of the Mitochondrion and Its Relation to Ion Uptake. **Biochim Biophys Acta** 180:68-80.
34. Hunter GR, Kamishima Y and Brierley GP. 1969. Ion Transport by Heart Mitochondria XV. Morphological Changes Associated with the Penetration of Solutes into Isolated Heart Mitochondria. **Biochim Biophys Acta** 180:81-97.
35. Jacobus WE and Brierley GP. 1969. Ion Transport by Heart Mitochondria XVI. Cation Binding by Submitochondrial Particles. **J Biol Chem** 244:4994-5004.
36. Brierley GP. 1969. Energy-Linked Alteration of Mitochondrial Permeability to Anions. **Biochem Biophys Res Commun** 35:396-402.
37. Brierley GP. 1969. The Effects of Zn^{2+} on the Permeability of Isolated Heart Mitochondria. **Ann NY Acad Sci** 147:842-845.
38. Brierley GP. 1970. Ion Transport by Heart Mitochondria XVII. Energy-Linked Alteration of the Permeability of Mitochondria to Cl^- and other Anions. **Biochemistry** 9:697-707.
39. Brierley GP and Stoner CT. 1970. Ion Transport by Heart Mitochondria XVIII. Swelling and Contraction of Heart Mitochondria Suspended in Ammonium Chloride. **Biochemistry** 9:708-713.
40. Scott KM, Knight VA, Settlemire CT and Brierley GP. 1970. Ion Transport by Heart Mitochondria XIX. Differential Effects of Mercurial Reagents on Membrane Thiols and on the Permeability of the Mitochondrion. **Biochemistry** 9:714-724.
41. Merola AJ and Brierley GP. 1970. The Inhibition of Mitochondrial Oxidation and Uncoupling of Phosphorylation by Antispermatogetic Bis-dichloracetamides. **Biochem Pharmacol** 19:1429-1442.
42. Brierley GP, Jurkowitz M, Scott KM and Merola AJ. 1970. Ion Transport by Heart Mitochondria. XX. Factors Affecting Passive Osmotic Swelling of Isolated Mitochondria. **J Biol Chem** 245:5404-5411.

43. Mezick JA, Settlemire, CT, Brierley GP, Barefield KKP, Jensen WN and Cornwell DG. 1970. Erythrocyte Membrane Interactions with Menadione and the Mechanism of Menadione Induced Hemolysis. **Biochim Biophys Acta** 219:361-371.
44. Merola AJ and Brierley GP. 1970. Respiratory Control Associated with Cyclic pH Transitions Induced by N, N¹-Bis (Dichloroacetyl) 1, 12-Diaminododecane. **Biochem Biophys Res Commun** 41:628-534.
45. Cardona E, Lessler M and Brierley GP. 1971. Mitochondrial Oxidative Phosphorylation: Interaction of Pb²⁺ and P_i. **Proc Soc Exp Biol Med** 136:300-304.
46. Brierley GP, Jurkowitz M, Scott KM, Hwang KM and Merola AJ. 1971. Activation of Energy-Linked K⁺ Accumulation in Isolated Heart Mitochondria by Non-Ionic Detergents. **Biochem Biophys Res Commun** 43:50-57.
47. Merola AJ, Hwang KM, Jurkowitz M and Brierley GP. 1971. Structural Requirements in the Uncoupling of Oxidative Phosphorylation by N, N¹ Bis (Dichloroacetyl) Diamines. **Biochem Pharmacol** 20:1393-1404.
48. Merola AJ, Scott KM and Brierley GP. 1971. A Simple Large Volume Cell Suitable for Multiparameter Measurements in the Aminco Chance Spectrophotometer. **Anal Biochem** 41:455-459.
49. Brierley GP, Scott KM and Jurkowitz M. 1971. Ion Transport by Heart Mitochondria XXI. Differential Effects of Mercurial Reagents on ATPase Activity and on ATP-dependent Swelling and Contraction. **J Biol Chem** 246:2241-2251.
50. Hunter GR and Brierley GP. 1971. On the "Energized-Twisted" Configuration of Isolated Beef Heart Mitochondria. **J Cell Biol** 50:250-255.
51. Brierley GP, Jurkowitz M, Scott KM, and Merola AJ. 1971. Ion Transport by Heart Mitochondria XXII. Spontaneous, Energy-Linked Accumulation of Acetate and Phosphate Salts of Monovalent Cations. **Arch Biochem Biophys** 147:545-556.
52. Scott KM, Hwang KM, Jurkowitz M. and Brierley GP. 1971. Ion Transport by Heart Mitochondria XXIII. The Effects of Lead on Mitochondrial Reactions. **Arch Biochem Biophys** 147:557-567.
53. Hwang KM, Scott KM and Brierley GP. 1972. Ion Transport by Heart Mitochondria XXIV. The Effects of Cu⁺² on Membrane Permeability. **Arch Biochem Biophys** 150:746-756.
54. Farrell EC, Baba N, Brierley GP and Gruemer H-D. 1972. On the Creatine Phosphokinase of Heart Muscle Mitochondria. **Laboratory Investigation** 27:209-213.
55. Brierley GP, Jurkowitz M, Merola AJ and Scott KM. 1972. Ion Transport by Heart Mitochondria XXV. Activation of Energy-Linked K⁺ Uptake by Non-Ionic Detergents. **Arch Biochem Biophys** 152:744-754.
56. VanZutphen H, Merola AJ, Brierley GP and Cornwell DG. 1972. The Interaction of Non-Ionic Detergents with Lipid Bilayer Membranes. **Arch Biochem Biophys** 152:755-766.
57. Scott KM, Jurkowitz M and Brierley GP. 1972. Ion Transport by Heart Mitochondria XXVI. Carrier-Mediated, Anion Transport by Beef Heart Mitochondria. **Arch Biochem Biophys** 153:682-694.

58. Brierley GP, Jurkowitz M, and Scott KM. 1973. Ion Transport by Heart Mitochondria XXVII. Relation of Mercurial-Induced ATPase Activity to Ion Movements. **Arch Biochem Biophys** 159:742-756.
59. Altschuld RA, Merola AJ and Brierley GP. 1975. The Permeability of Heart Mitochondria to Creatine. **J Mol Cell Cardiol** 7:451-462.
60. Jurkowitz M, Scott KM, Altschuld RA, Merola AJ and Brierley GP. 1974. Ion Transport by Heart Mitochondria XXVIII. Retention and Loss of Energy-Coupling in Aged Heart Mitochondria. **Arch Biochem Biophys** 165:98-113.
61. Wehrle JP, Jurkowitz M, Scott KM and Brierley GP. 1976. Mg^{2+} and the Permeability of Heart Mitochondria to Monovalent Cations. **Arch Biochem Biophys** 174:312-323.
62. Brierley GP and Jurkowitz M. 1976. On the Mechanism of Energy-Dependent Contraction of Swollen Mitochondria. **Biochem Biophys Res Commun** 68:82-88.
63. Altschuld RA and Brierley GP. 1977. Interaction Between the Creatine Phosphokinase of Heart Mitochondria and Oxidative Phosphorylation. **J Mol and Cell Cardiol** 9:875-896.
64. Brierley GP, Jurkowitz M and Chavez E. 1977. Energy-Dependent Contraction of Swollen Mitochondria-Activation by Nigericin. **Biochem Biophys Res Commun** 74:235-241.
65. Chavez E, Jung DW and Brierley GP. 1977. Energy-Dependent Efflux of K^+ from Heart Mitochondria. **Biochem Biophys Res Commun** 75:69-75.
66. Jung DW, Chavez E and Brierley GP. 1977. Energy-Dependent Exchange of K^+ in Heart Mitochondria. **Biochem Biophys Res Commun** 75:69-75.
67. Chavez E, Jung DW and Brierley GP. 1977. Energy-Dependent Exchange of K^+ in Heart Mitochondria II. K^+ Efflux. **Arch Biochem Biophys** 183:460-470.
68. Brierley GP, Jurkowitz M, Chavez E and Jung DW. 1977. Energy-Dependent Contraction of Swollen Heart Mitochondria. **J Biol Chem** 252:7932-7939.
69. Brierley GP, Jurkowitz MS and Jung DW. 1978. Osmotic Swelling of Heart Mitochondria in Acetate and Chloride Salts-Evidence for Two Pathways for Cation Uptake. **Arch Biochem Biophys** 190:181-192.
70. Jung DW and Brierley GP. 1979. Energy-Dependent Contraction of Swollen Heart Mitochondria-Activation by Butacaine. **Arch Biochem Biophys** 193:76-87.
71. Jung DW and Brierley GP. 1979. Swelling and Contraction of Potato Mitochondria. **Plant Physiol** 64:948-953.
72. Jung DW, Shi G-Y and Brierley GP. 1980. Dicyclohexylcarbodiimide Inhibits Monovalent Cation Influx but not Cation/ H^+ Exchange in Heart Mitochondria. **J Biol Chem** 255:408-412.
73. Shi G-Y, Jung DW and Brierley GP. 1980. Induction of Na^+/K^+ Exchange in Swollen Heart Mitochondria. **J Bioenerget Biomembr** 12:233-247.
74. Altschuld RA, Gibb LA, Ansel AZ, Hohl C, Kruger FA and Brierley GP. 1980. Calcium Tolerance of Isolated Rat Heart Cells. **J Mol Cell Cardiol** 12:1383-1396.
75. Dordick RS, Brierley GP, Garlid KD. 1980. On the Mechanism of A23187-Induced K^+ Efflux in Rat Liver Mitochondria. **J Biol Chem** 255:10299-10395,

76. Shi G-Y, Jung DW, Garlid KD and Brierley GP. 1980. Induction of Respiratory-Dependent Net Efflux of K^+ from Heart Mitochondria by Depletion of Endogenous Divalent Cations. **J Biol Chem** 255:10306-10311.
77. Jung DW and Brierley GP. 1981. Progesterone Inhibits Cation Permeability but not Cation/ H^+ Exchange in Isolated Heart Mitochondria. **Experientia** 37:237-238.
78. Altschuld RA, Hohl C, Ansel A and Brierley GP. 1981. Compartmentation of K^+ in Isolated Adult Rat Heart Cells. **Arch Biochem Biophys** 209:174-184.
79. Altschuld RA, Hostetler JR and Brierley GP. 1981. Response of Isolated Rat Heart Cells to Hypoxia, Re-Oxygenation, and Acidosis. **Circ Res** 49:307-316.
80. Jung DW, Shi G-Y and Brierley GP. 1981. Induction of Passive Monovalent Cation Exchange Activity in Heart Mitochondria by Depletion of Endogenous Divalent Cations. **Arch Biochem Biophys** 209:356-361.
81. Jung DW and Brierley GP. 1981. On the Relationship between Uncoupler-Induced Efflux of K^+ and the Oxidation-Reduction State of Pyridine Nucleotides in Beef Heart Mitochondria. **J Biol Chem** 256:10490-10496.
82. Unverferth DV, Leier CV, Brierley GP, Magorien RD and Baba N. 1981. Human Myocardial Mitochondria: Size Differences in Parts of the Cell. **Exp Mol Path** 35:184-188.
83. Hohl C, Ansel A, Altschuld A and Brierley GP 1982. Contracture of Isolated Rat Heart Cells on Anaerobic to Aerobic Transition – A Cellular Model for Oxygen Paradox. **Am J Physiol** 242:H1022-H1030.
84. Jurkowitz MS and Brierley GP. 1982. H^+ - Dependent Efflux of Ca^{2+} from Heart Mitochondria. **J Bioenerget Biomembr** 14:435-449.
85. Jung DW and Brierley GP. 1982. Ruthenium Red Induced Loss of Matrix K^+ from Uncoupled Heart Mitochondria. **Biochem Biophys Res Commun** 105:432-438.
86. Murphy MP, Hohl C, Brierley GP and Altschuld RA. 1982. Release of Enzymes from Adult Rat Heart Myocytes. **Circ Res** 51:560-568.
87. Jung DW and Brierley GP. 1982. The Redox State of Pyridine Nucleotides Controls Permeability of Uncoupled Mitochondria to K^+ . **Biochem Biophys Res Com** 106:1372-1377.
88. Pyant KS and Brierley GP. 1982. Monovalent Cation Conductance in Liposomes Induced by Ionophore A23187. **Experientia** 38:1202-1204.
89. Hohl C, Altschuld RA, and Brierley GP. 1983. Effects of Ca^{2+} on the Permeability of Adult Rat Heart Cells to Na^+ . **Arch Biochem Biophys** 223:120-128.
90. Jurkowitz MS, Geisbuhler T, Jung DW and Brierley GP. 1983. Ruthenium Red-Sensitive and Insensitive Pathways for the Release of Ca^{2+} from Uncoupled Heart Mitochondria. **Arch Biochem Biophys** 223:120-128.
91. Jurkowitz MS, Altschuld RA, Brierley GP and Cragoe EJ, Jr. 1983. Inhibition of Na^+ - dependent Ca^{2+} Efflux from Heart Mitochondria by Amiloride Analogues. **FEBS Lett** 163:262-265.
92. Geisbuhler T, Altschuld RA, Trewyn RW, Ansel AZ, Lamka K, and Brierley GP. 1984. Adenine Nucleotide Metabolism and Compartmentalization in Isolated Adult Rat Heart Cells. **Circ Res** 54:536-546.

93. Jung DW and Brierley GP. 1984. The Permeability of Uncoupled Heart Mitochondria to K^+ . **J Biol Chem** 259:6904-6911.
94. Jung DW, Farooqui T, Utz E and Brierley GP. 1984. Effects of Quinine on K^+ Transport in Heart Mitochondria. **J Bioenerget Biomembr** 16:379-390.
95. Brierley GP, Jurkowitz MS, Farooqui T and Jung DW. 1984. K^+/H^+ Antiport in Heart Mitochondria. **J Biol Chem** 259:14672-14678.
96. Altschuld RA, Hohl CM, Lamka KG and Brierley GP. 1984. Effects of Amiloride on Ca^{2+} Uptake by Myocytes Isolated from Adult Rat Hearts. **Life Sci** 35:865-870.
97. Wenger WC, Murphy MP, Brierley GP and Altschuld RA. 1985. Effects of Ionic Strength and Sulfhydryl Reagents on the Binding of Creatine Phosphokinase to Heart Mitochondrial Inner Membranes. **J Bioenerg Biomembr** 17:295-303.
98. Altschuld RA, Wenger WC, Lamka KG, Kindig OR, Capen CC, Mizuhira V, Vander Heide RS and Brierley GP. 1985. Structural and Functional Properties of Adult Rat Heart Myocytes Lysed with Digitonin. **J Biol Chem** 260:14325-14334.
99. Wenger WC, Murphy MP, Kindig OR, Capen CC, Brierley GP and Altschuld RA. 1985. Mitochondrial Enzyme Retention by Irreversibly Damaged Rectangular Isolated Adult Rat Heart Myocytes. **Life Sci** 37:1697-1704.
100. Lambert MR, Johnson JD, Lamka KG, Brierley GP and Altschuld RA. 1986. Intracellular Free Ca^{2+} and the Hypercontracture of Adult Rat Heart Myocytes. **Arch Biochem Biophys** 245:426-435.
101. Jung DW and Brierley GP. 1986. Matrix Magnesium and the Permeability of Heart Mitochondria to K^+ . **J Biol Chem** 261:6408-6415.
102. Brierley GP, Davis M and Jung DW. 1987. Respiration-Dependent Uptake and Extrusion of Mg^{2+} by Isolated Heart Mitochondria. **Arch Biochem Biophys** 253:322-332.
103. Davis MH, Jung DW and Brierley GP. 1987. Inhibition of Na^+/Ca^{2+} Antiport of Heart Mitochondria by Diethyl-pyrocyanate. **J Bioenerg Biomembr** 19:515-524.
104. Altschuld RA, Gamelin LM, Kelley RE, Lambert MR, Mackall LE and Brierley GP. 1987. Degradation and Resynthesis of Adenine Nucleotides in Adult Rat Heart Myocytes. **J Biol Chem** 262:13527-13533.
105. Davis MH, Altschuld RA, Jung DW and Brierley GP. 1987. Estimation of Intramitochondrial pCa and pH by Fura-2 and BCECF Fluorescence. **Biochem Biophys Res Commun** 149:40-45.
106. Brierley GP, Davis MH and Jung DW. 1988. Respiration-Dependent Contraction of Swollen Heart Mitochondria: Participation of the K^+/H^+ Antiporter. **J Bioenerget Biomembr** 10:229-242.
107. Brierley GP, Davis MH and Jung DW. 1988. Intravesicular pH Changes in Submitochondrial Particles Induced by Monovalent Cations: Relationship to the Na^+/H^+ and K^+/K^+ Antiporters. **Arch Biochem Biophys** 264:417-427.
108. Jung DW, Davis MH and Brierley GP. 1988. Estimation of the pH Gradient and Donnan Potential in Deenergized Heart Mitochondria. **Arch Biochem Biophys** 263:19-28.
109. Brierley GP, Davis MH, Cragoe EG Jr and Jung DW. 1989. Kinetic Properties of the Na^+/H^+ Antiport of Heart Mitochondria. **Biochemistry** 28:4347-4354.

110. Jung DW, Davis MH and Brierley GP. 1989. Estimation of Matrix pH in Isolated Heart Mitochondria Using a Fluorescent Probe. **Anal Biochem** 178:348-354.
111. Hohl CM, Wimsatt DK, Brierley GP and Altschuld RA. 1989. IMP Production of ATP-Depleted Adult Rat Heart Cells: Effect of Glycolysis and α_1 -Adrenergic Stimulation. **Circ Res** 65:754-760.
112. Hohl CM, Wetzel S, Fertel RH, Wimsat DK, Brierley GP and Altschuld RA. 1989. Hyperthyroid Adult Rat Cardiomyocytes: I. Nucleotide Content, Beta and Alpha Adrenoreceptors and Cyclic AMP Production. **Am J Physiol** 257:C948-C956.
113. Brierley GP and Jung DW. 1990. Kinetic Properties of the K^+/H^+ Antiport of Heart Mitochondria. **Biochemistry** 29:408-415.
114. Timerman T, Altschuld RA, Hohl CM, Brierley GP and Merola AJ. 1990. Cellular Glutathione and the Response of Adult Rat Heart Myocytes to Oxidant Stress. **J Mol Cell Cardiol** 22:565-575.
115. Jung DW, Apel L and Brierley GP. 1990. Matrix Free Mg^{2+} Changes with Metabolic State in Isolated Heart Mitochondria. **Biochemistry** 29:4121-4128.
116. Wimsatt DK, Hohl CM, Brierley GP and Altschuld RA. 1990. Calcium Accumulation and Release by the Sarcoplasmic Reticulum of Digitonin-Lysed Adult Mammalian Ventricular Cardiomyocytes. **J Biol Chem** 265:14849-14857.
117. Brierley GP, Panzeter ES and Jung DW. 1991. Regulation of Mitochondrial K^+/H^+ Antiport Activity by Hydrogen Ions. **Arch Biochem Biophys** 288:358-367.
118. Baysal K, Brierley GP, Novgorodov S and Jung DW. 1991. Regulation of the Mitochondrial Na^+/Ca^{2+} Antiport by Matrix pH. **Arch Biochem Biophys** 291:383-389.
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