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CURRICULUM VITAE

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Education: 1960 M.B.B.Ch. University of the Witwatersrand
Johannesburg, South Africa

Academic Appointments:

1961 Intern in the Professorial Medical and Surgical Units, Johannesburg General Hospital

1962-1963 Senior Research Bursar of the Council for Scientific and Industrial Research, Department of Medicine, University of the Witwatersrand

1963-1967 Tutorial Registrar in Medicine to the Professorial Unit, Johannesburg General Hospital

1963-1964 Part-time Lecturer in Physiology to the College of Physicians and Surgeons of South Africa

1964 Part-time Lecturer, Department of Physiology, University of the Witwatersrand, South Africa

1965-1966 Research Assistant to Professor Russell Fraser, Endocrinology, Department of Medicine, Postgraduate Medical School, Hammersmith Hospital, London. In receipt of a Smith & Nephew Research Fellowship

1967 Part-time demonstrator in the Department of Anatomy, University of the Witwatersrand

1967-1968 Assistant in Medicine, USPHS Research Fellow, University of Chicago

1968-1970 Assistant Professor, Department of Medicine, University of Chicago

1970-1974 Associate Professor, Department of Medicine, University of Chicago

1974-1997 Professor, Department of Medicine, University of Chicago

1981-1997 Lowell T. Coggeshall Distinguished Professor of Medical Sciences, University of Chicago

1997-2001 Gustave L. Levy, Distinguished Professor of Medicine, Mount Sinai School of Medicine

2001-2011	Executive Vice President University of Pennsylvania Health System Dean, University of Pennsylvania Perelman School of Medicine
2011-Present	Professor of Medicine, Division of Endocrinology, Diabetes and Metabolism University of Pennsylvania Perelman School of Medicine

Administrative Appointments:

1975-1981	Associate Chairman, Department of Medicine, University of Chicago
1981-1997	Chairman, Department of Medicine, University of Chicago
1997-2001	Dean and CEO, Mount Sinai School of Medicine, New York
2001-2011	Executive Vice President, University of Pennsylvania for the Health System Dean, University of Pennsylvania School of Medicine Robert J. Dunlop Professor of Medicine

Specialty Certification:

1964	Fellow of the College of Medicine of South Africa, F.C.P. (S.A.)
1965	Member, Royal College of Physicians of London, M.R.C.P.
1972	Fellow of the American College of Physicians, F.A.C.P.
1972	Diplomat, American Board of Internal Medicine
1973	Endocrinology-Metabolism Subspecialty Board
1977	Fellow, Royal College of Physicians of London, F.R.C.P.
1987	Master of the American College of Physicians, M.A.C.P.

Licensure:

Illinois
New York
Pennsylvania

Awards and Honors:

1955-1957	King Edward VII School War Memorial Grant, Johannesburg, South Africa
1957-1958	Merit Award of the University of the Witwatersrand Council
1957	Pharmacology Prize, University of Witwatersrand
1958	Culver Prize in Preventive Medicine, University of Witwatersrand
1958-1960	Westdene Products Scholarship, Johannesburg, South Africa
1960	Cancer Prize in the National Association of South Africa
1960	Medical Graduates Association Prize for Medicine, University of Witwatersrand
1960	Abelheim Medal and Prize in Obstetrics, University of Witwatersrand
1960	David Lurie Memorial Prize of Surgery, University of Witwatersrand
1960	Bronze Medal of the Southern Transvaal Branch of the Medical Association-- for the most distinguished graduate in the Faculty of Medicine
1960	Cottrill Prize for Contribution to Student Affairs, University of Witwatersrand
1970-1973	Scheppe Fellowship Award of Scheppe Foundation (Chicago)
1973	American Diabetes Association - Eli Lilly Award
1975-1980	American Diabetes Association - Established Investigator Award
1977	Juvenile Diabetes Foundation - David Rumbough Scientific Award
1982	Juvenile Diabetes Foundation - Public Service Award
1983	American Diabetes Association - Banting Medal Award and Lecture
1983	New York Diabetes Association - Mosenthal Lecturer
1983	American Diabetes Association, Massachusetts Affiliate - Elliott Proctor Joslin

	Medal and Lecture
1984	University of Kansas Medical Center - Mark Dodge Lecturer
1984	Rockefeller University Hospital - Rufus Cole Lecturer
1985	Albert Einstein College - West Memorial Lecture
1987	British Diabetes Association - Banting Award Lecture
1995	American College of Physicians - John Phillips Memorial Award
1997	Association of Professors of Medicine - Robert H. Williams Distinguished Chair of Medicine Award
2000	Mount Sinai University of Medicine - Jacobi Medallion
2001	University of the Witwatersrand - Doctor of Medicine and Science
2007	Clinical Research Forum – Academic Health Centers Leadership Award
2007	New York Academy of Medicine - The Academy Medal for Distinguished Contributions in Biomedical Science
2009	Association of American Medical Colleges - Abraham Flexner Award for Distinguished Service to Medical Education (<i>awarded at AAMC meeting on November 7, 2009</i>)
2010	University of Pennsylvania - FOCUS on Health and Leadership for Women, Visionary Leadership Award
2011	Pennsylvania Bio's Scientific Achievement Award for Outstanding Achievement by Advancing Scientific Knowledge, innovation and Patient Care
2011	Philadelphia County Medical Society - Strittmatter Award
2012	Association of American Physicians - George M. Kober Medal

Memberships in Honorary Societies:

- Alpha Omega Alpha (Faculty Member)
- American Society for Clinical Investigation
- American Academy of Arts and Sciences
 - Elected to Fellowship, 1983
- Association of American Physicians
 - Elected to Membership, 1976
 - Member, Council, 1984-1996
 - Treasurer, 1984-1989
 - Vice President, 1994-1995
 - President, 1995-1996
 - Honorary Director, 1982-1997
- Institute of Medicine
 - Elected to Membership, 1987
 - Chairman, Committee on Responsible Conduct of Research 1987-1989
 - Member, Panel on Scientific Integrity 1990-1992
 - Member, Council 1990-1996
 - Member, Membership Committee 1991-1996
 - Chairman, National Research Council Committee on Assessing Integrity in the Research Environment 2002-2003
 - Member, Planning Committee on Obesity, Diabetes, Metabolic Disorders, Nutrition & Food Science (IG-12), 2009 -

Memberships in Professional and Scientific Societies:

- American Association for the Advancement of Science, Fellow
- American Board of Internal Medicine
 - Board of Governors, 1985-1993
 - Executive Committee, 1989-1993
 - Chairman-Elect, 1991-1992
 - Chairman, 1992-1993
- American Clinical and Climatological Association, 2004-
- American College of Physicians
 - Educational Policy Committee, 1982-1984
- American College of Physicians, Northern Illinois Chapter
 - Council Member, 1996-1997
- American Diabetes Association
 - Member, Research Committee, 1976-1978
 - Chairman, Program Committee Annual Scientific Meeting, 1979
 - Chairman, Coordinating Committee for Scientific Affairs, 1979-1980
- American Diabetes Association; Chicago and Northern Illinois Affiliate Member
 - Board of Directors, 1974-1982
 - Chairman, Research Committee, 1975-1981
- American Federation for Clinical Research
 - Member, Midwest Council, 1976
 - Midwest Program Committee, 1976
 - National Program Committee, 1977
- Association for Patient-Oriented Research, 1998-
- Association of Academic Health Centers
 - Chair, Council on Organization and Management, 2003
 - Chair, Board of Directors, 2007-2008
 - Member, Board of Directors, 2004-2009
- Association of American Medical Colleges
 - Council of Deans, 2001-2007
 - Group on Graduate Research, Education and Training (GREAT Group), 2001-
 - COD Administrative Board Liaison
 - Group on Research Advancement and Development (GRAND Group), 2001-
- Association of Professors of Medicine
 - Member, Council, 1991-1996
 - President Elect, 1994-1995
 - President, 1995-1996
- Central Clinical Research Club
- Central Society for Clinical Research
 - Member of Council, 1982-1989
 - President, Subspecialty Section (Endocrinology/Metabolism), 1980-1982
 - Vice President, 1988
 - President, 1989
- Chicago Society of Internal Medicine
 - Secretary/Treasurer, 1990-1991
 - Vice President, 1991-1992
 - President, 1992-1993

Clinical Research Forum (*formerly known as Academic Health Centers Clinical Research Forum*)
 Board of Directors, 1998-
 Endocrine Society
 International Program Committee, 1976
 Hadassah
 Medical Advisory Board, Member 1986-1997
 Institute of Medicine
 Member, Planning Committee on Obesity, Diabetes, Metabolic Disorders,
 Nutrition & Food Science (IG-12), 2009-
 Juvenile Diabetes Foundation
 Medical-Scientific Advisory Board (MSAB)
 Chairman, 1979-1981
 National Diabetes Research Interchange Executive Committee 1981-1983
 Residency Review Committee (Internal Medicine)
 Member, 1994-1997
 Searle Scholars National Advisory Board, 1985-1988
 Chairman, 1988
 Stanley J. Sarnoff Endowment
 Board of Directors, 1999-2002
 Strathmore's Who's Who, 2002-2003 Edition
 The New York Academy of Medicine, Board of Directors, 2000-2002

Regional Societies:

Philadelphia College of Physicians, 2002-
 Board of Trustees, 2004-
 Philadelphia County Medical Society, 2001-
 Philadelphia Health Care Trust, Board of Directors, 2002-
 State of Illinois, Governors Science Advisory Committee, 1989-1997

Editorial Positions:

1972-1978 Editorial Board: *Diabetes*
 1974-1977 Editorial Board: *Endocrinology*
 1976-1981 Editorial Board: *Journal of Clinical Investigation*
 1979-1981 Editorial Board: *American Journal of Medicine*
 1979-1982 Editorial Board: *American Journal of Physiology*
 1982-1986 Editorial Board: *Diabetologia*
 1987-1991 Editorial Board: *Diabetic Medicine*
 1989-1993 Editorial Board: *American Journal of Physiologic Imaging*
 1991 Editorial Board: *Annals of Internal Medicine*
 1991 Editorial Board: *Journal of Diabetes and its Complications*
 1992 Editorial Board: *Medicine*
 1992 Consulting Editor: *Journal of Clinical Investigation*
 1995 Editorial Board: *Proceedings of the Association of American Physicians*
 1996 Editorial Advisory Board: *Clinical Trials Advisor*

National Advisory Committees (Government):

1973-1977 Metabolism Study Section, National Institutes of Health
 1975 Consultant, National Diabetes Commission

1977-1981 Member, Advisory Council, National Institutes of Health (NIAMDD)
 1981-1982 Chairman, National Diabetes Advisory Board
 1982-1984 Member, National Diabetes Advisory Board
 1982-1984 Policy Advisory Group; Diabetes Control and Complications Trial (NIADDK)
 2002 Expert Review Panel: National Center for Complementary and Alternative
 Medicine Research Centers Program
 2009 Member, National Institutes of Health, Scientific Management Review Board
 2009 Chair, National Institutes of Health, Scientific Management Review Board,
 Clinical Center and Intramural Research Program Work Group

University of Chicago Committees:

1970-1973 Member, Council of the University Senate
 1974 Member, Board of the University of Chicago Press
 1972 Committee for Reorganization of the Basic Sciences, Division of the
 Biological Sciences
 1973-1974 Clinical Advisory Committee, University of Chicago Hospitals and Clinics
 1973-1983 Executive Committee, Department of Internal Medicine
 1975-1978 Dean's Advisory Committee, Division of the Biological Sciences
 1977-1980 Executive Committee, Specialized Center of Atherosclerosis Research,
 University of Chicago
 1977-1981 Program Director, Diabetes Research and Training Center at the University of
 Chicago
 1977-1979 Chairman, Advisory Committee on Named Professorships at the University of
 Chicago

Mount Sinai School of Medicine and Hospital Committees (1997-2001):

Clerkship Directors Committee
 Executive Faculty Council Committee
 General Clinical Research Center Advisory Committee
 Physician Leadership Committee
 Dean's Committee's (Elmhurst, Queens, St. Barnabas)

Mount Sinai Board of Trustees Committees (1997-2001):

Executive Committee of the Board of Trustees
 Audit Committee
 Compensation and Employee Benefits Committee
 Finance, Budget and Accounts Committee
 Quality Assessment and Improvement Committee of the Board of Trustees
 Research and Education Policy Committee
 Strategic Clinical Initiatives Committee

Current Board Positions:*Academic Institutions and Foundations*

Clinical Research Forum, Board of Directors, 1998-
 University of Pittsburgh School of Medicine, Board of Visitors, 2002-
 Biomedical Research and Education Foundation, Board of Directors, 2003-
 College of Physicians of Philadelphia, Board of Directors, 2004-
 MGH Scientific Advisory Board,
 Stanford University, National Advisory Council, 2008-
 Blue Ridge Academic Health Group,
 The Gold Foundation, 2011-

Industry

BioAdvance, Board of Directors, 2004-
 LabCorp, Board of Directors, 2004-
 Glycadia Pharmaceuticals, Board of Directors, 2005-
 Diasome Pharmaceuticals, Board of Directors, 2009-2011
 Pennsylvania Bio, Board of Directors, 2011-
 National Diabetes Research Interchange, Board of Directors, 2011-

Local

Philadelphia Health Care Trust, Board of Directors, 2002-
 University City Science Center (Philadelphia), Board of Directors, 2004 -
 The College of Physicians of Philadelphia, Board of Trustees, 2004 -

Academic Review/Consulting Positions:

2006 External Reviewer, Feinberg School of Medicine, Northwestern University

Teaching Responsibilities at the University of Pennsylvania:

2001-2003 Dean's Fall Seminar Series- History of Medicine/Professionalism
 2002 Lecture: Bioethics and Professionalism
 2002 Lecture: Diabetes
 2002-2003 Lecture: Doctor-Patient Relationship
 2002 Lecture: Topics in Molecular Medicine Course
 2002 Introduction to ICM Course, The Doctor-Patient Relationship
 2002 Keynote Speaker, First Annual Biomedical Postdoctoral Research Symposium
 2004 Doctoring I, Community Service: The Fourth Mission of Academic Medical Centers
 2006-2011 Lecture: The Doctor-Patient Relationship

Selected Lectures by Invitation (since 2002):

Feb 2002 Moderator, *Reorganization of NIH Study Sections re: Clinical Research*,
 Academic Health Centers' Clinical Research Forum
 March 2002 *Organizing for Success: The Role of Department/Clinical Chairs*, AAMC
 Council of Teaching Hospitals and Health Systems
 April 2002 Arnold P. Gold Lecture on Humanism in Medicine, MCP Hahnemann

- University
- Alpha Omega Alpha Visiting Professor, University of Minnesota Medical School
- July 2002 Bridging the Gaps: “A Career in the Health Professions?”, University of Pennsylvania
- Oct 2002 Keynote Speaker, Pennsylvania Hospital’s Annual Fund Kickoff Breakfast
Update in Endocrinology, Pennsylvania Coalition for Internal Medicine 2002 Annual Meeting
- Nov 2002 Guest Speaker, FOCUS on Health and Leadership for Women, College of Physicians of Philadelphia
- Alfred Froese Guest Lecturer, Abington Hospital
- Tarlov Conference Speaker: *Health Implications of Obesity*, University of Chicago
- Guest Lecturer: *Diabetes*, MCP Hahnemann University
- Guest Lecturer, Grand Rounds: *Obesity*, New England Medical Center
- Keynote Address: *Doctoring in Hard Times* Bioethics Conference, University of Pennsylvania/The Acadia Institute
- March 2003 Alpha Omega Alpha Visiting Professor, University of Chicago
- April 2003 William Kelley Visiting Professor, Grand Rounds: *Obesity: A Growing National Epidemic*, University of Michigan
- Visiting Professor, Grand Rounds: *Obesity: A Growing National Epidemic*, Northwestern University
- Panel Moderator: *Universities, Schools, and Communities: Partners for Effective Education, Community Building and Democracy*, Center for Community Partnerships 10th Anniversary International Conference, University of Pennsylvania
- Oct 2003 Guest Speaker, Beth Israel Deaconess Medical Center
- Guest Speaker, Grand Rounds: *Obesity*, Lennox Hill Hospital
- Guest Speaker, ACCESS Symposium: *Ensuring Integrity in Clinical Research*, Stanford School of Medicine
- Guest Speaker, Cardiology Update, Heart Institute of Atlantic City
- Feb 2004 Sam Grant Visiting Professor: *Obesity: A Modern Epidemic*, Washington University School of Medicine
- Oct 2004 Guest Speaker, Annual Meeting: *Obesity: A Modern Epidemic*, American Clinical & Climatological Association
- Spring 2005 Guest Speaker, AAMC Council of Deans 2005 Spring Annual Meeting

May 2005	Guest Speaker, Mercy Grand Rounds
July 2005	Guest Speaker, <i>The Donald F. Steiner Symposium: Exploring Pancreatic Beta Cells, Insulin Biology and Protein Processing</i> , University of Chicago Medical Center
Oct 2006	Moderator and Panelist, AAMC 2006 Annual Meeting
2007	Fish Visiting Scholar in Medical Education, Department of Medicine, Brigham and Women's Hospital
May 2007	Convocation Speaker, New Jersey Medical School, University of Medicine and Dentistry of New Jersey
June 2007	Guest Speaker, Annual Award Ceremony, University of Chicago
Jan 2008	Guest Speaker, The Practitioners' Society of New York
Feb 2008	Paul Beeson Visiting Professor, Yale University
Nov 2008	Tinsley Harrison Visiting Professor, Grand Rounds: <i>The Challenges of Academic Medicine: The Penn Medicine Experience</i> , Vanderbilt University
April 2009	Moderator and Panelist, Clinical Research Forum Annual Meeting, Washington, DC
May 2009	Guest Speaker, Iain MacIntyre Memorial Lecture, 3rd Annual New York Skeletal Biology and Medicine Conference: <i>Translational Research: The Penn Experience, Mount Sinai School of Medicine</i>
February 2010	Guest Speaker, 63 rd Annual Meeting of the Massachusetts General Hospital Scientific Advisory Committee: <i>Challenges to the Internal Organization of Academic Health Centers</i>
April 2010	Keynote Address, Adrian I. Katz Memorial Symposium, University of Chicago
April 2011	Fifth Annual Stephen J. Prevoznik Lecture, Department of Anesthesiology and Critical Care, University of Pennsylvania
April 2011	2011 Lowell T. Coggeshall Memorial Lecture, University of Chicago

BIBLIOGRAPHY

1. Rubenstein, A.H.: Some aspects of the pathology of chromosomes in neoplastic cells. **S. Afr. Cancer Bull.**, **4**: 209-216 (1960).
2. Rubenstein, A.H., Levin, N.W., and Elliott, G.A.: Hypoglycemia induced by manganese. **Nature** **194**: 188-189 (1962).
3. Rubenstein, A.H., Levin, N.W., and Elliott, G.A.: Manganese-induced hypoglycemia. **The Lancet** **11**: 1348-1351 (1962).

4. Levin, N.W., Rubenstein, A.H., Abrahams, C., Jordan, J.C., and Posel, M.M.: Phenacetin nephritis: Interstitial nephritis and necrotizing papillitis associated with the chronic ingestion of phenacetin. **S. Afr. Med. J.** **36**: 555-559 (1962).
5. Hack, D., Levin, N.W., Goldberg, B., Perold, S.M., and Rubenstein, A.H.: Serum electrolyte at high altitude. **S. Afr. J. Med. Sci.** **29**: 11-16 (1963).
6. Goldberg, B., Levin, N.W., Rubenstein, A.H., Cohen, L.: Alpha-methyldopa in hypertension. **S. Afr. Med. J.**, **37**: 755-760 (1963).
7. Abrahams, C., Rubenstein, A.H., and Levin, N.W.: Phenacetin-induced papillary damage- in experimental animals. **Nature** **200**: 695-696 (1963).
8. Rubenstein, A.H., Abrahams, C., Stables, D.P., and Levin, N.W.: Acetophenetidin nephritis and papillary necrosis. **Arch. Int. Med.** **13**: 378-394 (1964).
9. Stables, D.P., Levin, N.W., Rubenstein, A.H., Berk, M.E., and Abrahams, C.: Parathyroidectomy for hypercalcemic crisis in renal osteodystrophy. **Ann. Int. Med.**, **61**: 531-539 (1964).
10. Goldin, A.R., Rubenstein, A.H., Bradlow, B.A., and Elliott, G.A.: Malathion poisoning with special reference to the effect of cholinesterase inhibition on erythrocyte survival **New Eng. J. Med.**, **271**: 1289-1293 (1964).
11. Abrahams, C., Rubenstein, A.H., Levin, N.W., and Wunderlich, U.: Experimentally induced analgesic nephritis in rats. **A.M.A. Arch. Path.** **78**: 222-230 (1964).
12. Issroff, J., Rubenstein, A.H., and Getz, G.S.: The effect of nethalide on free fatty acid metabolism in adipose tissue and plasma. **S. Afr. J. Med. Sci.**, **29**: 73-78 (1964).
13. Abrahams, C., Wheatley, A., Rubenstein, A.H., and Stables, D.: Hepatocellular lipofuscin after excessive ingestion analgesics. **The Lancet** **11**: 621-622 (1964).
14. Freidberg, E.C., Rubenstein, A.H., and Galasko, C.S.B.: A case of Hamman-Rich syndrome presenting with severe weight loss. **The Lancet** **84**: 271-273 (1964).
15. Rubenstein, A.H.: Hyperparathyroidism. **The Leech** **34**: 163-165 (1965).
16. Fleishman, S.J., Goldberg, B., Leonsins, A.J., Rubenstein, A.H., Stables, D., and Van As, A.: Peritoneal dialysis: The results of its use in 55 patients. **S. Afr. Med. J.**, **39**: 434-439 (1965).
17. Goldberg, B., Leonsins, A.J., Fleishman, S.J., Levin, N.W., van Blerk, P.J.P., Gentin, B., Rubenstein, A.H., and Stables, D.: Haemodialysis: Experiences in 90 patients. **S. Afr. Med. J.** **39**: 439-443 (1965).
18. Elliott, G.A., Rubenstein, A.H., Stables, D.P., and Van As, A.W.W.: Experiences in a

- respiratory resuscitation unit. **S. Afr. Med. J. 39:** 517-522 (1965).
19. Tucker, R.B.K., Rubenstein, A.H., Levin, N.W., Jackson, R.A., Levin, B., and du Plessis, D.J.: Primary hyperparathyroidism: The clinical and biochemical aspects in 15 patients. **S. Afr. Med. J. 39:** 901-909 (1965).
 20. Lynch, S.R., Stables, D.P., Van As, A.W.W., Rubenstein, A.H., and Elliott, G.A.: Clinical analysis of cases admitted during the first year's experience in the respiratory resuscitation unit of the Johannesburg Hospital. **S. Afr. Med. J., 39:** 962-967 (1965).
 21. Welborn, T.A., Rubenstein, A.H., Haslam, R., and Fraser, R.: Normal insulin response to glucose. **The Lancet 1:** 280-283 (1966).
 22. Knep, S.J., Jackson, R.A., Rubenstein, A.H., and Seftel, H.C.: The intravenous tolbutamide tolerance test in the Bantu. **S. Afr. J. Med. Sci., 31:** 47-50 (1966).
 23. Kotler, M.N., Berman, L., and Rubenstein, A.H.: Hypoglycaemia precipitated by propranolol. **The**
 24. Welborn, T.A., Breckenridge, A., Rubenstein, A.H., Dollery, C.T., and Fraser, T.R.: Serum-insulin in essential hypertension and in peripheral vascular disease. **The Lancet 1:** 1336-1337 (1966).
 25. Wheatley, G.A., Abrahams, C., and Rubenstein, A.H.: Peroxidation of lipids in liver and kidneys of rats fed analgesics. **S. Afr. Med. J. 40:** 395-396 (1966).
 26. Goldman, H.I., Zwi, S., Levin, N.W., Rubenstein, A.H., Stables, D.P., Van As, A.W.W., Elliott, G.A., and Shreve, J.P.: Normal values for arterial blood pH, carbon dioxide tension and content, at an altitude of 5,750 ft. **S. Afr. Med. J. 41:** 97-101 (1967).
 27. Stables, D.P., Rubenstein, A.H., Metz, J., and Levin, N.W.: The possible role of hemoconcentration in the etiology of myocardial infarction. **Am. Heart J. 73:** 155-159 (1967).
 28. Kew, M.C., Abrahams, C., Levin, N.W., Seftel, H.C., Rubenstein, A.H., and Bersohn, I.: The effects of heartstroke on the function and structure of the kidney. **Quart. J. Med. 36:** 277-300 (1967).
 29. Abrahams, C., Levin, N.W., Gecelter, L., and Rubenstein, A.H.: The diagnosis of analgesic nephropathy by renal biopsy. **Med. Proc. 20:** 501-506 (1967).
 30. Rubenstein, A.H., Lowry, C., Welborn, T.A., and Fraser, T.R.: Urine insulin in normal subjects. **Metabolism 16:** 234-244 (1967).
 31. Trayner, I.M., Welborn, T.A., Rubenstein, A.H., and Fraser, T.R.: Serum and urine insulin in late pregnancy and in a few pregnant latent diabetics. **J. Endocrinol. 37:** 443-453 (1967).

32. Yodaiken, R.E., Seftel, H.C., and Rubenstein, A.H.: Ultrastructure of dermal capillaries of Africans in South Africa. **Diabetes** **16**: 191-197 (1967).
33. Rubenstein, A.H., Lowy, C. and Fraser, T.R.: Radioimmunoassay of insulin in urine. **Diabetologia** **3**: 453-459 (1967).
34. Milunsky, A., Lowy, C., Rubenstein, A.H., and Wright, A.D.: Carbohydrate tolerance, growth hormone and insulin levels in mongolism. **Develop. Med. Child Neurol.** **10**: 25-31 (1968).
35. Lopis, S., Rubenstein, A.H., and Wright, A.D.: Measurements of serum growth in hormone and insulin in gigantism. **J. Clin. Endocrinol. Metab.** **28**: 393-398 (1968).
36. Rubenstein, A.H., and Spitz, I.: Role of the kidney in insulin metabolism and excretion. **Diabetes** **17**: 161-169 (1968).
37. Miller, K., Rubenstein, A.H., and Astrand, P.O.: Lipid values in Kalahari Bushmen. **Arch. Int. Med.** **121**: 414-417 (1968).
38. Rubenstein, A.H., Cho, S., and Steiner, D.F.: Evidence for proinsulin in human urine and serum. **The**
39. Rubenstein, A.H., Zwi, S., and Miller, K.: Insulin and the lung. **Diabetologia** **4**: 236-238 (1968).
40. Wright, A.D., Lowy, C., Fraser, T.R., Spitz, I., Rubenstein, A.H., and Bersohn, I.: Serum-growth hormone and glucose intolerance in renal failure. **The Lancet** **11**: 798-800 (1968).
41. Rubenstein, A.H., Seftel, H.C., Miller, K., Bersohn, I., and Wright, A.D.: Metabolic response to oral glucose in healthy South African White Indian, and African subjects. **Brit. Med. J.** **1**: 748-451 (1969).
42. Rubenstein, A.H.: The significance of immunoassayable insulin in urine. **JAMA** **209**: 254-256 (1969).
43. Rubenstein, A.H., Melanie, F., Pilgis, S., and Steiner, D.F.: Proinsulin: Secretion, metabolism, immunological and biological properties: **Postgrad. Med. J. Supplement**: 476-481 (1969).
44. Clark, J.L., Cho, S., Rubenstein, A.H., and Steiner, D.F.: Isolation of a proinsulin connecting peptide fragment (C-peptide) from bovine and human pancreas. **Biochem. Biophys. Res. Comm.** **35**: 456-461 (1969).
45. Steiner, D.F., Clark, J.L., Nolan, C., Rubenstein, A.H., Aten, B., and Oyer, P.E.: Proinsulin and the biosynthesis of insulin. **Recent Progress in Hormone Research** **25**: 207-272 (1969).

46. Steiner, D.F., Hallund, O. Rubenstein, A.H., Cho, S., and Bayliss, C.: Isolation and properties of proinsulin, intermediate forms, and other minor components from crystalline bovine insulin. **Diabetes 18**: 725-736 (1969).
47. Rubenstein, A.H., and Steiner, D.F.: Human proinsulin: Some considerations in the development of a specific immunoassay. **Symposium of Early Diabetes**. R. Camerini-Davolos and H.S. Cole, Eds., Academic Press, New York, pp. 159-169 (1970).
48. Clark, J.L., Rubenstein, A.H., Oyer, P.E., MacKenzie, J.J., Cho, S., and Steiner, D.F.: Proinsulin and insulin biosynthesis. In: **Structure and Metabolism of the Pancreatic Islets**. D. Falkner, B. Hellman and I. Taljedal, Eds., Pergamon Press, Oxford, pp. 339-348 (1970).
49. Rubenstein, A.H., Steiner, D.F., Cho, S., Lawrence, properties of bovine proinsulin and related fractions. **Diabetes 18**: 598-605 (1969).
50. Steiner, D.F., Clark, J.L., Rubenstein, A.H., Melani, F., Oyer, P.E., Cho, S., Nolan, S. and Margoliash, E.: Biosynthesis and structure of proinsulin and related products. **J. Japan Diabetes Society 12**: 437-446 (1969).
51. Rubenstein, A.H., and Steiner, D.F.: Proinsulin: The single chain processor of insulin. *Med. Clin. N. America* 54: 191-199 (1970).
52. Rubenstein, A.H., Melani, F., and Steiner, D.F.: Measurement of proinsulin in serum and urine. In: **Laboratory Diagnosis of Endocrine Disease**. F.W. Sundermann, Ed., Chap. 14, pp. 1-8 (1969).
53. Spitz, I.M., Rubenstein, A.H., Bersohn, I., and Bassler, K.H.: Metabolism of xylitol in healthy subjects and patients with renal disease. **Metabolism 19**: 24-34 (1970).
54. Rubenstein, A.H., Clark, J.L., Melani, F., and Steiner, D.F.: Secretion of proinsulin C-peptide by pancreatic beta cells its circulation in blood. **Nature 224**: 697-699 (1969).
55. Fraser, R.E., Lowy, C., Rubenstein, A.H.: Radioimmunoassay on urine samples. Protein and polypeptide hormones. **Proceedings of International Symposium**, Liege, May 19-25, 1969. M. Margoulies, Ed., Excerpta Medica Foundation, Amsterdam (1970).
56. Steiner, D.F., Clark, J.L., Nolan, C., Rubenstein, A.H., Margoliash, E., Melani, F., and Oyer, P.E.: The biosynthesis of insulin and some speculations regarding the pathogenesis of human diabetes. **Nobel Symposium Thirteen on Pathogenesis of Diabetes Mellitus**. E. Cerasi and R. Luft, Eds., Almquist and Wiksell, Stockholm, pp. 57-80 (1970).
57. Melani, F., Rubenstein, A.H., and Steiner, D.F.: Human serum proinsulin. **J. Clin. Invest. 49**: 497-507 (1970).
58. Spitz, I.M., and Rubenstein, A.H.: The metabolism of xylitol in healthy subjects and patients with renal disease. **Med. und Ernährung 4**: 84-89 (1970).

59. Spitz, I.M., Rubenstein, A.H., Bersohn, I., Abrahams, C., and Lowy, C.: Carbohydrate metabolism in renal disease. **Quart. J. Med.** **154**: 201-226 (1970).
60. Spitz, I.M., Rubenstein, A.H., Bersohn, I., Wright, A.D., and Lowy, C.: Urine insulin in renal disease. **J. Lab. Clin. Med.** **75**: 998-1005 (1970).
61. Rubenstein, A.H., Welbourne, W.P., Mako, M., Melani, F., and Steiner, D.F.: Comparative immunology of bovine, porcine and human proinsulins and C-peptides. **Diabetes** **19**: 546-553 (1970).
62. Block, M., and Rubenstein, A.H.: Spontaneous hypoglycemia in diabetic patients with renal insufficiency. **JAMA** **213**: 1863-1866 (1970).
63. Spitz, I.M., Rubenstein, A.H., and Bersohn, I.: The response to glucagon in chronic renal failure. **Proc. Soc. Expt. Biol. Med.** **134**: 142-145 (1970).
64. Spitz, I., Rubenstein, A.H., Bersohn, I., Lawrence, A.M., and Kirshtein, L.: The effect of dialysis on the carbohydrate intolerance of chronic renal failure. **Horm. Metabol. Res.** **2**: 86-93 (1970).
65. Metzger, A., and Rubenstein, A.H.: Reversible cerebral edema complicating diabetic ketoacidosis. **Brit. Med. J.** **3**: 746-747 (1970).
66. Spitz, I.M., Bersohn, I., Rubenstein, A.H., and Van As, M.: The response of growth hormone to xylitol administration in man. **Amer. J. Med. Sci.** **260**: 224-228 (1970).
67. Melani, F., Ryan, W.G., Rubenstein, A.H., and Steiner, D.F.: Proinsulin secretion by a pancreatic beta-cell adenoma. **New Engl. J. Med.** **283**: 713-719 (1970).
68. Melani, F., Rubenstein, A.H., Oyer, P.E., and Steiner, D.F.: Identification of proinsulin and C-peptide in human serum by a specific immunoassay. **Proc. Natl. Acad. Sci., USA** **67**: 148-155 (1970).
69. Spitz, I., Rubenstein, A.H.: The metabolism of xylitol in healthy subjects and patients with renal disease. Symposium of **International Society of Parenteral Nutrition**, G. Berg, Ed., Prague, Sept. 3-4, 1969. **Advances in Parenteral Nutrition**, pp. 185-197 (1970).
70. Steiner, D.F., Cho, S., Oyer, P.E., Terris, S., Peterson, J., and Rubenstein, A.H.: Isolation and characterization of proinsulin C-peptide from bovine pancreas. **J. Biol. Chem.** **246**: 1365-1374 (1971).
71. Rubenstein, A.H., and Steiner, D.F.: Proinsulin. **Annual Review of Medicine** **22**: 1-18, George Banta Co. (1971).
72. Konsek, J., Rubenstein, A.H., and Ehrlich, E.N.: Biologic action of proinsulin on ventral toad skin in vitro. **Endocrinology** **89**: 847-851 (1971).

73. Steiner, D.F., and Rubenstein, A.H., Proinsulin. In: **Diabetes Mellitus: Diagnosis and Treatment, Vol III**, S.S. Fajans and K. Sussman, Eds., American Diabetes Association. (1971).
74. Lowry, C., Wright, A.D., Fraser, T.R., Rubenstein, A.H., and Spitz, I.: Urine excretion of insulin and
75. Steiner, D.F., Nolan, C., Clark, J.L., Margoliash, E., and Rubenstein, A.H.: Biosynthesis, isolation and structure of proinsulin and related polypeptides. In: **The Action of Hormones Genes to Population Symposium** at Sinai Hospital of Detroit. P.P. Foa, N.O. Foa and A.J. Whitty, Eds. Charles C. Thomas, Springfield, IL (1971).
76. Melani, F., Rubenstein, A.H., and Steiner, D.F.: Proinsulin and C-peptide in human serum. In: **Handbook of Diabetes Mellitus**, E.E. Pfeiffer and F.F. Lehmanns, Eds., Verlag, Munchen, 2: 159-172 (1971).
77. Rubenstein, A.H., Mako, M., Welbourne, W.P., Melani, F., and Steiner, D.F.: Measurement of proinsulin, C-peptide, and insulin in serum and urine. In: **Laboratory Diagnosis of Endocrine Disease**, F.W. Sunderman and F.W. Sunderman, Jr., Eds., Warren H. Green, Inc., St. Louis, MO., Chap. 30, pp. 354-366 (1971).
78. Steiner, D.F., Oyer, P.E., Cho, S., Melani, F., and Rubenstein, A.H.: Structural and immunological studies on human proinsulin. **Proceedings of the Seventh International Diabetes Federation**, Buenos Aires, Excerpta Medica Foundation, R.R. Rodriguez and J. Vallance-Owen, Eds., pp. 281-291 (1971).
79. Rubenstein, A.H., Pottenger, L.A., Mako, M., Getz, G.S., and Steiner, D.F.: The metabolism of proinsulin and insulin by the liver. **J. Clin. Invest.** **51**: 912-921 (1972).
80. Hruban, Z., Rubenstein, A.H., and Slesers, A.: Alterations in pancreatic beta cells induced by cyclizine. **Lab. Invest.** **26**: 270-277 (1972).
81. Sando, H., Kemmler, W., Rubenstein, A.H., and Steiner, D.F.: Studies on insulin biosynthesis and secretion in isolated islets and a cultured beta cell tumor. **Insulin Action**, I.B. Fritz, Ed., Academic Press, New York and London, Chap. 5, pp. 77-98 (1972).
82. Rubenstein, A.H., Block, M.B., Starr, J., Melani, F., and Steiner, D.F.: Proinsulin and C-peptide in blood. **Diabetes** **21** (Suppl. 2): 661-672 (1972).
83. Kemmler, W., Peterson, J.D., Rubenstein, A.H., and Steiner, D.F.: On the biosynthesis, intracellular transport and mechanism of conversion of proinsulin to insulin and C-peptide. **Diabetes** **21** (Suppl. 2): 572-581 (1972).
84. Steiner, D.F., Kemmler, W., Clark, J.L., Oyer, P.E., Rubenstein, A.H.: The biosynthesis of insulin. In: **Handbook of Physiology**, Section 7: **Endocrinology** Vol. 1, **Endocrine Pancreas**, D.F. Steiner and N. Freinkel, Eds., **Amer. Physiol. Soc.**, Washington, D.C.,

Chapter 10, pp. 175-198 (1972).

85. Rubenstein, A.H., Melani, F., and Steiner, D.F.: Circulating proinsulin: **In: Handbook of Physiology, Section 7: Endocrinology**, Vol. 1, **Endocrine Pancreas**, D.F. Steiner, and N. Freinkel, Eds., **Amer. Physiol. Soc.**, Washington, D.C., Chapter 33, pp. 515-528 (1972).
86. Block, M.B., Mako, M.E., Steiner, D.F., and Rubenstein, A.H.: Diabetic ketoacidosis: Evidence for C-peptide and proinsulin secretion following recovery. **J. Clin. Endocrinol. Metab.** **35**: 402-406 (1972).
87. Block, M.B., Gambetta, M., Resnekov, L., and Rubenstein, A.H.: Spontaneous hypoglycemia in congestive heart failure. **Lancet ii**: 736-738 (1972).
88. Block, M.B., Mako, M.E., Steiner, D.F., and Rubenstein, A.H.: Circulating C-peptide immunoreactivity: Studies in normals and diabetic patients. **Diabetes** **21**: 1013-1026 (1972).
89. Rabkin, R., Rubenstein, A.H., and Colwell, J.A.: Glomerular filtration and proximal tubular absorption of insulin I-125. **Amer. J. Physiol.** **223**: 1093-1096 (1972).
90. Borensztajn, J., Samols, D.R., and Rubenstein, A.H.: Effects of insulin on lipoprotein lipase activity in the rat heart and adipose tissue. **Amer. J. Physiol.** **223**: 1271-1275 (1972).
91. Block, M.B., Berk, J.E., Fridhandler, L.S., Steiner, D.F., and Rubenstein, A.H.: Diabetic ketoacidosis
92. Katz, A.I., and Rubenstein, A.H.: Metabolism of proinsulin, insulin and C-peptide in the rat. **J. Clin. Invest.** **52**: 1113-1121 (1973).
93. Ginsberg, S., Block, M.B., Mako, M.E., and Rubenstein, A.H.: Serum insulin levels following administration of exogenous insulin. **J. Clin. Endocrinol. Metab.** **36**: 1175-1179 (1973).
94. Block, M.B., Rosenfield, R.L., Mako, M.E., Steiner, D.F., and Rubenstein, A.H.: Sequential changes in beta-cell function in insulin-treated diabetic patients assessed by C-peptide immunoreactivity. **N. Engl. J. Med.** **288**: 1144-1148 (1973).
95. Tsai, A., Reuler, J., and Rubenstein, A.H.: Diabetes and Pregnancy. **J. Rep. Med.** **11**: 23-28 (1973).
96. Borensztajn, J., Keig, P., and Rubenstein, A.H.: The role of glucagon in the regulation of myocardial lipoprotein lipase activity. **Biochem. Biophys. Res. Commun.** **53**: 603-608 (1973).
97. Seftel, H.C., Spitz, I.M., Bersohn, I., Goldin, A.R., Joffe, B.I., Rubenstein, A.H., and Metzger, B.E.: Metabolic features of Johannesburg Bantu with myocardial infarction. **S.**

- Afr. Med. J. 47:** 1571-1575 (1973).
98. Steiner, D.F., and Rubenstein, A.H.: Recent studies on biosynthesis, secretion and metabolism of proinsulin and C-peptide. **Proceedings of the Eighth Midwest Conference on Endocrinology and Metabolism**, pp. 43-46 (1973).
 99. Steiner, D.F., Nolan, C., Oyer, P.E., Kemmler, W., and Rubenstein, A.H.: Pancreatic hormones: Insulin biosynthesis. In: **Peptide Hormones** (Chap. 3: 2.2, pp. 835-840), edited by S.A. Berson and R.S. Yalow, Vol. 2B of **Methods in Investigative and Diagnostic Endocrinology**, North Holland Publishing Co., Amsterdam (1973).
 100. Rubenstein, A.H., Melani, F., and Steiner, D.F.: Pancreatic hormones: Proinsulin and C-peptide in human serum. In: **Peptide Hormones** (Chapter 3: 2.2, pp. 870-876), edited by S.A. Berson and R.S. Yalow, Vol. 2B of **Methods in Investigative and Diagnostic Endocrinology**, North Holland Publishing Co., Amsterdam (1973).
 101. Steiner, D.F., Rubenstein, A.H., Peterson, J.D., Kemmler, W., and Tager, H.S.: Proinsulin and polypeptide hormone biosynthesis. **Endocrinology**, Proceedings of the Fourth International Congress of Endocrinology, 1972, edited by R.O. Scow, Excerpta Medica, Amsterdam, pp. 561-566 (1974).
 102. Starr, J.I., and Rubenstein, A.H.: Metabolism of endogenous proinsulin and insulin in man. **J. Clin. Endocrinol. Metab. 38:** 305-308 (1974).
 103. Block, M.B., Pildes, R.S., Moosabhoy, N.A., Steiner, D.F., and Rubenstein, A.H.: C-peptide immunoreactivity (CPR): A new method for studying infants of insulin-treated diabetic mothers. **Pediatrics 53:** 923-928 (1974).
 104. Steiner, D.F., Kemmler, W., Tager, H.S., and Rubenstein, A.H.: Molecular events taking place during intracellular transport of exportable proteins, the conversion of peptide hormone precursors. In: **Proceedings of the Second International Symposium on Cytopharmacology, 2:** 195-205 (1974), edited by B. Ceccarelli, F. Clement, and J. Meldolesi, Raven Press, New York.
 105. Starr, J.I., and Rubenstein, A.H.: Insulin, Proinsulin and C-peptide. In: **Methods of Hormone Radioimmunoassay**, edited by B. Jaffe and H.R. Behrman, Academic Press, New York, pp. 289-315 (1974).
 106. Yanaihara, N., Hashimoto, T., Yanaihara, C., Sakagami, M., Steiner, D.F., and Rubenstein, A.H.: Synthesis of human connecting peptide derivatives and their immunological properties. **Biochem. Biophys. Res. Commun. 59:** 1124-1130 (1974).
 107. Rubenstein, A.H., Mako, M.E., Starr, J.I., Juhn, D.J., and Horwitz, D.L.: Circulating proinsulin in patients with islet cell tumors. In: **Diabetes, Proceedings of the Eighth Congress of the International Diabetes Federation, 1973**, edited by W.J. Malaisse and J. Pirart, Excerpta Medica, Amsterdam, pp. 732-752 (1974).
 108. Horwitz, D.L., and Rubenstein, A.H.: Heterogeneity of circulating insulin and proinsulin

- in man. **Israel J. Med. Sci.** **10**: 1201-1211 (1974).
109. Fink, G., Cresto, J.C., Gutman, R.A., Lavine, R.L., Rubenstein, A.H., and Recant, L.: Plasma proinsulin-like material in insulin treated diabetes. **Horm. Metab. Res.** **6**: 439-443 (1974).
 110. Tager, H.S., Rubenstein, A.H., and Steiner, D.F.: Methods for the assessment of peptide precursors. In: **Methods in Enzymology**, vol. **37**, Part B, **Peptide Hormones**, pp. 326-345, B.W. O'Malley and J.G. Hardman, Editors, Academic Press, New York (1975).
 111. Couropmitree, C., Freinkel, N., Nagel, T.C., Horwitz, D.L., Metzger, B., Rubenstein, A.H., and Hahnel, R.: Plasma C-peptide and diagnosis of factitious hyperinsulinism. Study of an insulin-dependent diabetic patient with "spontaneous" hypoglycemia. **Ann. Int. Med.** **82**: 201-204 (1975).
 112. Alsever, R.N., Roberts, J.P., Gerber, J.G., Mako, M.E., and Rubenstein, A.H.: Insulinoma with low circulating insulin levels: The diagnostic value of proinsulin measurements. **Ann. Int. Med.** **82**: 347-350 (1975).
 113. Constan, L., Mako, M., Juhn, D., and Rubenstein, A.H.: The excretion of proinsulin and insulin in urine. **Diabetologia** **11**: 119-123 (1975).
 114. Horwitz, D.L., Starr, J.I., Mako, M.E., Blackard, W.G., and Rubenstein, A.H.: Proinsulin, insulin, and C-peptide concentrations in human portal and peripheral blood. **J. Clin. Invest.** **55**: 1278-1283 (1975).
 115. Feldman, S.A., Rubenstein, A.H., Ho, K-J., Taylor, C.B., Lewis, L.A., and Mikkelsen, B.: Carbohydrate and lipid metabolism in the Alaskan Arctic Eskimo. **Am. J. Clin. Nutr.** **28**: 588-594 (1975).
 116. Levin, N.W., Cortes, P., Silveira, E., and Rubenstein, A.H.: Relation to renal growth to diabetic glomerulosclerosis. **Lancet** **1**: 1120-1121 (1975).
 117. Rubenstein, A.H., Mako, M.E., and Horwitz, D.L.: Insulin and the kidney. **Nepron** **15**: 306-326 (1975).
 118. Rosenbloom, A.L., Starr, J.I., Juhn, D., and Rubenstein, A.H.: Serum proinsulin in children and adolescents with chemical diabetes. **Diabetes** **24**: 753-757 (1974).
 119. Starr, J.I., Juhn, D.J., Rubenstein, A.H., and Kitabachi, A.E.: Degradation of insulin in serum by insulin-specific protease. **J. Lab. Clin. Med.** **86**: 631-637 (1975).
 120. Gaeke, R.F., Kaplan, E.L., Rubenstein, A.H., Starr, J., and Burke, G.: Insulin and proinsulin release during calcium infusion in a patient with islet-cell tumor. **Metabolism** **24**: 1029-1034 (1975).
 121. Morley, C.G.D., Kuku, S., Rubenstein, A.H., and Boyer, J.L.: Serum hormone levels following partial hepatectomy in rat. **Biochem. Biophys. Res. Commun.** **67**: 653-661

- (1975).
122. Yanaihara, N., Sakura, N., Yanaihara, C., Hashimoto, T., Rubenstein, A.H., and Steiner, D.F.: Syntheses and immunological evaluation of bovine proinsulin C-peptide analogues. **Nature** **258**: 365-366 (1975).
 123. Katz, A.I., Lindheimer, M.D., Mako, M.E., and Rubenstein, A.H.: Peripheral metabolism of insulin, proinsulin, and C-peptide in the pregnant rat. **J. Clin. Invest.** **56**: 1608-1614 (1975).
 124. Sandler, R., Horwitz, D.L., Rubenstein, A.H., Kuzuya, H.: Hypoglycemia and endogenous hyperinsulinism complicating diabetes mellitus. **Am. J. Med.** **59**: 730-736 (1975).
 125. Service, F.J., Rubenstein, A.H., and Horwitz, D.L.: C-peptide analysis in diagnosis of factitial hypoglycemia in an insulin-dependent diabetic. **Mayo Clin. Proc.** **50**: 697-701 (1975).
 126. Phelps, R.L., Bergenstal, R., Freinkel, N., Rubenstein, A.H., Metzger, B.E., and Mako, M.E.: Carbohydrate metabolism in pregnancy: XIII. Relationships between plasma insulin and proinsulin during late pregnancy in normal and diabetic subjects. **J. Clin. Endocr. Metab.** **41**: 1085-1091 (1975).
 127. Horwitz, D.L., Rubenstein, A.H., Reynolds, C., Molnar, G.D., and Yanaihara, N.: Prolonged suppression of insulin release by insulin-induced hypoglycemia: Demonstration by C-peptide assay. **Horm. Metab. Res.** **7**: 449-452 (1975).
 128. Rubenstein, A.H., Horwitz, D.L., and Steiner, D.F.: Proinsulin and insulin biosynthesis. In: **Diabetes: Its Physiological and Biochemical Basis**. Edited by J. Vallance-Owen, MTP Press, pp. 1-20 (1975).
 129. Rubenstein, A.H., Horwitz, D.L., and Steiner, D.F.: Clinical significance and circulating proinsulin and C-peptide. **Diabetes Mellitus**, Eds. K.E. Sussman and R.J. Metz, American Diabetes Association, New York, pp. 9-14 (1976).
 130. Kuku, S.F., Zeidler, A., Emmanouel, D.S., Katz, A.I., Rubenstein, A.H., Levin, N.W., and Tello, A.: Heterogeneity of plasma glucagon: Patterns in patients with chronic renal failure and diabetes. **J. Clin. Endocr. Metab.** **42**: 173-176 (1976).
 131. Karlin, J.B., Juhn, D.J., Starr, J.I., Scanu, A.M., and Rubenstein, A.H.: Measurement of human high density lipoprotein apo-lipoprotein A-1 in serum by radioimmunoassay. **J. Lipid Research** **17**: 30-37 (1976).
 132. Gabbay, K.H., DeLuca, K., Fisher, J.N., Mako, M.E., and Rubenstein, A.H.: Familial hyperproinsulinemia: An autosomal dominant defect. **N. Engl. J. Med.** **294**: 911-915 (1976).
 133. Horwitz, D.L., Kuzuya, H., and Rubenstein, A.H.: Circulating serum C-peptide: A brief

- review of diagnostic implications. **New Engl. J. Med.** **295**: 207-209 (1976).
134. Kuku, S.F., Jaspan, J.B., Emmanouel, D.S., Zeidler, A., Katz, A.I., and Rubenstein, A.H.: Heterogeneity of plasma glucagon: Circulating components in normal subjects and patients with chronic renal failure. **J. Clin. Invest.** **58**: 742-750 (1976).
 135. Lernmark, A., Chan, S.J., Choy, R., Nathans, A., Carrol, R., Tager, H.S., Rubenstein, A.H., Swift, H.H., and Steiner, D.F.: Biosynthesis of insulin and glucagon: A view of the current state of the art. **Polypeptide Hormones: Molecular and Cellular Aspects**, Ciba Foundation Symposium 41, Elsevier/Excerpta Medica, North Holland, pp. 7-30 (1976).
 136. Lewis, S.B., Wallin, J.D., Kuzuya, H., Murray, W.K., Coustan, D.R., Daane, T.A., and Rubenstein, A.H.: Circadian variation of serum glucose, C-peptide immunoreactivity and free insulin in normal and insulin-treated diabetic pregnant subjects. **Diabetologia** **12**: 343-350 (1976).
 137. Rubenstein, A.H., and Steiner, D.F.: Islet cell dysfunction. **Diabetes Mellitus, Vol. 4**, Chapter 6, pp. 59-72, Fogarty International Center Series for Preventative Medicine. Stefan S. Fajans, Ed., DHEW-Publication No. 76-854 (NIH) (1976).
 138. Horwitz, D.L., Rubenstein, A.H., and Steiner, D.F.: Radioimmunoassay of proinsulin and C-peptide in human blood. In: **Pancreatic Hormones: Radioimmunoassay of Proinsulin and C-peptide and Insulin A and B Chains**. Edited by Harry N. Antoniades, Chapter 17, pp. 227-239 (1976).
 139. Jaspan, J.B., Kuku, S.F., Locker, J.D., Huen, A.H-J, Emmanouel, D.S., Katz, A.I., and Rubenstein, A.H.: Heterogeneity of plasma glucagon in man. **Metabolism** **25**: Suppl. 1, 1397-1401 (1976).
 140. Alsever, R.N., Stjernholm, M.R., Sussman, K.E., Mako, M.E., and Rubenstein, A.H.: Clinical correlations of serum proinsulin-like material in islet cell tumors. **Diabetologia** **12**: 527-530 (1976).
 141. Emmanouel, D.S., Jaspan, J.B., Kuku, S.F., Rubenstein, A.H., and Katz, A.I.: Pathogenesis and characterization of hyperglucagonemia in the uremic rat. **J. Clin. Invest.** **58**: 1266-1272 (1976).
 142. Rayfield, E.J., Pulini, M., Golub, A., Rubenstein, A.H., and Horwitz, D.L.: Non-autonomous function of a pancreatic insulinoma. **J. Clin. Endocrinol. Metab.** **43**: 1307-1311 (1976).
 143. Scarlett, J.A., Zeidler, A., Rochman, H., and Rubenstein, A.H.: Acute effect of ascorbic acid infusion on carbohydrate tolerance. **Am. J. Clin. Nutr.** **29**: 1339-1241 (1976).
 144. Steiner, D.F., Terris, S, Chan, S.J. and Rubenstein, A.H.: Islet pathology-islet function--insulin treatment. In: **Chemical and Biological Aspects of Insulin and Proinsulin**. Edited by Rolf Luft, Nordisk Insulin-Laboratorium, Gentofte, Denmark (1976).

145. Kuzuya, H., Blix, P.M., Horwitz, D.L., Steiner, D.F., and Rubenstein, A.H.: Determination of free and total insulin and C-peptide in insulin-treated diabetics. **Diabetes** **26**: 22-29 (1977).
146. Horwitz, D.L., Rubenstein, A.H., and Katz, A.I.: Quantitation of human pancreatic beta-cell function by immunoassay of C-peptide in urine. **Diabetes** **26**: 36-45 (1977).
147. Reynolds, C., Molnar, G.D., Horwitz, D.L., Rubenstein, A.H., Taylor, W.F., and Jiang, N-S.: Abnormalities of endogenous glucagon and insulin in unstable diabetes. **Diabetes** **26**: 36-45 (1977).
148. Grajwer, L.A., Pildes, R.S., Horwitz, D.L., and Rubenstein, A.H.: Control of juvenile diabetes mellitus and its relationship to endogenous insulin secretion as measured by C-peptide immunoreactivity. **J. of Peds.** **90**: 42-48 (1977).
149. Weir, G.C., Horton, E.S., Aoki, T.T., Slovik, D., Jaspan, J., and Rubenstein, A.H.: Secretion by glucagonomas of a possible glucagon precursor. **J. Clin. Invest.** **59**: 325-330 (1977).
150. Rubenstein, A.H., Kuzuya, H., and Horwitz, D.L.: Clinical significance of circulating C-peptide in diabetes mellitus and hypoglycemic disorders. **Arch. Intern. Med.** **137**: 625-632 (1977).
151. Kuzuya, H., Blix, P.M., Horwitz, D.L., Rubenstein, A.H., Steiner, D.F., Binder, C., and Farber, O.K.: Heterogeneity of circulating C-peptide. **J. Clin. Endocrinol. Metab.** **44**: 952-962 (1977).
152. Service, F.J., Horwitz, D.L., Rubenstein, A.H., Kuzuya, H., Mako, M.E., Reynolds, C., and Molnar, G.D.: C-peptide suppression test for insulinoma. **J. Lab. Clin. Med.** **90**: 180-186 (1977).
153. Jaspan, J.B., Huen, A.H-J., Morley, C.G., Moossa, A.R., and Rubenstein, A.H.: The role of the liver in glucagon metabolism. **J. Clin. Invest.** **60**: 421-428 (1977).
154. Jaspan, J.B., and Rubenstein, A.H.: Circulating glucagon: Plasma profiles and metabolism in health and disease. **Disease** **26**: 887-904 (1977).
155. Rubenstein, A.H., Steiner, D.F., Horwitz, D.L., Mako, M.E., Block, M.B., Starr, J.I., Kuzuya, H., and Melani, F.: Clinical significance of circulating proinsulin and C-peptide. In: **Recent Progress in Hormone Research**, Roy O. Greep, Ed., Academic Press, New York **33**: 435-575 (1977).
156. Gonen, B., Rubenstein, A.H., Rochman, H., Tanega, S., and Horwitz, D.L.: Hemaglobin A1: An indicator of the metabolic control of diabetic patients. **Lancet** **2**: 734-737 (1977).
157. Jaspan, J.B., Mako, M.E., Kuzuya, H., Blix, P.M., Horwitz, D.L., and Rubenstein, A.H.:

- Abnormalities in circulating beta cell peptides in chronic renal failure: Comparison of C-peptide. **J. Clin. Endocrinol. Metab.** **45**: 441-446 (1977).
158. Scarlett, J.A., Mako, M.E., Rubenstein, A.H., Blix, P.M., Goldman, J., Horwitz, D.L., Tager, H., Jaspan, J.B., Stjernholm, M.R., and Olefsky, J.M.: Factitious hypoglycemia, **N. Engl. J. Med.** **297**: 1029-1032 (1977).
159. Foreman, J.R., Karlin, J.B., Edelstein, C., Juhn, D.J., Rubenstein, A.H., and Scanu, A.M.: Fractionation of human serum lipoproteins by single-spin gradient ultracentrifugation: Quantitation of apolipoproteins B and A-I and lipid components. **J. Lipid Res.** **18**: 759-767 (1977).
160. Mako, M.E., Starr, J.I., and Rubenstein, A.H.: Circulating proinsulin in patients with maturity onset diabetes. **Am. J. Med.** **63**: 865-869 (1977).
161. Phelps, R.L., Freinkel, N., Rubenstein, A.H., Kuzuya, H., Metzger, B.E., Boehm, J.J., Molsted-Pedersen, L.: Carbohydrate metabolism in pregnancy, XV. Plasma C-peptide during intravenous glucose tolerance in neonates from normal and insulin-treated diabetic mothers. **J. Clin. Endocrinol. Metab.** **46**: 61-68 (1978).
162. Jaspan, J.B., Huen, A.H., Gonen, B., and Rubenstein, A.H.: Circulating glucagon components: Significance in health and disease. In: **Glucagon: Its role in Health and Disease**, edited by P.P. Foa, J.S. Bajaj and N.L. Foa, Springer-Verlag, New York, pp. 93-112 (1977).
163. Rubenstein, A.H., Horwitz, D.L., Jaspan, J.B., Mako, M.E., Blix, P.M., and Kuzuya, H.: Circulating proinsulin and C-peptide. In: **Diabetes, Proceedings of the IX Congress of the International Diabetes Federation**. Ed., J.S. Bajaj, New Delhi: Excerpta Medica, Amsterdam, 1976 (1977).
164. Feldman, S.A., Rubenstein, A.H., Taylor, C.B., Ho, K.J., and Lewis, L.: Metabolism parameters: Aspects of cholesterol, lipid and carbohydrate metabolism. In: **Eskimos of Northwestern Alaska--A Biological Perspective**, edited by P.L. Jamison, S.L. Zegura and F. A. Milan. US/IBP Synthesis Series, No. 8, Dowden, Hutchinson and Ross, Stroudsburg, Pennsylvania, Chapter 14, pp. 174-183 (1978).
165. Karlin, J.B., Juhn, D.J., Fless, G., Scanu, A.M., and Rubenstein, A.H.: Measurement of Rhesus monkey (*Mucaca Mulatta*) apolipoprotein B in serum by radioimmunoassay: Comparison of immunoreactivities of Rhesus and human low density lipoproteins. **J. Lipid Res.** **19**: 197-206 (1978).
166. Karlin, J.B., Juhn, D.J., Scanu, A.M., and Rubenstein, A.H.: Measurement of serum apolipoprotein B by radioimmunoassay. **Europ. J. Clin. Invest.** **8**: 19-26 (1978).
167. Kuzuya, H., Chance, R.E., Steiner, D.F., and Rubenstein, A.H.: On the preparation and characterization of standard materials for natural human proinsulin and C-peptide. **Diabetes** **27** (Suppl.): 161-169 (1978).

168. Faber, O.K., Binder, C., Markussen, J., Heding, L.G., Naithani, V.K., Kuzuya, H., Blix P., Horwitz, D.L., and Rubenstein, A.H.: Characterization of seven C-peptide antisera. **Diabetes 27 (Suppl.):** 170-177 (1978).
169. Kuzuya, H., Blix, P.M., Horwitz, D.L., Rubenstein, A.H., Steiner, D.F., Faber, O.K., and Binder, C.: Heterogeneity of circulating human C-peptide. **Diabetes 27 (Suppl.):** 184-191 (1978).
170. Rabkin, R., Ross, B.D., Mako, M.E., and Rubenstein, A.H.: The handling of insulin, proinsulin, and C-peptide by the isolated rat kidney. **Diabetes 27 (Suppl.):** 192-196 (1978).
171. Horwitz, D.L., Rubenstein, A.H., Mako, M.E., Cruz, A., and Blix, P.M.: C-peptide in conditions other than diabetes mellitus. **Diabetes 27: (Suppl.):** 267-271 (1978).
172. Starr, J.I., Mako, M.E., Juhn, D., and Rubenstein, A.H.: Measurement of serum proinsulin-like material: Cross-reactivity of porcine and human proinsulin in the insulin radioimmunoassay. **J. Lab. Clin. Med. 19:** 683-692 (1978).
173. Karlin, J.B., Juhn, D.J., Goldberg, R., and Rubenstein, A.H.: Recent progress in the development of radioimmunoassay for human serum lipoproteins. **Ann. Clin. Lab. Sci. 8:** 142-154 (1978).
174. Kuku, S.F., Jaspan, J.B., Emmanouel, D.S., Katz, A.I., and Rubenstein, A.H.: Plasma glucagon, insulin and glucose responses to intravenous arginine in the rat. **Horm. and Metab. Res. 10:** 99-100 (1978).
175. Koerker, D.J., Goodner, C.J., Walike Hansen, B., Brown, A.C., and Rubenstein, A.H.: Synchronous, sustained oscillation of C-peptide and insulin in the plasma of fasting monkeys. **Endocrinology 102:** 1649-1652 (1978).
176. Anderson, J.H., Jr., Blackard, W.G., Goldman, J., and Rubenstein, A.H.: Diabetes and hypoglycemia due to insulin antibodies. **Am. J. Med. 64:** 868-873 (1978).
177. Liljenquist, J.E., Horwitz, D.L., Jennings, A.S., Chaisson, J-L., Keller, U., and Rubenstein, A.H.: Inhibition of insulin secretion by exogenous insulin in normal man as demonstrated by C-peptide assay. **Diabetes 27:** 563-570 (1978).
178. Goldman, J., Baldwin, D., Pugh, W., and Rubenstein, A.H.: Equilibrium binding assay and kinetic characterization of insulin antibodies. **Diabetes 27:** 653-660 (1978).
179. Horwitz, D.L., Rubenstein, A.H., and Steiner, D.F.: Proinsulin and C-peptide in diabetes. **Medical Clinics of North America 62:** 723-733 (1978).
180. Faber, O.K., Hagen, C., Binder, C., Markussen, J., Naithani, V.K., Blix, P.M., Kuzuya, H., Horwitz,
181. Emmanouel, D.S., Jaspan, J.B., Rubenstein, A.H., Huen, A.H-J, Fink, E., and Katz, A.I.:

- Glucagon metabolism in the rat. **J. Clin. Invest.** **61**: 197-208 (1978).
182. Kobayashi, M., Olefsky, J.M., Elders, J., Mako, M.E., Given, B.D., Schedwie, H.K., Fiser, R.H., Hintz, R.L., Horner, J.A., and Rubenstein, A.H.: Insulin resistance due to a defect distal to the insulin receptor: Demonstration in a patient with leprechaunism. **Proc. Natl. Acad. Sci.** **75**: 3469-3473 (1978).
 183. Gonen, B., and Rubenstein, A.H.: Haemoglobin A1 and diabetes mellitus. **Diabetologia** **15**: 1-8 (1978).
 184. Service, F.J., Nelson, R.L., Rubenstein, A.H., and Go, V.L.W.: Direct effect of insulin on secretion of insulin, glucagon, gastric inhibitory polypeptide, and gastrin during maintenance of normoglycemia. **J. Clin. Endocrinol. and Metab.** **47**: 488-493 (1978).
 185. Lernmark, A., Freedman, Z.R., Hoffmann, C., Rubenstein, A.H., Steiner, D.F., Jackson, R.L., Winter, R.J., and Traisman, H.S.: Islet-cell-surface antibodies in juvenile diabetes mellitus. **NewEngl. J. Med.** **299**: 375-380 (1978).
 186. West, K.M., Oakley, E.L., Sanders, M.E., and Rubenstein, A.H.: Nutritional factors in the aetiology of diabetes. In: **Epidemiology of Diabetes and its Vascular Complications**. Satellite Meeting of IXth International Diabetes Federation, Bombay (1976). Eds. H. Keen, J.C. Pickup and C.V. Talkwalker, published by the International Diabetes Foundation (1978).
 187. Schwartz, S.S., Zeidler, A., Moossa, A.R., Kuku, S.F., and Rubenstein, A.H.: A prospective study of glucose tolerance, insulin, C-peptide, and glucagon responses in patients with pancreatic carcinoma. **Am. J. Digestive Diseases** **23**: 1107-1114 (1978).
 188. Gonen, B., and Rubenstein, A.H.: Proinsulin and C-peptide in diabetes mellitus. A review. In: **Endocrine Pancreas and Diabetes**. Proceedings of the First International Symposium. Caracas, Venezuela, June 1977. Ed. J. Pierluissi, Excerpta Medica, Amsterdam (International Congress Series 45a), pp. 26-36 (1979).
 189. Gonen, B., Rochman, H., and Rubenstein, A.H.: Metabolic control in diabetic patients: Assessment by hemoglobin A1 values. **Metabolism** **28** (Suppl. 1): 448-452 (1979).
 190. Savage, P.J., Flock, E.V., Mako, M.E., Blix, P.M., Rubenstein, A.H., and Bennett, P.H.: C-peptide and insulin secretion in Pia Indians and Caucasians: Constant fractional hepatic extraction over a wide range of insulin concentrations and in obesity. **J. Clin. Endocrinol. Metab.** **48**: 594 (1979).
 191. Gonen, B., and Rubenstein, A.H.: Hemoglobin A1 and assessment of diabetic control. **Comprehensive Therapy** **5**: 17-20 (1979).
 192. Horwitz, D.L., and Rubenstein, A.H.: Evaluation of insulin secretory capacity in diabetes mellitus. **Human Pathology** **10**: 257-266 (1979).
 193. Schwartz, S.S., Horwitz, D.L., Zehfus, B., Langer, B., Moossa, A.R., Ribeiro, G.,

- Kaplan, E., and Rubenstein, A.H.: Use of a glucose controlled insulin infusion system (Artificial Beta Cell) to control diabetes during surgery. **Diabetologia** **16**: 157-174 (1979).
194. Karlin, J.B., and Rubenstein, A.H.: Serum lipoprotein quantification by immunochemical methods. In: **The Biochemistry of Atherosclerosis**. Editor, A. M. Scanu, **Biochemistry of Disease** **7**: 189-227 (1979)
195. Goldman, J., Baldwin, D., Rubenstein, A.H., Klink, D.D., Blackard, W.G., Fisher, L.K., Roe, T.F., and Schnure, J.J.: Characterization of circulating insulin and proinsulin-binding antibodies in autoimmune hypoglycemia. **J. Clin. Invest.** **63**: 1050-1059 (1979).
196. Baldwin, D., Jr., Winston, E., Hoshizak, R.J., Garland, J.T., Baldwin, D., Sr., Holcomb, H.H., Flier, J.S., and Rubenstein, A.H.: Insulin resistant diabetes with receptor autoantibodies in a male patient with acanthosis nigricans. **Diabetes Care** **2**: 275-277 (1979).
197. Gabbay, K.H., Bergenstal, R.M., Wolff, J., Mako, M.E., and Rubenstein, A.H.: Familial hyperproinsulinemia: Partial characterization of circulating proinsulin-like material. **Proc. Natl. Acad. Sci., USA** **76**: 1881-1885 (1979).
198. Dumler, F., Cortes, P., Levin, N.W., Spargo, B.H., Rubenstein, A.H., and Verghese, C.P.: Effects of orotate administration on the normal rat kidney: Similarity to changes observed in diabetes mellitus. **Diabetes** **28**: 680-685 (1979).
199. Gonen, B., Goldman, J., Baldwin, D., Goldberg, R.B., Ryan, W.G., Blix, P.M., Schanzlin, D., Fritz, K.J., and Rubenstein, A.H.: Metabolic control in diabetic patients. **Diabetes** **28**: 749-753 (1979).
200. Krejs, G.J., Orci, L., Conlon, J.M., Ravazzola, M., Davis, G.R., Raskin, P., Collins, S.M., D.MBaetens, D., Rubenstein, A.H., Aldor, T.A.M., and Unger, R.H.: Somatostatin syndrome Biochemical morphologic and clinical feature. **N. Engl. J. Med.** **301**: 285-292 (1979).
201. Lawson, W.B., Zeidler, A., and Rubenstein, A.H.: Taste detection and preferences in diabetics and their relatives. **Psychosomatic Med.** **14**: 219-227 (1979).
202. Reynolds, C., Tronsgard, N., Gibbons, E., Blix, P.M., and Rubenstein, A.H.: Gastric inhibitory polypeptide response to hyper- and hypoglycemia in insulin-dependent diabetics. **J. Clin. Endocrinol. Metab.** **49**: 255-261 (1979).
203. Tager, H., Given, B., Baldwin, D., Mako, M., Markese, J., Rubenstein, A.H., Olefsky, J., Kobayashi, M., Kolterman, O., Poucher, R.: A structurally abnormal insulin causing human diabetes. **Nature** **281**: 122-125 (1979).
204. Nelson, R.L., Baldus, W.P., Rubenstein, A.H., Go, V.L.W., and Service, F.J.: Pancreatic alpha-cell function in diabetic hemochromatotic subjects. **J. Clin. Endocrinol. Metab.** **49**: 412-416 (1979).

205. Schwartz, S.S., Rich, B.H., Lucky, A.W., Strauss II, F.H., Gonen, B., Wolfsdorf, J., Thorp, F.W., Burrington, J.D., Rubenstein, A.H., and Rosenfield, R.L.: Familial nesidioblastosis: Severe neonatal hypoglycemia in two families. **J. Pediatrics** **95**: 44-53 (1979).
206. Gonen, B., Rubenstein, A.H., Horwitz, D.L., and Blix, P.M.: Clinical significance of C-peptide. In: **Proinsulin, Insulin, and C-peptide**. Proceedings of the Symposium on Proinsulin, Insulin and C-peptide. Tokushima, 12-14 July 1978. Editors: S. Baba, T. Kaneko and N. Yanaihara, Excerpta Medica, Amsterdam-Oxford, Elsevier North-Holland, pp. 246-253 (1979).
207. Gonen, Boas, and Rubenstein, A.H.: Glycosylated hemoglobins in diabetes: A reappraisal. **Diabetes Care** **2**: 451-452 (1979).
208. Sosenko, I.R., Kitmiller, J.L., Loo, S.W., Blix, P., Rubenstein, A.H., and Gabbay, K.H.: The infant of the diabetic mother: Correlation of increased cord C-peptide levels with macrosomia and hypoglycemia. **N. Engl. J. Med.** **301**: 859-862 (1979).
209. Rubenstein, A.H., and Gonen, B.: Clinical significance of C-peptide. In: **The Endocrine Pancreas and Juvenile Diabetes**. Edited by D.M. Klachko, R.R. Anderson, T.W. Burns, and H.V. Werner. Plenum Publishing Corp., New York, pp. 15-20 (1979).
210. Lernmark, A., Kanatsuna, T., Rubenstein, A.H., and Steiner, D.F.: Detection and possible functional influence of antibodies directed against the pancreatic islet cell surface. In: **Treatment of Early Diabetes**, edited by R.A. Camerini-Davalos and B. Hanover. Plenum Press, N.Y. Adv. Exptl. Med. Biol. 119: 157-163 (1979).
211. Lernmark, A., Freedman, Z.R., Soderstrum, K., Kanatsuna, T., Rubenstein, A.H., and Steiner, D.F.: Characterization of islet cell antibodies. In: **Proceedings of the Tenth Congress of the International Diabetes Federation**. Edited by W.K. Waldhausl, Excerpta Medica, Elsevier North-Holland, pp 362-366 (1979).
212. Freedman, Z.R., Feek, C.M., Irvine, W.J., Lernmark, A., Rubenstein, A.H., Steiner, D.F., and Huen, A.: Islet cell cytoplasmic and cell surface antibodies in diabetes mellitus. **Association of American Physicians** **92**: 64-76 (1979).
213. Rubenstein, A.H.: Insulin, proinsulin and C-peptide: Secretion, metabolism and regulation in health and disease. In: **Endocrinology** **2**: 951-958, Edited by L.J. DeGroot, published by Grune and Stratton, New York, Chapter 77 (1979).
214. Kaplan, E.L., Rubenstein, A.H., Evans, R., Lee, C.H., and Klementsitch, P.: Calcium infusion: A new provocative test for insulinoma. **Ann. Surg.** **190**: 501 (1979).
215. Given, B.D., Mako, M.E., Tager, H.S., Baldwin, D., Markese, J., Rubenstein, A.H., Olefsky, J., Kobayashi, M., Kolterman, O., and Poucher, R.: Diabetes due to secretion of an abnormal insulin. **N. Engl. J. Med.** **302**: 129-135 (1980).

216. Cortes, P., Levin, N.W., Dumler, F., Rubenstein, A.H., Verghese, C.P., and Venkatachalam, K.K.: Uridine triphosphate and RNA synthesis during diabetes-induced renal growth. **Am. J. Physiol.** **238**: E349-E357 (1980).
217. Assoian, R.K., Blix, P.M., Rubenstein, A.H., and Tager, H.S.: Iodotyrosylation of peptides using tertiary-butylloxycarbonyl-L-[125¹]-Iodotyrosine N-hydroxysuccinimide Ester, **Analytical Biochem.** **103**: 70-76 (1980).
218. Brennan, M.D., Service, F.J., Carpenter, A-M., Rubenstein, A.H., and Edis, A.J.: Diagnosis of pancreatic islet hyperplasia causing hypoglycemia in a patient with portacaval anastomosis. **Am. J. Med.** **68**: 941-948 (1980).
219. Mackie, C.R., Moossa, A.R., Go, V.L.W., Noble, G., Sizemore, G., Cooper, M.J., Wood, R.A.B., Hall, A.W., Waldmann, T., Gelder, F., and Rubenstein, A.H.: Prospective evaluation of some candidate tumor makers in the diagnosis of pancreatic cancer. **Digestive Diseases and Sciences** **25**: 161-172 (1980).
220. Tager, H.S., Thomas, N., Assoian, R., Rubenstein, A., Saekow, M., Olefsky, J., and Kaiser, E.T.: Semisynthesis and biological activity of porcine [Leu^{B24}]insulin and [Leu^{B25}]insulin. **Proc. Natl. Acad. Sci., USA** **77**: 3181-3185 (1980).
221. Olefsky, J.M., Saekow, M., Tager, H., and Rubenstein, A.H.: Characterization of a mutant human insulin species. **J. Biol. Chem.** **255**: 6068-6075 (1980).
222. Rubenstein, A.H., and Binder, C.: Beta cell function in dependent diabetes mellitus. In: **Management of Juvenile Diabetes Mellitus**, third edition, H.S. Traisman, editor. Published by C.V. Mosby Company, St. Louis, Chap. 5, pp. 45-52 (1980).
223. Foster, D.W., and Rubenstein, A.H.: Hypoglycemia, insulinoma, and other hormone secreting tumors of the pancreas. In: **Harrison's Principles of Internal Medicine**. Edited by Isselbacher, Adams, Braunwald, Petersdorf, and Wilson, Ninth edition. Published by McGraw-Hill Book Company, Chap. 340, pp. 1758-1764 (1980).
224. Jaspan, J.B., Polonsky, K.S., Foster, D.W., and Rubenstein, A.H.: Clinical features and diagnosis of islet cell tumors. In: **Tumors of the Pancreas**, edited by A.R. Moossa. Williams and Wilkins, Baltimore, Publishers (1980).
225. Goldberg, R.B., Karlin, J.B., Juhn, D.J., Scanu, A.M., Edelstein, C., and Rubenstein, A.H.: Characterization and measurement of human apolipoprotein A-II by radioimmunoassay. **J. Lipid Res.** **21**: 901-912 (1980).
226. Lernmark, A., Freedman, Z.R., Kanatsuna, T., Patzelt, C., Rubenstein, A.H., and Steiner, D.F.: Islet-cell surface antibodies and diabetes mellitus. In: **The Immunology of Diabetes**, edited by W.J. Irvine, Treviot Publications, Edinburgh, pp. 155-167 (1980).
227. Freedman, Z.R., Irvine, W.J., Lernmark, A., Huen, A.H-J., Rubenstein, A.H., Steiner, D.F.: Cell surface and cytoplasmic islet-cell antibodies in insulin-dependent diabetes. In: **The Immunology of Diabetes**, edited by W.J. Irvine, Treviot Publications,

- Edinburgh, pp. 99-175 (1980).
228. Rubenstein, A.H., Gonen, B., Irvine, W.J., Toft, A.D., Lernmark, A., Freedman, Z., and Steiner, D.F.: Beta cell function in diabetes mellitus. In: **The Immunology of Diabetes**, edited by W.J. Irvine, Treviot Publications, Edinburgh, pp. 267-273 (1980).
 229. Bier, D.M., Schedewie, H., Lerner, J., Olefsky, J., Rubenstein, A., Fiser, R.H., Craig, J.W., and Elders, J.J.: Glucose kinetics in Leprechaunism: Accelerated fasting due to insulin resistance. **J. Clin. Endocrinol. Metab.** **51**: 998 (1980).
 230. Lernmark, A., Kanatsuna, T., Patzelt, C., Diakoumis, K., Carrol, R., Rubenstein, A.H., and Steiner, D.F.: Antibodies directed against the pancreatic islet cell plasma membrane. **Diabetologia** **19**: 445-451 (1980).
 231. Schwartz, S.S., Corkey, B., Williamson, J.R., and Rubenstein, A.H.: Effect of bovine pancreatic polypeptide on isolated rat liver cells. **Endocrinology** **106**: 1178-1181 (1980).
 232. Lin, Chin-C, Moawad, A.H., River, P., Blix, P., Abraham, M., and Rubenstein, A.H.: Amniotic fluid C-peptide as an index for intrauterine fetal growth. **Am. J. Obstet. Gynecol.** **139**: 390 (1981).
 233. Japan, J.B., Polonsky, K.S., Lewis, M., Pensler, J., Pugh, W., Moossa, A.R., and Rubenstein, A.H.: Hepatic metabolism of glucagon in the dog: Contribution of the liver to overall metabolic disposal of glucagon. **Am. J. Physiol.** **240**; **Endocrinol. Metab.** **30**: E233-E244 (1981).
 234. Kwok, S.C.M., Chan, S.J., Rubenstein, A.H., Poucher, R., and Steiner, D.F.: Loss of a restriction endonuclease cleavage site in the gene of structurally abnormal human insulin. **Biochem. Biophys. Res. Commun.** **98**: 844-849 (1981).
 235. Kanatsuna, T., Lernmark, A., Rubenstein, A.H., and Steiner, D.F.: Block insulin release from column perfused pancreatic beta-cells induced by islet cell surface antibodies and complement. **Diabetes** **30**: 231-234 (1981).
 236. Robbins, D.C., Blix, P.M., Rubenstein, A.H., Kanazawa, Y., Kosaka, K., and Tager, H.S.: A human proinsulin variant at arginine 65. **Nature** **291**: 679-681 (1981).
 237. Landau, R.L., Rochman, H., Blix-Gruber, P., and Rubenstein, A.H.: The protein-sparing action of protein feeding. Absence of relationship to insulin secretion. **Am. J. Clin. Nutr.** **34**: 1300-1304 (1981).
 238. Olefsky, J.M., Green, A., Ciaraldi, T.P., Saekow, M., and Rubenstein, A.H.: Relationship between negative cooperativity and insulin action. **Biochemistry** **20**: 4488-4492 (1981).
 239. Jaspán, J.B., Polonsky, K.S., Rojdmárk, S., Ishida, T., Field, J.B., and Rubenstein, A.H.: Hepatic extraction of plasma immunoreactive glucagon components. **Diabetes** **30**: 767-772 (1981).

240. Roth, S.I., Schedewie, H.K., Herzberg, V.K., Olefsky, J., Elders, M.J., and Rubenstein, A.: Cutaneous manifestation of Leprechaunism. **Arch. Dermatol.** **117**: 531-535 (1981).
241. Turner, R., Rubenstein, A.H., and Foster, D.W.: Hypoglycaemia. **Medicine International** **8**: 351-354 (1981).
242. Rand, R.H., Rosenbloom, A.L., MacLaren, N.K., Silverstein, J.H., Riley, A., Butterworth, B.E., Yoon, J.W., Rubenstein, A.H., and Merigan, T.C.: Human leukocyte interferon treatment of two children with insulin dependent diabetes. **Diabetologia** **21**: 116-119 (1981).
243. Rosenfield, R.G., Baldwin, D., Dollar, L.A., Hinz, R.L., Olefsky, J.M., and Rubenstein, A.: Simultaneous inhibition of insulin and somatostatin-C binding to cultured IM-9 lymphocytes by naturally occurring antireceptor antibodies. **Diabetes** **30**: 979-982 (1981).
244. Baekkeskov, S., Kanatsuna, T., Klareskog, L., Nielsen, D.A., Peterson, P.A., Rubenstein, A.H., Steiner, D.F., and Lernmark, A.: Expression of major histocompatibility antigens on pancreatic islet cells. **Proc. Natl. Acad. Sci., USA** **78**: 6456-6460 (1981).
245. Lin, C-C., River, P., Moawad, A.H., Lowensohn, R.I., Blix, P.M., Abraham, M., and Rubenstein,
246. Rubenstein, A.H., Jaspan, J.B., Bergenstal, R., Polonsky, K.S., and Blix, P.M.: Clinical significance of circulating C-peptide. In: **Etiology and Pathogenesis of Insulin-Diabetes Mellitus**, edited by J.M. Martin, R.M. Ehrlich, and F.J. Holland, Raven Press, New York (1981).
247. Baldwin, D., Price, M., Tsai, P., Johnson, C., Lotan, R., Rubenstein, A., and Olefsky, J.: Insulin binding, internationalization and receptor regulation in cultured human fibroblast. **Am. J. Physiol.** **241**: E251-260 (1981).
248. Kanatsuna, T., Freedman, Z.R., Rubenstein, A.H., and Lernmark, A.: Effects of islet cell surface antibodies and complement on the release of insulin and chromium from perfused beta cells. **Clin. Exp. Immunol.** **47**: 85-92 (1981).
249. Jaspan, J.B., Wollman, R.L., Bernstein, L., and Rubenstein, A.H.: Hypoglycemic peripheral neuropathy in association with insulinoma: Implication of glucopenia rather than hyperinsulinism. **Am. J. Med.** **61**: 33-44 (1981).
250. Hidaka, H., Nagulesparan, M., Klimes, I., Clark, R., Sasaki, H., Aranoff, S.L., Vasquez, B., Rubenstein, A.H., and Unger, R.H.: Improvement of insulin secretion but not insulin resistance after short term control of plasma glucose in obese Type II diabetics. **J. Clin. Endocrinol. Metab.** **54**: 217-222 (1982).
251. Elahi, D., Nagulesparan, M., Hershcopf, R.J., Muller, D.C., Tobin, J.D., Blix, P.M., Rubenstein, A.H., Unger, R.H., and Andres, R.: Feedback inhibition of insulin secretion

- by insulin: Relation to the hyperinsulinemia of obesity. **New Engl. J. Med.** **306**: 1196-1202 (1982).
252. Bonnevie-Nielsen, V., Polonsky, K.S., Jaspan, J.B., Rubenstein, A.H., Schwartz, T.W., and Tager, H.S.: Surface receptors for pancreatic hormones in dog and rat hepatocytes: Qualitative and quantitative differences in hormone--target cell interactions. **Proc. Natl. Acad. Sci., USA** **79**: 2167-2171 (1982).
253. Blix, P.M., Boddie-Willis, C., Landau, R.L., Rochman, H., and Rubenstein, A.H.: Urinary C-peptide: An indicator of beta cell secretion under different metabolic conditions. **J. Clin. Endo. Metab.** **54**: 574-580 (1982).
254. Shoelson, S., Polonsky, K., Docherty, H., Jaspan, J., and Rubenstein, A.: Evidence for the presence of somatostatin 28 in plasma. **Diabetes** **31**: 474-477 (1982).
255. Scarlett, J.A., Kolterman, O.H., Moore, P., Saekow, M., Insel, J., Griffin, J., Mako, M., Rubenstein, A.H., and Olefsky, J.M.: Insulin resistance and diabetes due to a genetic defect in insulin receptors. **J. Endocrinol. Metab.** **55**: 123-132 (1982).
256. Widness, J.A., Cowett, R.M., Zeller, W.P., Susa, J.B., Rubenstein, A.H., and Schwartz, R.: Permanent neonatal diabetes in an infant of an insulin-dependent mother. **J. Peds.** **100**: 926-929 (1982).
257. Green, A., Tager, H., Rubenstein, A., Frank, B., and Olefsky, J.M.: Internalization and degradation of a low affinity insulin ([LeuB²⁴]insulin) by rat adipocytes. **FEBS Letter** **144**: 255-258 (1982).
258. Cooper, R.S., Goldberg, R.B., Trevisan, M., Tsong, Y., Liu, K., Stamler, J., Rubenstein, A., and Scanu, A.M.: The selective lipid-lowering effect of vegetarianism on low density lipoproteins in a cross-over experiment. **Atherosclerosis** **44**: 293-305 (1982).
259. Ipp, E., Piran, U., Richter, H., Garberoglio, C., Moossa, A., and Rubenstein, A.H.: Central control of peripheral circulating somatostatin in dogs: Effect of 2-deoxyglucose. **Am. J. Physiol.** **243**: E213-E216 (1982).
260. Jackson, R.A., Blix, P.M., Matthews, J.A., Hamling, J.B., Din, B.M., Brown, D.C., Belin, J., Rubenstein, A.H., and Nabarro, J.D.N.: Influence of ageing on glucose homeostasis. **J. Clin. Endocrinol. Metab.** **55**: 840-848 (1982).
261. Martin, M.J., Robbins, D.C., Bergenstal, R., LaGrange, B., and Rubenstein, A.H.: Absence of exercise-induced hypoglycaemia in Type I (insulin-dependent) diabetic patients during maintenance of normoglycaemia by short-term, open-loop insulin infusion. **Diabetologia** **23**: 337-342 (1982).
262. Roth, S.I., Schedewie, H.K., Bier, D.M., Conaway, H.H., Olefsky, J., Rubenstein, A., and Elders, M.J.: Hepatic ultrastructure in Leprechaunism. **Virchows Archiv.** **397**: 121-130 (1982).

263. Elders, M.J., Schedewie, H.K., Olefsky, J., Givens, B., Char, F., Bier, D.M., Baldwin, D., Fiser, R.H., Seyedabadi, S., and Rubenstein, A.H.: Endocrine-metabolic relationships in patients with Leprechaunism. **J. Natl. Med. Assn.** **74**: 1195-1210 (1982).
264. Ipp, E., Dhorajiwala, J., Pugh, W., Moossa, A.R., and Rubenstein, A.H.: Effects of an enkephalin analog on pancreatic endocrine function and glucose homeostasis in normal and diabetic dogs. **Endocrinology** **111**: 2110-2116 (1982).
265. Blei, A.T., Robbins, D.C., Drobny, E., Baumann, G., and Rubenstein, A.H.: Insulin resistance and insulin receptors in hepatic cirrhosis. **Gastroenterology** **83**: 1191-1199 (1982).
266. Polonsky, K., Bergenstal, R., Pons, G., Schneider, M., Jaspan, J., and Rubenstein, A.: Relation of counter-regulatory responses to hypoglycemia in Type I diabetics. **New Engl. J. Med.** **307**: 1106-1112 (1982).
267. Valenta, L.J., Eisenberg, H., Miller, D.R., Tanner, S.M., Romansky, S.G., Rubenstein, A.H., Mako, M.E., Cullen, B.F., Golden, M.P., and Elias, A.H.: The value of artificial beta cell in the management of insulinoma. **The Western Journal of Medicine** **137**: 67-75 (1982).
268. Joffe, B.I., Kew, M.C., Heding, L.G., Rubenstein, A.H., Pons, G., and Seftel, H.C.: Non-specific binding of insulin to gamma globulin in the serum of black patients with hepatocellular carcinoma and other forms of liver disease. **J. Lab. Clin. Med.** **100**: 445-450 (1982).
269. Judzewitsch, R.G., Jaspan, J.B., Polonsky, K.S., Weinberg, C.R., Halter, J.B., Haler, E., Pfeifer, M.A., Vukadinovic, C., Bernstein, L., Schneider, M., Liang, K., Gabbay, K.H., Rubenstein, A.H., and Porte Jr., D.: Aldose reductase inhibition improves nerve conduction velocity in diabetic patients. **N. Engl. J. Med.** **308**: 119-125 (1983).
270. Bergenstal, R.M., Polonsky, K.S., Pons, G., Jaspan, J.B., and Rubenstein, A.H.: Lack of glucagon response to hypoglycemia in Type I diabetics after long-term optimal therapy with a continuous subcutaneous insulin infusion pump. **Diabetes** **32**: 398-403 (1983).
271. Shoelson, S., Haneda, M., Blix, P., Nanjo, A., Sanke, T., Inouye, K., Steiner, D., Rubenstein, A., Tager, H.: Three mutant insulins in man. **Nature** **302**: 540-543 (1983).
272. Jackson, R.A., Blix, P., Matthews, J.A., Morgan, L.M., Rubenstein, A.H., and Nabarro, J.D.N.: Comparison of peripheral glucose uptake after oral glucose loading and a mixed meal. **Metabolism** **32**: 706-710 (1983).
273. Kwok, S.C.M., Steiner, D.F., Rubenstein, A.H., and Tager, H.S.: Identification of a point mutation
274. Polonsky, K., Jaspan, J., Pugh, W., Cohen, D., Schneider, M., Schwartz, T., Moossa, A.R., Tager, H., and Rubenstein, A.H.: Metabolism of C-peptide in the dog. **J. Clin.**

- Invest. 72:** 1114-1123 (1983).
275. Jaspan, J.B., Polonsky, K.S., and Rubenstein, A.H.: Glucagon and Renal Insufficiency. In: **Handbook of Experimental Pharmacology**, edited by P.J. Lefebvre, Vol. 66, Springer-Verlag, Berlin, Heidelberg (1983).
276. Chen, C., Glagov, S., Mako, M., Rochman, H., and Rubenstein, A.H.: Post-mortem glycosylated hemoglobin (HbA_{1c}): Evidence for a history of diabetes mellitus. **Ann. Clin. and Lab. Science 13:** 407-410 (1983).
277. Green, A., Frank, B.H., Rubenstein, A., Tager, H., and Olefsky, J.M.: Characteristics of binding of a low affinity, non-cooperative insulin ([Leu^{B25}]insulin) to IM-9. **Endocrinology 113:** 1963-1971 (1983).
278. Madsen, O.D., Cohen, R.M., Fitch, F.W., Rubenstein, A.H., and Steiner, D.F.: The production and characterization of monoclonal antibodies specific for human proinsulin using a sensitive microdot assay procedure. **Endocrinology 113:** 2135-2144 (1983).
279. Haneda, M., Chan, S.J., Kwok, S.C.M., Rubenstein, A.H., and Steiner, D.F.: Studies on mutant human insulin genes: Identification and sequence analysis of a gene encoding [Ser^{B24}]insulin. **Proc. Natl. Acad. Sci. USA 80:** 6366-6370 (1983).
280. Huen, A. H-J., Haneda, M., Freedman, Z., Lernmark, A., and Rubenstein, A.H.: Quantitative determination of islet cell surface antibodies using ¹²⁵I-protein A. **Diabetes 32:** 460-465 (1983).
281. Polonsky, K.S., Jaspan, J.B., and Rubenstein, A.H.: The Metabolic Clearance Rate of Glucagon. In: **Handbook of Experimental Pharmacology**, edited by P.J. Lefebvre, Vol. 66, Springer-Verlag, Berlin, Heidelberg (1983).
282. Jackson, R.A., Blix, P.M., Matthews, J.A., Peters, N., Pilkington, T.R.E., Rubenstein, A.H., and Nabarro, J.D.N.: Peripheral glucose uptake in young men with myocardial infarction. **Horm. Metabol. Res. 15:** 585-588 (1983).
283. Shoelson, S., Fickova, M., Haneda, M., Nahum, A., Musso, G., Kaiser, E.T., Rubenstein, A.H., and Tager, H.: Identification of a mutant human insulin predicted to contain a serine for phenylalanine substitution. **Proc. Natl. Acad. Sci., USA 80:** 7390-7394 (1983).
284. Steiner, D.F., Chan, S.J., Kwok, S.C.M., Konrad, M., Patzelt, C., Tager, H.S., and Rubenstein, A.H.: Formation of Islet Hormones. In: **Recent Advances in Obesity and Diabetes Research**, edited by N. Melchionda et al., Raven Press, New York (1984).
285. Robbins, D.C., Shoelson, S.E., Rubenstein, A.H., and Tager, H.S.: Familial hyperproinsulinemia: Two cohorts secreting indistinguishable Type II intermediates of proinsulin conversion. **J. Clin. Invest. 73:** 714-719 (1984).
286. Jones, L.A., Teramoto, T., Juhn, D.J., Goldberg, R.B., Rubenstein, A.H., and Getz, G.S.:

- Characterization of lipoprotein produced by the perfused rhesus monkey liver. **J. Lipid Res. 25:** 319-335 (1984).
287. Shoelson, S.E., Polonsky, K.S., Zeidler, A., Rubenstein, A.H., and Tager, H.S.: Human insulin B24 (Phe --> Ser) secretion and metabolic clearance of the abnormal insulin in man and in a dog model. **J. Clin. Invest. 73:** 1351-13358 (1984).
288. Haneda, M., Polonsky, K.S., Bergenstal, R.M., Jaspan, J.B., Shoelson, S.E., Blix, P.M., Wishner, W.B., Olefsky, J.M., Freidenberg, G., Tager, H.S., Steiner, D.F., and Rubenstein, A.H.: Familial hyperinsulinemia due to a structurally abnormal insulin: Definition of an emerging new clinical syndrome. **New Engl. J. Med. 310:** 1288-1289 (1984).
289. Herold, K.C., Huen, A.H-J., Rubenstein, A.H., and Lernmark, A.: Humoral abnormalities in Type I (insulin-dependent) diabetes mellitus. In: **Immunology in Diabetes**, edited by D. Andreani, U. DiMario, K.F. Federlin, and L.G. Heding. Kimpton Medical Publications, Edinburgh, London, pp. 105-119 (1984).
290. Bergenstal, R., Cohen, R.M., Lever, E., Polonsky, K., Jaspan, J., Blix, P., Revers, R., Olefsky, J.M., Kolterman, O., Steiner, K., Cherrington, A., Frank, B., Galloway, J., and Rubenstein, A.H.: The metabolic effects of biosynthetic human proinsulin in individuals with Type I diabetes. **J. Clin. Endocrinol. Metab. 58:** 973-979 (1984).
291. Revers, R.R., Henry, R., Schmeiser, L., Kolterman, O., Cohen, R., Rubenstein, A., Frank, B., Galloway, J., and Olefsky, J.M.: Biosynthetic human insulin and proinsulin have additive but not synergistic effect on total body glucose disposal. **J. Clin. Endocrinol. Metab. 58:** 1094-1098 (1984).
292. Cooper, R., Allen, A., Goldberg, R., Trevisan, M., Van Horn, L., Liu, K., Steinhauer, M., Rubenstein, A., and Stamler, J.: Seventh-Day Adventist adolescents--Lifestyle patterns and cardiovascular risk factors [Preventive Medicine]. **West J. Med. 140:** 471-477 (1984).
293. Robbins, D.C., Tager, H.S., and Rubenstein, A.H.: Biological and clinical significance of proinsulin. **New Engl. J. Med. 310:** 1165-1175 (1984).
294. Polonsky, K.S., and Rubenstein, A.H.: C-peptide as a measure of the secretion and hepatic extraction of insulin: Pitfalls and limitations. **Diabetes 33:** 486-494 (1984).
295. Kuzuya, H., Tanigawa, K., Imura, H., Blix, P.M., and Rubenstein, A.H.: Clinical significance of circulating C-peptide in Type I and II diabetes. In: **Recent Advances in Obesity and Diabetes Research**, edited by N. Melchionda et al., Raven Press, New York, pp. 139-150 (1984).
296. Herold, K.C., Huen, A., Gould, L., Traisman, H., and Rubenstein, A.H.: Alterations in lymphocyte subpopulations in Type I (insulin-dependent) diabetes mellitus: Exploration of possible mechanisms and relationships to autoimmune phenomena. **Diabetologia 27:** 102-105 (1984).

297. Revers, R.R., Henry, R., Schmeiser, L., Kolterman, O., Cohen, R., Bergenstal, R., Polonsky, K., Jaspan, J., Rubenstein, A., Frank, B., Galloway, J., and Olefsky, J.M.: The effects of biosynthetic human proinsulin on carbohydrate metabolism. **Diabetes 33:** 762-770 (1984).
298. The Kroc Collaborative Study Group. Blood glucose control and the evolution of diabetes retinopathy and albuminuria. A Preliminary Multicenter Trial. **New Engl. J. Med. 311:** 365-372 (1984).
299. Ipp, E., Garberoglio, C., Richter, H., Moossa, A.R., and Rubenstein, A.H.: Naloxone decreases centrally induced hyperglycemia in dogs. **Diabetes 33:** 619-621 (1984).
300. Kruse, V., Heding, L.G., Jorgensen, K.H., Tronier, B., Christensen, M., Thim, L., Frank, B.H., Root, M.A., Cohen, R.M., and Rubenstein, A.H.: Human proinsulin standards. **Diabetologia 27:** 414-415 (1984).
301. Fless, G.M., Juhn, D., Karlin, J., Rubenstein, A., Scanu, A.M.: Response of rhesus serum high density lipoproteins to cycles of diet induced hypercholesterolemia. **Arteriosclerosis 4:** 154-164 (1984).
302. Polonsky, K.S., Pugh, W., Jaspan, J.B., Cohen, R.M., Karrison, T., Tager, H.S., and Rubenstein,
303. Jones, L.A., Teramoto, T., Juhn, D.J., Goldberg, R.B., Rubenstein, A.H., and Getz, G.S.: Characterization of lipoprotein produced by the perfused rhesus monkey liver. **J. Lipid Res. 25:** 319-335 (1984).
304. Cohen, R.M., Nakabayashi, T., Blix, P.M., Rue, P.A., Shoelson, S.E., Root, M.A., Frank, B.H., Revers, R.R., and Rubenstein, A.H.: A radioimmunoassay for circulating human proinsulin. **Diabetes 34:** 84-91 (1985).
305. Garvey, W.T., Revers, R.R., Kolterman, O.G., Rubenstein, A.H., and Olefsky, J.M.: Modulation of insulin secretion by insulin glucose in Type II diabetes mellitus. **J. Clin. Endocrinol. Metab. 60:** 559-568 (1985).
306. Given, B.D., Cohen, R.M., Shoelson, S.E., Frank, B.H., Rubenstein, A.H., and Tager, H.S.: Biochemical and clinical implications of proinsulin conversion intermediates. **J. Clin. Invest. 76:** 1398-1405 (1985).
307. Bergenstal, R.M., Dupre, J., Lawson, P.M., Rizza, R.A., and Rubenstein, A.H.: (For the Kroc Collaborative Study Group). Observations on C-peptide and free insulin in the blood during continuous subcutaneous insulin infusion and conventional insulin therapy. **Diabetes 34 (Suppl. 3):** 31-36 (1985).
308. Gilden, J., and Rubenstein, A.H.: Medical Evaluation of Diabetes Mellitus. In: **Practical Management of Diabetic Retinopathy**, by Peter Hodges Morse. Published by Appleton-Century-Crofts, Norwalk, Connecticut, pp. 5-23 (1985).

309. Cohen, R.M., Polonsky, K.S., Frank, B.H., Galloway, J.A., Bergenstal, R.M., and Rubenstein, A.H.: Human Proinsulin: A Product of Modern Technology. **In: Topics in Pharmaceutical Sciences**, editors D.D. Breimer and P. Speiser, Elsevier Science Publishers, pp. 71-84 (1985).
310. Rubenstein, A.H.: Molecular defects and the etiology of diabetes. **The Journal of the Japan Diabetes Society, 28:** 1295-1305 (1985).
311. Given, B.D., Rubenstein, A.H.: Metabolic emergencies in diabetics: The first 24 hours. **J. Crit. Illness 1:** 22-29 (1986).
312. Glauber, H.S., Revers, R.R., Henry, R., Schmeiser, L., Wallace, P., Kolterman, O.G., Cohen, R.M., Rubenstein, A.H., Galloway, J.A., Frank, B.F., and Olefsky, J.M.: In vivo deactivation of proinsulin action on glucose disposal and hepatic production in normal man. **Diabetes 35:** 311-317 (1986).
313. Nanjo, K., Sanke, T., Miyano, M., Okai, K., Sowa, R., Kondo, M., Nishimura, S., Iwo, K., Miyamura, K., Given, B.D., Chan, S.J., Tager, H.S., Steiner, D.F., and Rubenstein, A.H.: Diabetes due to secretion of a structurally abnormal insulin (Insulin Wakayama), **J. Clin. Invest. 77:** 514-519 (1986).
314. Polonsky, K., Frank, B., Pugh, W., Addis, A., Karrison, T., Meier, P., Tager, H., and Rubenstein, A.: The limitations to and valid use of C-peptide as a marker of the secretion of insulin. **Diabetes 35:** 379-386 (1985).
315. Polonsky, K.S., Given, B.D., Pugh, W., Licinio-Paixao, J., Thompson, J.E., Karrison, T., and Rubenstein, A.H.: Calculation of the systemic delivery rate of insulin in normal man. **J. Clin. Endocrinol. Metab. 63:** 113-118 (1986).
316. Shoelson, S.E., Marshall, S., Horikoshi, H., Kolterman, O.G., Rubenstein, A.H., and Olefsky, J.M.: Anti-insulin receptor antibodies in an insulin-dependent diabetic may arise as autoanti-idiotypes. **J. Clin. Endocrinol. Metab. 63:** 56-61 (1986).
317. Licinio-Paixao, J., Polonsky, K.S., Given, B.D., Pugh, W., Ostrega, D., Frank, B.F., and Rubenstein, A.H.: Ingestion of a mixed meal does not affect the metabolic clearance rate of biosynthetic human C-peptide. **J. Clin. Endocrinol. Metab. 63:** 401-403 (1986).
318. Cohen, R.M., Given, B.D., Licinio-Paixao, J., Provow, S.A., Rue, P.A., Frank, B.H., Root, M.A., Polonsky, K.S., Tager, H.S., and Rubenstein, A.H.: Proinsulin radioimmunoassay in the evaluation of insulinomas and familial hyperproinsulinemia. **Metabolism 35:** 1137-1146
319. Steiner, D.F., Chan, S.J., Welsh, J.M., Nielsen, D., Michael, J., Tager, H.S., and Rubenstein, A.H.: Models of peptide biosynthesis: The molecular and cellular basis of insulin production. **Clinical and Investigative Medicine 9:** 328-336 (1986).
320. Mako, M.E., and Rubenstein, A.H.: Insulin and Diabetes. In: **Transactions of the**

- Association of American Physicians, Vol. XCIX**, 99th Session, May 2-5, 1986, pp. clxxxix-cciii.
321. Nanjo, K., Sanke, T., Kondo, M., Nishimura, S., Miyano, M., Linuma, J., Miyamura, K., Inouye, K., Given, B., Polonsky, K., Chan, S., Tager, H., Steiner, D., and Rubenstein, A.H.: Mutant Insulin Syndrome: Identification of Two Families with [Leu^{A3}]insulin and determination of its biological activity. In: **Transactions of the Association of American Physicians, Vol. XCIX**, 99th Session May 2-5, 1986, pp. 132-142.
 322. Hagglof, B., Rabinovitch, A., MacKay, P., Huen, A., Rubenstein, A.H., Marnier, B., Nerup, P., and A. Lernmark: Islet cell and other organ-specific autoantibodies in healthy first-degree relatives to insulin-dependent. **Acta Paediat. Scand.** **75**: 611-618 (1986).
 323. Lavelle-Jones, M., Scott, M.H., Kolterman, O., Rubenstein, A.H., Olefsky, J.M., and Moossa, A.R.: Selective suppression of hepatic glucose output by human proinsulin in the dog. **Am. J. Physiol.** **252**: E-230-#236 (1987).
 324. Cohen, R.M., Licinio, J., Polonsky, K.S., Galloway, J.A., Frank, B.H., Cherrington, A.D., and Rubenstein, A.H.: The effect of biosynthetic human proinsulin on the hepatic response to glucagon in insulin-deficient diabetes. **J. Clin. Endocrinol. and Metab.** **64**: 476-481 (1987).
 325. Nanjo, K., Miyano, M., Kondo, M., Sanke, T., Nishimura, S., Miyamura, K., Inouye, K., Given, B.D., Chan, S.J., Polonsky, K.S., Tager, H.S., Steiner, D.F., and Rubenstein, A.H.: Insulin Wakayama: Familial mutant insulin syndrome in Japan. **Diabetologia** **30**: 87-92 (1987).
 326. Shapiro, E.T., Tillil, H., Miller, M.A., Frank, B.H., Galloway, J.A., Rubenstein, A.H., and Polonsky, K.S.: Insulin secretion and clearance. Comparison after oral and intravenous glucose. **Diabetes** **36**: 1365-1371 (1987).
 327. Casper, R.C., Ganshyam, N.P., Jaspan, J.B., and Rubenstein, A.H.: Hormone and metabolite plasma levels after oral glucose in bulimia and healthy controls. **Biol. Psychiatry** **24**: 663-674 (1988).
 328. Herold, K.C., and Rubenstein, A.H.: Immunosuppression for insulin-dependent diabetes. **N. Engl. J. Med.** **318**: 701-703 (1988).
 329. Tillil, H., Shapiro, E.T., Miller, M.A., Karrison, T., Frank, B.H., Galloway, J.A., Rubenstein, A.H., and Polonsky, K.S.: Dose-dependent effects of oral and intravenous glucose on insulin secretion and clearance in normal humans. **Am. J. Physiol.** **254** (**Endocrinol. Metab.** **17**): E349-E357 (1988).
 330. The Kroc Collaborative Study Group. Diabetic retinopathy after two years of intensified insulin treatment. **JAMA** **260**: 37-41 (1988).
 331. Garvey, W.T., Olefsky, J.M., Rubenstein, A.H., and Kolterman, O.G.: Day-long integrated serum insulin and C-peptide profiles in patients with Type II diabetes mellitus:

- Correlation with urinary C-peptide excretion. **Diabetes** **37**: 590 (1988).
332. Tillil, H., Shapiro, E.T., Given, B.D., Rue, P., Rubenstein, A.H., Galloway, J.A., and Polonsky, K.S.: Reevaluation of urine C-peptide as measure of insulin secretion. **Diabetes** **37**: 1195-1201 (1988).
 333. Shapiro, E.T., Tillil, H., Polonsky, K.S., Fang, V.S., Rubenstein, A.H., and Van Cauter, E.: Oscillations in insulin secretion during constant glucose infusion in normal man: Relationship to changes in plasma glucose. **J. Clin. Endocrinol. Metab.** **67**: 307-324 (1988).
 334. Given, B.D., Mostrom, M.S., Tully, R., Ditkowsky, N., Rubenstein, A.H.: Severe hypoglycemia attributable to surreptitious injection of insulin in a mare. **JAVMA** **193**: 224-226 (1988).
 335. Tillil, H., Shapiro, E.T., Rubenstein, A.H., Galloway, J.A., and Polonsky, K.S.: Reduction of insulin clearance during hyperglycemic clamp. **Diabetes** **37**: 1351-1357 (1988).
 336. Casper, R.C., Pandey, G., Jaspan, J.B., and Rubenstein, A.H.: Eating attitudes and glucose tolerance in anorexia nervosa patients at 8-year followup compared to control subjects. **Psychiatry Research** **25**: 283-299 (1988).
 337. Shapiro, E.T., Tillil, H., Rubenstein, A.H., and Polonsky, K.S.: Peripheral insulin parallels changes in insulin secretion more closely than C-peptide after bolus intravenous glucose administration. **J. Clin. Endocrinol. Metab.** **67**: 1094-1099 (1988).
 338. Carroll, R.J., Hammer, R.E., Chan, S.J., Swift, H.H., Rubenstein, A.H., and Steiner, D.F.: A mutant human proinsulin is secreted from islets of Langerhans in increased amounts via an unregulated pathway. **Proc. Natl. Acad. Sci. USA** **85**: 8943-8947 (1988).
 339. Sanke, T., Bell, G.I., Sample, C., Rubenstein, A.H., and Steiner, D.F.: An islet amyloid peptide is derived from an 89-amino acid precursor by proteolytic processing. **The Journal of Biological Chemistry** **263**: 17243-17246 (1988).
 340. Shapiro, E.T., Van Cauter, E., Tillil, H., Given, B.D., Hirsch, L., Beebe, C., Rubenstein, A.H., and Polonsky, K.S.: Glyburide enhances the responsiveness of the beta cell to glucose but does not correct the abnormal patterns of insulin secretion in non-insulin dependent diabetes mellitus. **J. Clin. Endocrinol. Metab.** **69**: 571-576 (1989).
 341. Shapiro, E.T., Bell, G.I., Polonsky, K.S., Rubenstein, A.H., Kew, M.C., and Tager, H.S.: Tumor hypoglycemia: Relationship to high Molecular weight insulin-like growth factor-II. **J. Clin. Invest.** **85**: 1672-1679 (1990).
 342. Steiner, D.F., Tager, H.S., Chan, S.J., Nanjo, K., Sanke, T., and Rubenstein, A.H.: Lessons learned from molecular biology of insulin-gene mutations. **Diabetes Care** **13**: 600-609 (1990).

343. Wojcikowski, C., Blackman, J., Ostrega, D., Lewis, G., Galloway, J., Rubenstein, A.H., and Polonsky, K.S.: Lack of effect of high-dose biosynthetic human C-peptide on pancreatic hormone release in normal subjects. **Metabolism** **39**: 827-832 (1990).
344. Beebe, C., Van Cauter, E., Shapiro, E.T., Tillil, H., Lyon, R., Rubenstein, A.H., Polonsky, K.S. Effect of Temporal Distribution of Calories on Diurnal Patterns of Glucose Levels and Insulin Secretion in NIDDM.: **Diabetes Care** **13**: 748-755 (1990).
345. Tillil, H., Frank, B.H., Pekar, A.H., Broelsch, C., Rubenstein, A.H., Polonsky, K.S. Hypoglycemic potency and metabolic clearance rate of intravenously administered human proinsulin and metabolites. **Endocrinology** **127**: 2418-2422 (1990)
346. Rubenstein, A.H.: Reflections on Residency Training: 1991. **Journal of General Internal Medicine** **7**: 217-220 (1992).
347. Herold, K.C. and Rubenstein, A.H: New Directions in the Immunology of Autoimmune Diabetes. **Ann. Int. Med.** **117**: 436-438 (1992).
348. Lernmark, A., Morris, P.J. and Rubenstein, A.H. Diabetes and Frontiers Research. Report from the Third JDF World Conference on Diabetes Research, Monte Carlo, Monaco (8-10 March, 1992). **Diabetologia** **35** (Supplement 2): A9-A11 (1992).
349. Glickman, R.M., Bennett, J.C., Nolan, J.P., Stobo, J.D. Rubenstein, A., and Terwilliger, J.: Fostering New Relationship between Departments of Medicine and Teaching Hospitals. **Academic Medicine** **68**: 276-277 (1993).
350. Glickman, R.M., Bennett, J.C., Nolan, J.P., Stobo, J.D., Rubenstein, A.H., Mufson, M.A., and Terwilliger, J.: United We Stand. **Annals of Internal Medicine.** **118**: 903-904 (1993).
351. Oohashi, H., Ohgawara, H., Nanjo, K., Tasaka, Y. Cao, Q.P., Chan, S.J., Rubenstein, A.H., Steiner, D.F. and Omori, Y.: Familial hyperproinsulinemia associated with NIDDM: A case study. **Diabetes Care.** **16**: 1340-1346 (1993).
352. Elahi, D., McAloon-Dyke, M., Fukagawa, N.K., Sclater, A.L., Wong, G.A., Shannon, R.P., Minaker, K.L., Miles, J.M., Rubenstein, A.H., Vandepol, C.J., Guler, H., Good, W.R., Seaman, J.J. and Wolfe., R.R.: Effects of recombinant human IGF-I on glucose and leucine kinetics in men. **Am. J. Physiol.** **265** (**Endocrinol. Metab.** **28**): E831-E838 (1993).
353. Davidson, M.B., Piziak, V., Rubenstein, AH. and Wishner, K. Real-world Management of Type II Diabetes. **Patient Care** **15**: 68-86 (1994).
354. Davidson, M.B., Piziak, V., Rubenstein, AH. and Wishner, K. Type II Diabetes: Real-world Management. **JAAPA** 46-56 (1994).
355. Steiner, D.F., Tager, H.S., Nanjo, K., Chan, S.J. and Rubenstein, A.H. Familial

- Syndrome of Hyperproinsulinemia and Hyperinsulinemia with and Mild Diabetes. **The Metabolic and Molecular Bases of Inherited Disease Vol 1 (Chapter 22)**, 897-904. Edited by C. R. Scriver, A. L. Beaudet, W. S. Sly and D. Valle, (1995).
356. **Endocrinology Third Edition, 1995**. Edited by L.J. DeGroot, Co-Editors: Besser, M., Burger, HG., Jameson, J.L., Loriaux, D.L., Marshall, J.C., Odell, W.D., Potts, Jr., J.T., Rubenstein, A.H. published by W. B. Saunders Company, Philadelphia, PA, (1995).
357. Steiner, D.F., Bell, G.I., Tager, H.S. and Rubenstein, A.H.: Chemistry and biosynthesis of the Islet Hormones: Insulin, Islet Amyloid Polypeptide, (AMYLIN), Glucagon, Somatostatin and pancreatic Polypeptide. In: **Endocrinology Third Edition Vol 2 (Chapter 76)**: 1296-1328, Edited by L.J. DeGroot, et al., published by W. B. Saunders Company, Philadelphia, PA, (1995).
358. Bergenstall, R.M. and Rubenstein, A.H.: Diabetes Mellitus: Therapy In: **Endocrinology Third Edition Vol 2 (Chapter 86)**: 1482-1505, Edited by L.J. DeGroot, et al., published by W. B. Saunders Company, Philadelphia, PA, (1995).
359. Rubenstein, A.H. Clinical Crossroads. A 64 year old man with adult onset diabetes. **JAMA 276**: 816-822 (1996).
360. Rubenstein, A.H. Association of American Physicians: Presidential Address. **Proc. Ass. Amer. Phys. 108**: 390-397 (1996).
361. Steiner, D.F. and Rubenstein, A.H. Proinsulin C-Peptide-Biological Activity? **Science 277**: 531-532, (1997).
362. Butler, R., Rubenstein, A., Gracia, A., Zweig, S. Type 2 diabetes: causes, complications, and new screening recommendations. **Geriatrics 53**: 47-50, 53-54 (1998)
363. Butler, R., Rubenstein, A., Gracia, A., Zweig, S. Type 2 diabetes: treatment goals and pharmaceutical therapies. **Geriatrics 53**: 42-48, 51 (1998).
364. Butler, R., Rubenstein, A., Gracia, A., Zweig, S. Type 2 diabetes: patient education and home blood glucose monitoring. **Geriatrics 53**: 60, 63-4, 67 (1998).
365. Levinson, W., Rubenstein, A. Mission critical—integrating clinician-educators into academic medical centers. **NEJM 341**: 840-843 (1999).
366. Alberts, B., Ayala, F., Botstein, D., Frank, E., Holmes, E., Lee, R., Macagno, E., Marrack, P., Oparil, S., Orkin, S., Rubenstein, A., Slayman, C., Sparling, P., Squire, L., von Hippel, P., Yamamoto, K. Proposed changes for NIH's Center for Scientific Review. Panel on Scientific Boundaries for Review. Center for Scientific Review Advisory Committee, National Institutes of Health. **Science 285**: 666-7 (1999).
367. Levinson W., Rubenstein A. H. Integrating Clinician-Educators into Academic Medical Centers: Challenges and Potential Solutions **Academic Medicine 75**: 906-912 (2000).

368. Bickel J. Wara D. Atkinson BF. Cohen LS. Dunn M. Hostler S. Johnson TR. Morahan P. Rubenstein AH. Sheldon GF. Stokes E. Association of American Medical Colleges Project Implementation Committee. Increasing women's leadership in academic medicine: report of the AAMC Project Implementation Committee. **Acad Med.** **77**:1043-61 (2002).
369. Rubenstein A.H. The implications of professionalism for medical education (Presented at the Issues in Medical Ethics 2000 Conference at the Mount Sinai School of Medicine, New York, NY on November 3, 2000.) **Mt. Sinai J Med.** **69 (6)**: 415-417 (2002).
370. **Integrity in Scientific Research: Creating an Environment that Promotes Responsible Conduct** (Rubenstein A.H.: Chair of Committee). Institute of Medicine/National Research Council, The National Academies Press, Washington, DC, 2002.
371. A New Paradigm for Medical Education. Blue Ridge Group. (Rubenstein A.H.: Contributor to the volume). 2003.
372. Rubenstein A.H. Obesity: A Modern Epidemic. **Transactions of the American Clinical and Climatological Association.** **116**: 103-111 (2005).
373. Schwartz M.D., Basco W.T., Grey M.R., Elmore J.G., Rubenstein A. Rekindling Student Interest in Generalist Careers. **Ann Intern Med.** **142**:715-724 (2005).
374. Crowley W. C., Courtney J., Jameson L., Pardes H., Moskowitz J., Orringer E., Wood A., Rettig R., Rubenstein A.H. The Clinical Research Forum and Association of American Physicians disagree with criticism of the NIH Roadmap. **Journal of Clinical Investigation Journal (JCI).** **116**: (8) 2058-2059 (2006).
375. Bowman M.A., Rubenstein A.H., Levine A.S. Clinical Revenue Investment in Biomedical Research: Lessons from Two Academic Medical Centers. **JAMA.** **297**: 2521-2524 (2007).
376. Wasserstein A.G., Brennan P.J., Rubenstein A.H. Institutional Leadership and Faculty Response: Fostering Professionalism at the University of Pennsylvania School of Medicine. **Acad Med.** **82**: 1049-56 (2007).
377. Iqbal N., Rubenstein A.H. Does Lowering of Blood Glucose Improve Cardiovascular Morbidity and Mortality? **Clin J Am Soc Nephrol** **3**:163-7 (2008).
378. Phillips S.E., Rubenstein A.H. The Changing Relationship between Academic Health Centers and Their Universities: A Look at the University of Pennsylvania. **Acad Med** **83** 861-866 (2008).
379. Hendricks J., Newton C.D., Rubenstein A.H. One Medicine, 'One Medicine – One Health at the School of Veterinary Medicine of the University of Pennsylvania – the first 125 years. **Veterinaria Italiana.** **Vet Ital** **45 (1)**: 183-194 (2009).

380. Hecker T.R., Mulhern V.A., Rubenstein A.H. Mentoring Research Faculty in Academic Medicine: Opportunities, Challenges, and Best Practice. Mentoring in Academic Medicine. 163-177. (2010) [American College of Physicians: Teaching Medicine Series]
381. Rubenstein A.H. Aligning Cultural and Financial Incentives for Clinical Trails. Institute of Medicine Forum on Drug Discovery, Development and Translation (2012).

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