

CURRICULUM VITAE

ARTHUR PATRICK GROLLMAN

Present Position

Distinguished Professor, Department of Pharmacological Sciences
Professor, Department of Medicine
School of Medicine, Health Science Center
Stony Brook University, Stony Brook NY 11794

Education

B.A., Chemistry, University of California at Berkeley, 1955
M.D., Johns Hopkins University School of Medicine, 1959

Academic Appointments

- 2019- Adjunct Professor, Cancer Biology, Johns Hopkins University
School of Medicine
- 2007-2008 Visiting Scholar, U. of Washington, Department of Pathology;
Visiting Professor, New York University, Department of Pharmacology.
- 2003- Distinguished Professor of Pharmacological Sciences
Stony Brook University
- 1998-1999 Visiting Professor, Weizmann Institute of Science, Department of Structural
Biology, Rehovot, Israel; Visiting Professor, Hebrew University, Department of
Chemistry, Jerusalem, Israel; Visiting Scientist, Stanford University,
Department of Medical Informatics
- 1994-1996 Associate Dean for Scientific Affairs, SUNY Stony Brook
- 1993-2003 Leading Professor of Pharmacological Sciences
- 1993 - Director, Leo and Judy Zickler Laboratory of Chemical Biology
- 1990-1991 Visiting Professor: Stanford University, Department of Biology; University of
California at San Francisco, Computer Graphics Laboratory; Visiting Scientist,
National Cancer Research Institute, Tokyo, Japan
- 1983-1984 Visiting Professor, Johns Hopkins University School of Medicine
Department of Molecular Biology and Genetics, Baltimore, Maryland
- 1974-2000 Chairman, Department of Pharmacological Sciences
Stony Brook University
Evelyn Glick Professor of Experimental Medicine
- 1974-1993 Professor of Pharmacological Sciences, Stony Brook University
- 1974 - Professor of Medicine, Stony Brook University

- 1972-1973 Associate Dean for Scientific and Administrative Affairs, Albert Einstein College of Medicine
- 1971-1974 Professor of Pharmacology, Albert Einstein College of Medicine
- 1969-1974 Associate Professor of Molecular Biology and Associate Professor of Medicine, Albert Einstein College of Medicine
- 1968-1971 Associate Professor of Pharmacology, Albert Einstein College of Medicine
- 1966-1969 Assistant Professor of Medicine and Assistant Professor of Molecular Biology, Albert Einstein College of Medicine
- 1963-1966 Associate in Molecular Biology and Medicine, Albert Einstein College of Medicine

Non-Academic Appointments

- 1963-1971 Career Scientist of the Health Research Council of the City of New York
- 1961-1963 Senior Surgeon, U.S. Public Health Service
- 1961-1963 Research Associate, National Institute for Arthritis and Metabolic Diseases, National Institutes of Health

Clinical Appointments

- 1974-2000 Attending Physician, Northport Veterans Administration Hospital and Stony Brook University Hospital
- 1969-1974 Associate Attending Physician, Bronx Municipal Hospital Center and the Hospital of the Albert Einstein College of Medicine, Bronx, New York
- 1963-1969 Assistant Attending Physician, Bronx Municipal Hospital Center and Lincoln Hospital, Bronx, New York
- 1961-1963 Attending Physician (OPD), Johns Hopkins Hospital, Baltimore, Maryland
- 1959-1961 Intern and Resident in Internal Medicine, Johns Hopkins Hospital, Baltimore, Maryland

Honors

- Phi Beta Kappa
- Henry Strong Dennison Scholar in Physiological Chemistry
- American Cancer Society Scholar in Cancer Research (1983, 1991)
- Hnilica Memorial Lecturer, Vanderbilt University
- Engbretson Lecturer
- MERIT Award, National Cancer Institute
- Forsheim Professor, Weizmann Institute of Science (1998)
- Lady Davis Professor, Hebrew University of Jerusalem (1999)
- Johns Hopkins Society of Scholars
- Environmental Mutagen Society Award (2011)
- Fellow: Institute for Science in Medicine
- International Lectureship, Princess Takamatsu Cancer Research Fund (2014)

Founders Award, ACS Division of Chemical Toxicology (2015)
Distinguished Alumnus Johns Hopkins University (2016)
National Academy of Inventors (2018)

Editorial Boards

DNA Repair (2002 -)
Chemical Research in Toxicology (1994-1996)
Cancer Research (1985-1989)

Professional Activities

2012-2013 National Academy of Sciences-National Research Council, Review of the Styrene Assessment in the National Toxicology Program

2008-2009 National Toxicology Program: Chair: Aristolochic Acid-Related Exposures Expert Panel: 12th Report on Carcinogens

2007-2011 National Institute for Environmental Health Sciences: Environmental Health Sciences Review Committee

2001-2006 National Institute for Environmental Health Sciences: Board of Scientific Counselors,

1997- 1999 Swartz Institute for Computational Neurobiology: Board of Directors

1996-1999 American Association of Medical Colleges: Executive Committee

1995-1999 American Association of Medical Colleges: Council of Academic Societies: Ad Board

1995-1996 Lawrence Livermore Biology and Biotechnology Research Program: Advisory Board

1993-2008 National Caucus of Basic Biomedical Chairs

1992-1994 American Cancer Society: Board of Directors

1990-1994 National Institutes of Health: Chemical Pathology Study Section

1990- 2000 American Association of Medical Colleges: Council of Academic Societies

1990-1999 U.S.-Japan Medical Research Committee: Panel on Environmental Mutagenesis and Carcinogenesis

1983-1987 American Cancer Society: Advisory Council

1981-1985 Damon Runyon/Walter Winchell Cancer Fund: Scientific Advisory Committee

1975-1979 National Amyotrophic Lateral Sclerosis Foundation: Advisory Council and Grants Review Board

- 1975-1978 American Heart Association—New York Affiliate: Advisory Council
- 1971-1976 National Academy of Sciences—National Research Council, Drug Research Board. Committee on Problems of Drug Safety
- 1971-1973 National Institutes of Health—Advisory Committee on Antiviral Substances
- 1970-1974 National Institutes of Health, Pharmacology B Study Section
- 1966-1970 National Institutes of Health, Committee on Chemical-Biological Data Handling

Professional Societies

American Association for Advancement of Science

American Society of Biological Chemists

American Physiological Society

American Society for Microbiology

American Society for Clinical Investigation

American Chemical Society

Environmental Mutagen Society

Infectious Disease Society

New York Academy of Sciences

American Society for Pharmacology and Experimental Therapeutics: Chairman, Program Committee (1970-1973); Executive Committee, Division of Clinical Pharmacology (1969-1972); Public Affairs Committee (1996-2000)

American Society for Cancer Research, Program Committee (1986-1989); Public Affairs Committee (1990-1993)

Invited Lectures (2005 – 2018)

2005

- University of California at San Diego, San Diego, CA
- National Institutes of Health: Conference on Dietary Supplements, Coagulation, and Antithrombotic Therapies, Bethesda, MD
- International Environmental Mutagen Society, 36th Annual Meeting, San Francisco, CA
- Chungnam University, Korea
- International Symposium on Toxicogenomics, Korea
- 2nd EU-US DNA Repair Meeting: Endogenous Stress, Base Excision Repair, and Related Processes. Erice, Italy

2006

- University of Cambridge, Cambridge, England
- Brown University, Providence, RI
- International Conference: Recent Advances in Endemic Nephropathy: Role of toxins in an environmental disease, Zagreb, Croatia
- North Dakota State University
- Mayo Clinic, Rochester, MN
- New York Medical College, Valhalla, NY
- University of Washington, Seattle, WA

2007

- University of British Columbia, Vancouver, Canada
- Simon Fraser University, Vancouver, Canada
- University of California at Berkeley, Berkeley, California
- International Conference: "Balkan Endemic Nephropathy and Associated Urothelial Cancer", Belgrade, Serbia

2008

- Brookhaven National Laboratory (Distinguished Lecture Series)
- Nelson Institute of Environmental Medicine, Tuxedo, NY
- New York University School of Medicine, Department of Medicine, New York, NY

2009

- National Institute on Aging, Baltimore, MD
- International Conference on Environmental Mutagens (ICEM), Firenze, Italy
- Center for Inherited Disease Research, Johns Hopkins University, Baltimore, MD

2010

- Université Libre de Bruxelles, Brussels, Belgium
- Université Catholique de Louvain, Brussels, Belgium
- Erasmus University, Rotterdam, The Netherlands
- European Renal Association, 3rd Congress of Nephrology, Sarajevo, Bosnia
- Center for Molecular Toxicology, Vanderbilt University School of Medicine, Nashville, TN
- Pharmaceuticals in Historical Context. U of Wisconsin, Madison WI
- New York University School of Medicine, Department of Pathology, New York, NY

2011

- Columbia University School of Public Health, New York, NY
- Columbia University School of Medicine, Renal Grand Rounds, New York, NY
- Cold Spring Harbor Asia, Suzhou, China
- Environmental Mutagen Society, Award Lecture, Montreal, Canada
- International Agency for Research on Cancer, Lyon, France
- World Congress of Nephrology, Vancouver, BC

2012

- Weill Cornell Medical School, OB/GYN Grand Rounds, New York, NY
- Weill Cornell Medical School, Urology Grand Rounds, New York, NY
- Society of Urologic Oncology, Bethesda, MD

2013

- Albert Einstein College of Medicine, New York, NY
- Annual Meeting, American Urological Association (Plenary Lecture), San Diego, CA
- British Association of Urological Surgeons, Manchester, United Kingdom
- Gordon Research Conference on Drug Metabolism, Holderness, NH
- International Cancer Symposium, Keynote Lecture, Taipei, Taiwan

- Princess Takamatsu Cancer Research 44th International Symposium

2014

- University of Minnesota, Masonic Cancer Center, Minneapolis, MN
- American Chemical Society – Division of Chemical Toxicology, Nat'l Meeting, San Francisco, CA
- Tsukuba University, Japan
- Shizuoka Prefectural University, Japan
- Mie University, Japan
- Japanese Environmental Mutagen Society

2015

- Stanford University, Stanford, CA
- Icahn School of Medicine at Mount Sinai, New York, NY
- St. Jude Children's Research Hospital, Memphis, TN
- ACS Nat'l Meeting, Division of Chemical Toxicology, Founders Award, Boston, MA
- Tomas Lindahl Conference on DNA repair, Oslo, Norway

2016

- Stanford University, Stanford, CA

2018

- Medical University of Vienna, Vienna, Austria
- International Agency for Research on Cancer (IARC), Lyon, France
- Weizmann Institute, Rehovot, Israel

Patents

Delivery of DNA or RNA via Gap Junctions from Host Cells to Target Cells and a Cell-based Delivery System for Antisense or SIRNA

Patent no. 8,188,062 - May 29, 2012

Methods and Materials for Assessing and Treating Cancer

International Application: PCT/US18/45669

PUBLICATIONS

1. Enzymic Synthesis of L-Ascorbic Acid in Different Animal Species.
Grollman, A.P. and Lehninger, A.L.
Arch. Biochem. Biophys. **69**, 458-467 (1957)
2. The Enzyme Conversion of D-Glucuronate to L-Ascorbate and L-Xylulose in Animal Tissues.
Bublitz, C., Grollman, A.P., and Lehninger, A.L.
Biochem. Biophys. Acta **27**, 221-222 (1958)
3. Metabolic Alkalosis, A Specific Effect of Adrenocortical Hormones.
Grollman, A.P. and Gamble, J.L.
Am. J. Physiol. **196**, 135-140 (1959)
4. TPN-L-Gulonate Dehydrogenase.
York, J.L., Grollman, A.P., and Bublitz, C.
Biochem. Biophys. Acta. **47**, 298-306 (1961)
5. The Renal Excretion of Citrate
Grollman, A.P., Harrison, H.C., and Harrison, H.E.
J. Clin. Invest. **40**, 1290-1296 (1961)
6. The Removal of Bilirubin by Albumin Binding During Peritoneal Dialysis.
Grollman, A.P. and Odell, G.B.
New Eng. J. Med. **267**, 279-282 (1962)
7. Site of Reabsorption of Citrate and Calcium in the Renal Tubule of the Dog
Grollman, A.P. and Odell, G.B.
Am. J. Physiol. **205**, 697-701 (1963)
8. Polysaccharide Antigens of Candida Cell Wall
Summers, D., Grollman, A.P., and Hasenclever, H.F.
J. Immunology **92**, 491-499 (1964)
9. O-Phosphorylethanolamine: A Component of Lipopolysaccharide in Certain Gram-Negative Bacteria
Grollman, A.P. and Osborn, M.J.
Biochemistry **3**, 1571-1574 (1964)
10. Biosynthesis of Fucosyllactose and Other Oligosaccharides Found in Milk
Grollman, A.P., Hall, C.W., and Ginsburg, V.
J. Biol. Chem. **240**, 975-981 (1965)
11. GDP-L Fucose: Lactose Fucosyltransferase from Mammary Gland
Grollman, A.P.
In: *Methods in Enzymology VIII, Complex Carbohydrates*. Neufeld, E.F. and Ginsburg, V. (Eds.), Academic Press, NY 351-353 (1965).

12. Studies of Blood Group Substances I. Caprine Precipitating Antisera to Human Le^a and Le^b Blood Group Substances
Marcus, D.M. and Grollman, A.P.
J. Immunology **97**, 867-875 (1966).
13. Enzymatic Incorporation of Fucose in Blood Group H Substance
Grollman, A.P. and Marcus, D.M.
Biochem. Biophys. Res. Commun. **25**, 542-548 (1966)
14. Structural Basis for Inhibition of Protein Biosynthesis by Emetine and Cycloheximide Based on an Analogy Between Ipecac Alkaloids and Glutarmide Antibiotics
Grollman, A.P.
Proc. Natl. Acad. Sci. USA **56**, 1867-1874 (1966)
15. Studies of Blood Group Substances II. Hemagglutinating Properties of Caprine Antisera to Human Le^a and Le^b Blood Group Substances
Marcus, D.M., Bastani, A.M., Rosenfield, R.E., and Grollman, A.P.
Transfusion **7**, 277-280 (1967)
16. Metabolic Pathways Leading to the Biosynthesis of Blood Group Substances
Grollman, A.P.
In: *Hartford Foundation Symposium on Blood Groups*. Kuhns, W.J. (Ed.)
Better Bellevue Association, NY 35-46 (1967)
17. Mode of Action of Anisomycin
Grollman, A.P.
J. Biol. Chem. **242**, 3326-3333 (1967)
18. Structural Basis for the Inhibition of Protein Biosynthesis: Mode of Action of Tubulosine
Grollman, A.P.
Science **157**, 84-85 (1967)
19. Cycloheximide Resistance in Yeast: A Property of the 60s Ribosomal Subunit
Rao, S.S. and Grollman, A.P.
Biochem. Biophys. Res. Commun. **29**, 696-704 (1967)
20. Effects of Emetine on Protein and Nucleic Acid Biosynthesis in HeLa Cells
Grollman, A.P.
J. Biol. Chem. **243**, 4089-4094 (1968)
21. Inhibition of the Attachment of Messenger Ribonucleic Acid to Ribosomes
Grollman, A.P. and Stewart, M.L.
Proc. Natl. Acad. Sci. USA **61**, 719-725 (1968)

22. A Proposed Mechanism for the Design of Novel Antiviral Agents
Grollman, A.P.
In: *Antimicrobial Agents and Chemotherapy*—1968, 3640 (1969)
23. Interactions of Small Molecules with Nucleic Acids. I. Mode of Action of Anthramycin.
Horwitz, S.B. and Grollman, A.P.
In: *Antimicrobial Agents and Chemotherapy*—1968, 21-24 (1969)
24. Rational Design of Chemotherapeutic Agents
Grollman, A.P.
In: *Annual Reports in Medicinal Chemistry*—1968, Cain, C.K. (Ed.), Academic Press 218-229 (1969).
25. Emetine: New Uses for an Old Drug
Grollman, A.P.
The Ohio State Medical Journal **66**, 257-259 (1970)
26. A fucosyltransferase Found in Human Milk: The Product of the Lewis Blood Group Gene.
Jarkovsky, Z., Marcus, D.M., and Grollman, A.P.
Biochemistry **9**, 1123-1128 (1970)
27. Inhibition of Protein Biosynthesis: Its Significance in Drug Design
Grollman, A.P.
Molecular Pharmacology Vol. II, Drug Design. Ariens, E.F. (Ed.)
Academic Press 231-249 (1971)
28. Rational Design of Antiviral Agents
Grollman, A.P. and Horwitz, S.B.
Molecular Pharmacology Vol. II, Drug Design. Ariens, E.F. (Ed.)
Academic Press 261-276 (1971)
29. Aurintricarboxylic Acid: Inhibitor of Protein Synthesis
Stewart, M.L., Grollman, A.P., and Huang, M.T.
Proc. Natl. Acad. Sci. USA **68**, 97-101 (1971)
30. Chemosterilant Action of Anthramycin: A Proposed Mechanism
Horwitz, S.B., Chang, S.C., Grollman, A.P., and Borkovec, A.B.
Science **174**, 159-161 (1971)
31. Studies on Camptothecin I. Effects on Nucleic Acid and Protein Synthesis
Horwitz, S.B., Chang, C., and Grollman, A.P.
Molecular Pharmacology **7**, 632-644 (1971)
32. Potential Inhibitors of Protein Biosynthesis
Grollman, A.P., Rosen, S., and Hite, G.
J. Med. Chem. **14**, 885-887 (1971)

33. Effect of Aurintricarboxylic Acid on Ribosomes and the Synthesis of Globin in Rabbit Reticulocytes
Huang, M.T. and Grollman, A.P.
Molecular Pharmacology **8**, 111-127 (1972)
34. Antiviral Action of Camptothecin
Horwitz, S.B., Chang, C., and Grollman, A.P.
Antimicrobial Agents and Chemotherapy **2**, 395-401 (1972)
35. Mode of Action of Tylocrebine: Effects of Protein and Nucleic Acid Synthesis
Huang, M.T. and Grollman, A.P.
Molecular Pharmacology **8**, 538-550 (1972)
36. Binding of ¹³C-Enriched Methyl-D-Glucopyraniside to Concanavalin A as Studied by Carbon Magnetic Resonance
Brewer, C.F., Sternlicht, H., Marcus, D.M., and Grollman, A.P.
Proc. Natl. Acad. Sci. USA **70**, 1007-1011 (1973)
37. Binding of Orientations of α and β Methyl-D-Gluopyranoside to Concanavail A as Studied by ¹³-Carbon Magnetic Resonance
Brewer, C.F. Marcus, D.M., Sternlicht, H., and Grollman, A.P.
Ann. NY Acad. Sci. **222**, 978-988 (1973)
38. Interactions of Saccharides with Concanavalin A. II. Mechanism of Binding of Alpha and Beta-Methyl-D-Clucopyranoside to Concanavalin A as Determined by Carbon Magnetic Resonance.
Grollman, A.P., Brewer, C.F., Sternlicht, H., and Marcus, D.M.
Biochemistry **12**, 4448-4457 (1973)
39. Inhibitors of Protein Synthesis in Eukaryotes: Tools in Cell Research
Grollman, A.P. and Huang, M.T.
(Symposium on Mechanisms of Antibiotic Action)
Federation Proceedings **32**, 1673-1678 (1973)
40. Inhibitors of Protein Synthesis: A Mechanism of Amebicide Action of Emetine and Other Structurally-Related Compounds
Entner, N. and Grollman, A.P.
J. Protozool. **20**, 160-163 (1973)
41. Pyrocatechol Violet: An Inhibitor of Initiation of Protein Synthesis
Huang, M.T. and Grollman, A.P.
Biochem. Biophys. Res. Commun. **53**, 1049-1059 (1973)
42. Carbon-13 Magnetic Resonance Studies of Carbohydrate Interactions with Concanavalin A.
Brewer, C.F., Sternlicht, H., Marcus, D.M., and Grollman, A.P.
Biology and Medicine, May 9-11, 1973 at Argonne, Illinois, sponsored by the United States Atomic Energy Commission

43. Interaction of Saccharides with Concanavalin A. III. Relation between Calcium Ions and the Binding of Saccharides to Concanavalin A.
Brewer, C.F., Sternlicht, H., Marcus, D.M., and Grollman, A.P.
J. Biol. Chem. **259**, 4614-4616 (1974)
44. Gallin (9-(2'-Carboxyphenyl)-3,4,5,6-tetrahydroxyxanthene), a New Inhibitor of *Escherichia coli* Ribonucleic Acid Polymerase
Liao, L.L., Horwitz, S.B. and Grollman, A.P.
Biochemistry **13**, 1331-1337 (1974)
45. Bleomycin, an Inhibitor of Vaccinia Virus Replication
Takeshita, M., Horwitz, S.B., and Grollman, A.P.
Virology **60**, 455-465 (1974)
46. Molecular Pharmacology of Plant Lectins: Studies on Ricin and Concanavalin A
Grollman, A.P., Grunfeld, C., Brewer, C.F., and Marcus, D.M.
Cancer Chemotherapy Reports **58**, 491-501 (1974)
47. Structure Activity Relationships of Adrenergic Compounds on the Adenylate Cyclase of Frog Erythrocytes
Grunfield, C., Grollman, A.P. and Rosen, O.M.
Molecular Pharmacology **10**, 605-614 (1974)
48. Emetine and Related Alkaloids
Grollman, A.P. and Jarkovsky, Z.
In: *Antibiotics: Mode of Action*, Vol. III, 420-435 (1975)
49. Triphenylmethane Dyes as Inhibitors of Reverse Transcriptase, RNA Polymerase, and Protein Synthesis: Structure Activity Relationships
Liao, L.L., Horwitz, S.B., Steward, D., Martin, J., Huang, M.T. and Grollman, A.P.
J. Med. Chem. **18**, 117-120 (1975)
50. Proton Magnetic Resonance Studies of Carbonic Anhydrase III. Binding of Sulfonamides
Pesando, J.M. and Grollman, A.P.
Biochemistry **14**, 689-693 (1975)
51. Effect of ATP and other Nucleotides on the Bleomycin-Induced Degradation of Vaccinia Virus DNA
Takeshita, M., Grollman, A.P., and Horwitz, S.B.
Virology **69**, 453-463 (1976)
52. Mechanism of Action of the 12,13-Epoxytrichothecene, Anguidine, an Inhibitor of Protein Synthesis
Liao, L.L., Grollman, A.P., and Horwitz, S.B.
Biochemica et Biophysica Acta **454**, 273-284 (1976)
53. Mechanism of the Antiviral Action of Bleomycin
Takeshita, M., Horwitz, S.B., and Grollman, A.P.
Ann. NY Acad. Sci. **284**, 367-374 (1977)

54. Bleomycin-induced Interactions: Fluorescence and Proton Magnetic Resonance Studies
Chen, M., Grollman, A.P., and Horwitz, S.B.
Biochemistry **16**, 3641-3647 (1977)
55. Inhibition of influenza virus by triphenylmethane compounds.
Steward DL, Martin J, Grollman
Ann NY Acad Sci **4**, 284, 638-649 (1977)
56. Nucleotide Specificity in DNA Scission by Neocarzinostatin
Hatayma, T., Goldberg, I., Takeshita, M., and Grollman, A.P.
Proc. Natl. Acad. Sci. USA **75**, 5983-5987 (1978)
57. Interactions of Bleomycin with DNA
Takeshita, M., Grollman, A.P., Ohtsubo, E., and Ohtsubo, H.
Proc. Natl. Acad. Sci. USA **75**, 5983-5987 (1978)
58. A Molecular Basis for the Interaction of Bleomycin with DNA
Takeshita, M. and Grollman, A.P.
In: *Bleomycin, Chemical, Biochemical and Biological Aspects*
Hecht, S. (Ed.), Springer Verlag, NY 207-221 (1979)
59. Interactions of Bleomycin with DNA
Grollman, A.P. and Takeshita, M.
In: *Advances in Enzyme Regulation*, Weber, G. (Ed.) **18**, 67-68 (1980)
60. Bleomycin-Induced Strand Scission of DNA: Mechanisms of Deoxyribose Cleavage
Giloni, L., Takeshita, M., Johnson, F., Iden, C., and Grollman, A.P.
J. Biol. Chem. **256**, 8606-8615 (1981)
61. Interaction of Bleomycin with Deoxyribodinucleotides: An NMR Study
Lin, S.Y. and Grollman, A.P.
Biochemistry **20**, 7589-7598 (1981)
62. Strand-Scission of DNA by Neocarzinostatin, Auromomycin, and Bleomycin: Studies on Base Release and Sequence Specificity
Takeshita, M., Kappen, L., Grollman, A.P., and Goldberg, I.
Biochemistry **20**, 7599-7606 (1981)
63. Bleomycin-DNA Complex. A Proposed Model
Lin, S.Y., Takeshita, M., and Grollman, A.P.
Biomolecular Stereodynamics, Sarma, R.H. (Ed.), Adenine Press **2**, 401-408 (1981)
64. Synthesis and Biological Activities of a New Class of Cytotoxic Agents: (N-(3-Oxoprop-1-enyl)-Substituted Pyrimidines and Purines
Johnson, F., Pillai, K.M.R., Grollman, A.P., Tseng, L., and Takeshita, M.
J. Med. Chem. **27**, 954 (1984)
65. Origin and Cytotoxic Base Properties of Propenals Derived from DNA
Grollman, A.P., Takeshita, M., Pillai, K.M.R., and Johnson, F.
Cancer Res. **45**, 1127-1131 (1985)
66. Cytotoxic Base Propenals from DNA
Johnson, F. and Grollman, A.P.
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Martinus Nijhoff Publishers, Boston (1985)

67. Cytotoxic Base Propenals and the Action of Bleomycin
Grollman, A.P., Johnson, F., Pillai, K.M.R., and Takeshita, M.
Molecular Basis of Cancer Part B: Macromolecular Recognition, Chemotherapy, and Immunology, Alan R. Liss, Inc., 235-242 (1985).
68. Carcinogen Induced Insertion Mutations in *E. coli*
Takeshita, M., Van der Keyl, H., and Grollman, A.P.
Molecular Basis of Cancer, Part A: Macromolecular Structure, Carcinogenesis, and Oncogenes, Alan R. Liss, Inc., 389-399 (1985).
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Rate Dependence of DNA Degradation on Quinone Reduction Potential
Shaikh, I.A., Johnson, F., and Grollman, A.P.
J. Med. Chem. **29**, 1329-1340 (1986)
70. Oligodeoxynucleotides Containing Synthetic Abasic Sites: Model Substrates for DNA Polymerases and A.P. Endonucleases
Takeshita, M., Chang, C.-N., Johnson, F., Will, S.G., and Grollman, A.P.
J. Biol. Chem. **262**, 10171-10179 (1987)
71. NMR Studies of Abasic Sites in DNA Duplexes. Deoxyadenosine Stacks into the Helix Opposite the Cyclic Analog of 2-Deoxyribose
Kalnick, M., Chang, C.-N., Grollman, A.P., and Patel, D.J.
Biochemistry **27**, 924-931 (1988)
72. Targeted Mutations Induced by a Single Acetylaminofluorene DNA Adduct in Mammalian Cells and Bacteria
Moriya, M., Takeshita, M., Johnson, F., Peden, K., Will, S., and Grollman, A.P.
Proc. Natl. Acad. Sci. USA **85**, 1586-1589 (1988)
73. Base Propenals and the Toxicity of Bleomycin.
Grollman, A.P.
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74. Experimental System for the Study of Site-Specific Mutagenesis in Mammalian Cells and Bacteria
Moriya, M., Takeshita, M., Peden, K., and Grollman, A.P.
In: *DNA Replication and Mutagenesis*. Moses, R.E. and Summers, W.C. (Eds.), 410-415 (1988).
75. Mechanism of DNA Cleavage and Substrate Recognition by a Bovine Apurinic Endonuclease
Sanderson, J.S., Chang, C.-N., Grollman, A.P., and Henner, W.D.
Biochemistry **28**, 3894-3901 (1989)
76. NMR Studies of Abasic Sites in DNA Duplexes: Deoxyadenosine Stacks into the Helix Opposite Acyclic Lesions
Kalnick, M.W., Chang, C.-N., Johnson, F., Grollman, A.P., and Patel, D.J.
Biochemistry **28**, 3373-3383 (1989)

77. Influence of Abasic and Anucleosidic Sites on the Stability, Conformation, and Melting Behavior of a DNA Duplex: Correlations of Thermodynamic and Structural Data
Vesnaver, G., Chang, C.-N., Eisenberg, M.E., Grollman, A.P., and Breslauer, K.J.
Proc. Natl. Acad. Sci. USA **86**, 3614-3618 (1989)
78. NMR Studies of Exocyclic 1,N²-Propanodeoxyguanosine Adducts (X) Opposite Purines in DNA Duplexes: Protonated X(*syn*)•A(*anti*) Pairing (Acidic pH) and X(*syn*)•G(*anti*) Pairing (Neutral pH) at the Lesion Site
Kouchakdjian, M., Marinelli, E., Gao, X., Johnson, F., Grollman, A.P., and Patel, D.J.
Biochemistry **28**, 5647-5657 (1989)
79. Site Specific Mutagenesis
Grollman, A.P.
In: *Fifth International Conference on Environmental Mutagens, Mutation and the Environment, Part A*,
Mendelsohn, M.L. (Ed.), Alan R. Liss, New York, 61-70 (1990)
80. NMR Studies of an Exocyclic 1,N²-Propanodeoxyguanosine Adduct (X) Located Opposite Deoxyadenosine (A) in DNA Duplexes at Basic pH: Simultaneous Partial Intercalation of X and A Between Stacked Bases
Kouchakdjian, M., Eisenberg, M., Live, D., Marinelli, E., Grollman, A.P., and Patel, D.J.
Biochemistry **29**, 4456-4465 (1990).
81. Insertion of Specific Bases During DNA Synthesis past the Oxidation-damaged Base 8-oxodG
Shibutani, S., Takeshita, M., and Grollman, A.P.
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