2190 A monoclonal antibody to an oocyte-specific poly(A) RNA-binding protein.
   Joel D. Richter and David C. Evers

2195 Enzymatic conversion of dihydronopterin triphosphate to the pyrimidodiazepine intermediate involved in the biosynthesis of the drosocin proteins in Drosophila melanogaster.
   Gregory J. Wiederrecht, Duncan R. Paton, and Gene M. Brown

2201 Insulin action in denervated rat hemidiaphragms. Decreased hormonal stimulation of glycogen synthesis involves both glycogen synthase and glucose transport.
   Roderic L. Smith and John C. Lawrence, Jr.

2208 Stereochemical course of phosphogroup transfer by human prostatic acid phosphatase.
   Stephen L. Buchwald, Mohan S. Saini, Jeremy R. Knoules, and Robert L. Van Etten

2214 1,25-dihydroxyvitamin D3 induces 25-hydroxyvitamin D3-24-hydroxylase in a cultured monkey kidney cell line (LLC-MK2) apparently deficient in the high affinity receptor for the hormone.
   John S. Chandler, Suzanne R. Chandler, J. Wesley Pike, and Mark R. Haussler

2223 Subcellular distribution of [3H]mitotane binding in smooth muscle.
   Ashok K. Grover, Chiu-Yin Kuan, Elizabeth Luchouoshi, Edwin E. Daniel, and David J. Trigg

2227 Agonist-induced changes in &beta;-adrenergic receptors on intact cells.
   Myron L. Toews and John P. Perkins

2236 In vitro transcription initiation by purified RNA polymerase II within the adenovirus 2 major late promoter region.
   Helena Mishoe, John N. Brady, Gerald Lancer, and Norman P. Salzman

2243 Reconstitution of Escherichia coli thioredoxin reductase with 1-deazaFAD. Evidence for 1-deazaFAD C-4a adduct formation linked to the ionization of an active site base.
   Michael E. O'Donnell and Charles H. Williams, Jr.

2252 The interaction between Escherichia coli aspartokinase-homoserine dehydrogenase and 3-acetylpyridine-nucleotide phosphate (reduced), an analog of NADPH.
   Klaus Muller and Jean-Renaud Garel

2257 Identification of mannos-6-phosphate receptors in rabbit alveolar macrophages.
   Virginia L. Shepherd, Hudson H. Freeze, Arnold L. Miller, and Philip D. Stahel

2263 Correlation between cytosolic free Ca** and insulin release in an insulin-secreting cell line.
   Claes B. Wolheim and Tulio Pozzan

2268 Rho-dependent termination and concomitant NTPase activity requires a specific, intact RNA region.
   Janice A. Sharp and Terry Platt

2274 Characterization of the Fe-S cluster in aconitase using low temperature magnetic circular dichroism spectroscopy.
   Michael K. Johnson, Andrew J. Thomson, Andrew J. M. Richards, Jim Peterson, A. Edward Robinson, Ron R. Ramsay, and Thomas F. Singer

2283 Metastatic melanoma cell heparanase. Characterization of heparan sulfate degradation fragments produced by B16 melanoma endoglycosidurinase.
   Motosuo Nakajima, Tatsuro Irimura, Nicola Di Ferrante, and Garth L. Nicolson

2289 Characterization of the interchain and intrachain interactions between the binding sites of the free regulatory moiety of protein kinase I.
   Stein Ove Dæskeland and Dagfinn Ogríð

2292 Transcriptional control of ornithine aminotransferase synthesis in rat kidney by estrogen and thyroid hormone.
   Mike M. Mueckler, Susan Moran, and Henry C. Pitot

2306 Comparison of coagulation factor Xa and des-(1-44)factor Xa in the assembly of prothrombinase.
   William F. Skogen, Charles T. Esmon, and A. Chadwick Cox

2311 In vitro studies of pyridine nucleotide metabolism in Escherichia coli and Saccharomyces cerevisiae by carbon-13 NMR spectroscopy.
   Clifford J. Unkefer and Robert E. London

2321 Isolation and preliminary characterization of proteoglycan aggregates from cultured dermal fibroblasts.
   Irwin A. Schafer, Latifa Sitabkha, and Maureen Pandy

2328 Cytochrome electron spin resonance line shapes, ligand fields, and components stoichiometry in ubiquinol-cytochrome c oxidoreductase.
   John C. Salerno

2337 The development of insulin receptors and responses in the differentiating nonfusing muscle cell line BC3H-1.
   Mary L. Standaert, Steven D. Schimmel, and Robert J. Pollet

2346 Equilibrium model for insulin-induced receptor down-regulation: Regulation of insulin receptors in differentiated BC3H-1 myocytes.
   Mary L. Standaert and Robert J. Pollet

2349 Biochemical characterization of the hamster thy mator gene and its revertants.
   Marie Trudel, Tamaan Van Gepenich, and Mark Meuth

2356 Homocysteine in tissues of the mouse and rat.
   Per Magne Urland, Steen Heliland, Ole Jacob Broch, and Jon-Svear Schanche

2365 Adenine nucleotide stimulation of Ca**-induced Ca** release in sarcoplasmic reticum.
   Gerhard Meissner

2375 Regulation of asparagine-linked oligosaccharide processing. Oligosaccharide processing in Aedes albopictus mosquito cells.
   Peggy Hisch and Phillips W. Robbins

2383 Characterization and biologic properties of 5,12-dihydroxy derivatives of eicosapentaenoic acid, including leukotriene B4 and the double lipoxygenase product.
   Tak H. Lee, Jean-Michel Mencia-Huerta, Chun Shih, E. J. Corey, Robert A. Lewis, and K. Frank Austen

2390 Effect of a zwitterionic detergent on the state of aggregation and cata lytic activity of cytochrome P-450LM, and NADPH-cytochrome P-450 reductase.
   Steven L. Wagner, William L. Dean, and Robert D. Gray

2396 Insulin regulation of insulin-like growth factor action in rat hepatoma cells.
   Joanne H. Heaton, Nancy L. Krett, Juan M. Alvarez, Thomas D. Gelehrter, Joyce A. Romanus, and Matthew M. Rechler

2403 Coenzyme A-mediated arachidonic acid transacylation in human platelets.
   Ruth M. Kramer, Carole R. Pritzker, and Daniel Deykin

2407 Inosine biosynthesis in transfer RNA by an enzymatic insertion of 4-hypoxanthine.
   Mark S. Elliott and Ronald W. Trewyn

2411 Regulation of nuclear binding of the avian oviduct progesterone receptor. Changes during estrogen-induced oviduct development, withdrawal, and secondary stimulation.
   Patricia Boyd-Leinen, Barbara Geese, Kay Rasmussen, Ginger Martin-Dani, and Thomas C. Spelsberg

2422 Adducts across the 5,6-double bond of pyrimidines. The mechanism of dehydration of 1-substituted uracil photohydrates.
   Jeffrey J. Prior, John Maley, and Daniel V. Santi

2429 On the mechanism of the acid-catalyzed hydrolysis of uridine to uracil. Evidence for 6-hydroxy-5,6-dihydroxuridine intermediates.
   Jeffrey J. Prior and Daniel V. Santi
2435 Induction of cystine and glutamate transport activity in human fibroblasts by diethyl maleate and other electrophilic agents.
   Shiro Bannai

2441 Transport of cystine in isolated rat hepatocytes in primary culture.
   Akira Takada and Shiro Bannai

2446 Identification by electron spin resonance of free radicals formed during the oxidation of 4-hydroxyanisole catalyzed by tyrosinase.
   Mark J. Nilges, Harold M. Swartz, and Patrick A. Riley

2452 Biosynthesis of apolipoprotein C-III in rat liver and small intestinal mucosa.
   Mark C. Blaufuss, Jeffrey I. Gordon, Gustav Schonfeld, Arnold W. Strauss, and David H. Alpers

2457 Cooperativity in highly aggregated enzyme systems. A slow transition model for the pyruvate dehydrogenase complex from Escherichia coli.
   Hans Bisswanger

2466 Phosphorylation of rabbit liver glycogen synthase by multiple protein kinases.
   Marcella Camici, Zafer Ahmad, Anna A. DePaoli-Roach, and Peter J. Roach

2474 Ligand effects on the phosphorylation state of hepatic phenylalanine hydroxylase.
   Robert S. Phillips and Seymour Kaufman

2480 Photochemically induced dynamic nuclear polarization study on microsomal NADPH-cytochrome P-450 reductase.
   Yukio Nisimoto, Fumaki Hayashi, Hideo Akutsu, Yoshinasa Kyogoku, and Yuko Shibata

2484 Purification to homogeneity and partial characterization of a 56,000-dalton protein phosphatase from rabbit reticulocytes.
   Eric Wolnay, Kenneth Watkins, Gisela Kramer, and Boyd Hardesty

2493 Partial characterization of a 230,000-dalton reticulocyte protein and peptides derived from it that affect the activity of a protein phosphatase.
   Susan Padilose, Eric Wolnay, George Stearns, Shu-Cheng Chen, Gisela Kramer, and Boyd Hardesty

2501 Stability of tubulin polymers formed with deoxyguanosine nucleotides in the presence and absence of microtubule-associated proteins.
   Ernest Hamel, Anthony A. del Campo, and Chii M. Lin

2509 Interactions between RNA polymerase II, factors, and template leading to accurate transcription.
   Andrew Fire, Mark Samuels, and Phillip A. Sharp

2517 Dinucleotide priming of transcription mediated by RNA polymerase II.
   Mark Samuels, Andrew Fire, and Phillip A. Sharp

2526 Induction of placental alkaline phosphatase biosynthesis by sodium butyrate.
   Funiyuki Ito and Janice Yang Chou

2531 Predictions of the secondary structure of antithrombin III and the location of the heparin-binding site.
   German B. Villanova

2537 1,25-Dihydroxyvitamin D3 increases citrate secretion from osteosarcoma cells.
   Paul A. Price, Matthew K. Williamson, and Shirley A. Sloper

2541 The identification of the heat-stable microsomal protein required for methoxyflurane metabolism as cytochrome b5.
   Eleanor Canosa-Davis and Lucy Washell

2547 Regulation of calcium content in bovine spermatozoon.
   Gerald A. Ruffo, Jr., Patrick K. Schoff, and Henry A. Lardy

2553 C-kinase phosphorylates the epidermal growth factor receptor and reduces its epidermal growth factor-stimulated tyrosine protein kinase activity.
   Claude Cochet, Gordon N. Gill, Jill Messenheimer, Jonathan A. Cooper, and Tony Hunter

2559 Epidermal growth factor and potent phorbol tumor promoters induce epidermal growth factor receptor phosphorylation in a similar but distinctively different manner in human epidermoid carcinoma A431 cells.
   Shintaro Iwahashi and C. Fred Fox

2568 Crystallization of the gene 45 protein from the DNA replication fork of bacteriophage T4.
   Christina Thaller, Bruce Alberts, Elizabeth Goldsmith, Stephen Sprang, and Robert Fletterick

2576 Carboxyl methylation of cytosolic proteins in intact human erythrocytes. Identification of numerous methyl-accepting proteins including hemoglobin and carboxylic anhydride.
   Clare M. O'Connor and Steven Clarke

2579 Photocrosslinking and the characterization of C-S lyase from Fusobacterium varium. A C-S cleavage enzyme of cysteine conjugates and some S-containing amino acids.
   Hiroki Tomisawa, Shuji Suzuki, Shiroyas Ichihira, Hideo Fukuzawa, and Mitsuru Tateishi

2584 The interaction of Escherichia coli replication factor Y with complementary strand origins of DNA replication. Contact points revealed by DNA footprinting and protection from methylation.
   Jeffrey H. Greenbaum and Kenneth J. Marians

2602 DNA primase from KB cells. Evidence for a novel model of primase catalysis by a highly purified primase/polymerase-α complex.
   Shi-Zhen Hu, Teresa Shu-Fong Wang, and David Korn

2610 Oxygen binding and aggregation of bullfrog hemoglobin.
   Lei-Ting Tam and Austen F. Riggs

2617 Regulation of mussels actomyosin ATPase activity.
   Joseph M. Chalovich, Peter D. Chartier, Andrew G. Szent-Gyorgyi, and Eivan Eisenberg

2622 Secondary structural composition of the Na/K-ATPase α1 and α2 conformers.
   Thomas J. Gresalfi and B. A. Wallace

2629 Assembly of the (Na+ + K+)-adenosine triphosphatase. Post-translational membrane integration of the α subunit.
   Andrew Hiatt, Alicia A. McDonough, and Isidore S. Edelman

2636 Isolation of a calcium-dependent 35-kilodalton substrate for the epidermal growth factor receptor/kinase from A-431 cells.
   Roy A. Faca and Stanley Cohen

2646 Possible involvement of a cell surface glycoprotein in the differentiation of skeletal myoblasts.
   George A. Cates, Anne M. Brickenden, and Bishnu D. Sanwal

2651 Molecular cloning of cDNA sequences for rat M1-type pyruvate kinase and regulation of its mRNA.
   Tami Noguchi, Hiroyasu Inoue, Yusuke Nakamura, Hui Li, Ken, Ken-ichi Matsubara, and Takehiko Tanaka

2656 Proline dehydrogenase from Escherichia coli K12. Reconstitution of a functional membrane association.
   Susan B. Graham, James T. Stephenson, and Janet M. Wood

2662 Free α-like material from bovine pituitaries. Removal of its O-linked oligosaccharide permits combination with lutropin-β.
   Thomas F. Parsons and John G. Pierce
Purification and characterization of naturally occurring and in vitro induced multiple forms of MM creatine kinase.

Sam George, Yuichi Ishikawa, M. Benjamin Perryman, and Robert Roberts

Isosafrole-induced cytochrome P450 in DBA/2N mouse liver. Characterization and genetic control of induction.

Tohru Ohyama, Daniel W. Nebert, and Masahiko Negishi

ω-hydroxylation of 12-ω-hydroxy-5,8,10,14-eicosatetraenoic acid in human polymorphonuclear leukocytes.

Patrick Y.K. Wong, Per Westlund, Mats Hamberg, Elisabeth Granström, Patricia H-W. Chao, and Bengt Samuelsson

Component C of the methylreductase system of Methanobacterium. Vol. 256 (1981) 4259-4262.

William L. Ellefson and Ralph S. Wolfe

Glucocorticoids stimulate the production of preprocalcitonin-derived secretory peptides by a rat medul- lary thyroid carcinoma cell line. Vol. 258 (1983) 11678–11683.

Marilyn Muszynski, Roger S. Birnbaum, and Bernard A. Roos

Chromatin structure and transcriptional activity of an X-linked heat shock gene in Drosophila pseudoobscura. Vol. 258 (1983) 13986–13991.

Joel C. Eissenberg and John C. Lucchesi

Submit all manuscripts in triplicate to

Editor, The Journal of Biological Chemistry

9650 Rockville Pike

Bethesda, MD 20814, U.S.A.

Accepted manuscripts will be published with the implicit understanding that the author(s) will pay a charge per page (miniprint supplement excluded). Current page charges may be obtained by contacting the JBC Office. Under exceptional circumstances, when no source of grant or other support exists, the author(s) may apply, at the time of submission, for a grant-in-aid to Chairman, Publications Committee, American Society of Biological Chemists, Inc., 9650 Rockville Pike, Bethesda, MD 20814. All such applications must be countersigned by an appropriate institutional official stating that no funds are available for page charges.

Queries on matters of general editorial policy, requests for reprints of the "Instructions to Authors," or of the "Editorial Policy and Practices," or for permission to reproduce any part of a previously published article should be directed to the Journal Editorial Office in Bethesda, telephone 301-530-7150.

The Journal of Biological Chemistry publishes papers on a broad range of topics of interest to biochemists. The views expressed are those of the author(s) and not of The Journal of Biological Chemistry or the American Society of Biological Chemists.

The Journal of Biological Chemistry is copyrighted by the American Society of Biological Chemists, Inc. Permission for copying of articles beyond that permitted by the U. S. Copyright Law requires approval of the copyright owner. Reproduction of any portion of an article for subsequent republication also requires permission of the copyright owner. Requests should be made in writing to the American Society of Biological Chemists, Inc., Attn: Editorial Office, 9650 Rockville Pike, Bethesda, MD 20814, and should include a statement of intended use as well as explicit specifications of the material to be reproduced.

Address all correspondence and orders relative to subscriptions and back copies to: THE JOURNAL OF BIOLOGICAL CHEMISTRY, 428 EAST PRESTON STREET, BALTIMORE, MD 21202, U.S.A., telephone 301-528-4255. Requests for termination of subscriptions will be honored with proportional refunds less a $10 cancellation charge. Allow at least six weeks for address changes. Claims for replacement copies must be received within four months of the issue date.

Published semimonthly by the American Society of Biological Chemists, Inc. (Volume 259: United States, $330; other countries, $380. Single copy: United States, $17.00; other countries, $19.00.) Subscriptions are entered on a calendar year basis only. Special rates are available to members, graduate students, and postdoctoral fellows for personal use only. Qualifying forms are available from the Bethesda Office. Second class postage paid at Baltimore, MD 21202, U.S.A., and at additional mailing offices.
CARBOHYDRATES, LIPIDS, AND OTHER NATURAL PRODUCTS

2171 Complement C1q binding affects spin-labeled heteroosaccharides of rabbit antibodies in immune but not artificial immunoglobulin G aggregates.
Jeffrey L. Winkelnabe, Akhiro Kusama, Larry McKeen, and William J. Mandy

2360 Homocysteine in tissues of the mouse and rat.
Per Magne Ueland, Sten Helland, Ole Jacob Broch, and Jon-Sverre Schanche

2375 Regulation of asparagine-linked oligosaccharide processing. Oligosaccharide processing in Aedes albopictus mosquito cells.
Peggy Hsieh and Phillips W. Robbins

2383 Characterization and biologic properties of 5,12-dihydroxy derivatives of eicosapentaenoic acid, including leukotriene B4 and the double lipoxynegenase product.
Tak H. Lee, Jean-Michel Mercia-Huerta, Chuan Shih, E. J. Corey, Robert A. Lewis, and K. Frank Austen

2422 Adducts across the 5,6-double bond of pyrimidines. The mechanism of dehydrogenation of 1-substituted uracil photohydrates.
Jeffrey J. Prior, John Maley, and Daniel V. Santi

2429 Ont the mechanism of the acid-catalyzed hydrolysis of uridine to uracil. Evidence for 6-hydroxy-5,6-dihydrouridine intermediates.
Jeffrey J. Prior and Daniel V. Santi

2683 ω-Hydroxylation of 12,13-hydroxy-5,8,10,14-eicosatetraenoic acid in human polymorphonuclear leukocytes.
Patrick Y.-K. Wong, Pir Westlund, Mats Hamberg, Elisabeth Granstrom, Patricia H.-W. Chao, and Bengt Samuelsson

CELL BIOLOGY AND METABOLISM

•2039 Identification of α γ subunit associated with the adenyl cyclase regulatory proteins N and N1.
John D. Hildebrandt, Juan Codina, Robert Risinger, and Lutz Birnbaumer

•2043 Transamination of 3-phenylpyruvate in pancreatic B-cell mitochondria.
Sigurd Lensin, Ingo Rustenbeck, and Uwe Pante

•2059 The relative carbon flux through the α- and the β-keto pathways of leucine metabolism.
J. Michael Poston

2135 Oxygen- and carbon-centered free radical formation during carbon tetrachloride metabolism. Observation of lipid radicals in vivo and in vitro.
Paul B. McCoy, Edward K. Lai, J. Lee Poyer, Coit M. DuRose, and Eduard G. Janzen

2161 Up- and down-regulation of insulin receptors. Kinetic models.
Paul W. Chun, Jong-Duk Kim, Chan Won Lee, Rachel B. Shireman, and William F. Cantarini

2164 Appendix.
Paul W. Chun, Jong-Duk Kim, and Chan Won Lee

2201 Insulin action in denervated rat hemidiaphragms. Decreased hormonal stimulation of glycogen synthesis involves both glycogen synthase and glucose transport.
Roderic L. Smith and John C. Lawrence, Jr.

2214 1,25-Dihydroxyvitamin D3 induces 25-hydroxyvitamin D3-24-hydroxylase in a cultured monkey kidney cell line (LLC-MK2) apparently deficient in the high affinity receptor for the hormone.
John S. Chandler, Suzanne K. Chandler, J. Wesley Pike, and Mark R. Haussler

2227 Agonist-induced changes in β-adrenergic receptors on intact cells.
Myron L. Teves and John P. Perkins

2257 Identification of mannose 6-phosphate receptors in rabbit alveolar macrophages.
Virginia L. Shepherd, Hudson H. Freeze, Arnold L.Miller, and Philip D. Stahli

2262 Correlation between cytosolic free Ca2+ and insulin release in an insulin-secreting cell line.
Claes B. Wallin and Tullio Pozzan

2291 Characterization of the interchain and intrachain interactions between the binding sites of the free regulatory moity of protein kinase I.
Stein Ove Daskeland and Dagfinn Øgren

2311 In vivo studies of pyridine nucleotide metabolism in Escherichia coli and Saccharomyces cerevisiae by carbon-13 NMR spectroscopy.
Clifford J. Unhefer and Robert E. London

2321 Isolation and preliminary characterization of proteoglycan aggregates from cultured dermal fibroblasts.
Irwin A. Schafer, Latifa Sitabkha, and Maureen Pandy

2337 The development of insulin receptors and responses in the differentiating nonfusing muscle cell line BC3H-1.
Mary L. Standaert, Steven D. Schimmel, and Robert J. Pollet

2346 Equilibrium model for insulin-induced receptor down-regulation. Regulation of insulin receptors in differentiated BC3H-1 myocytes.
Mary L. Standaert and Robert J. Pollet

2396 Insulin regulation of insulin-like growth factor action in rat hepatoma cells.
Joanne H. Heaton, Nancy L. Krett, Juan M. Alavarez, Thomas D. Gelehrter, Joyce A. Romanus, and Matthew M. Rechler

2403 Coenzyme A-mediated arachidonic acid transacylation in human platelets.
Ruth M. Kramer, Carole R. Pritzker, and Daniel Deykin

2411 Regulation of nuclear binding of the avian oviduct estrogen receptor. Changes during estrogen-induced oviduct development, withdrawal, and secondary stimulation.
Patricia Boyd-Leinen, Barbara Gosse, Kay Rasmussen, Ginger Martin-Dani, and Thomas C. Spelsberg

2435 Induction of cysteine and glutamate transport activity in human fibroblasts by diethyl maleate and other electrophilic agents.
Shiro Bannai

2441 Transport of cysteine in isolated rat hepatocytes in primary culture.
Akihiko Takada and Shiro Bannai

2501 Stability of tubulin polymers formed with dieoxyguanosine nucleotides in the presence and absence of mierotubule-associated proteins.
Ernest Hamel, Anthony A. del Campo, and Chii M. Lin

2537 1,25-Dihydroxyvitamin D3 increases citrate secretion from osteosarcoma cells.
Paul A. Price, Matthew K. Williamson, and Shirley A. Sloper

2547 Regulation of calcium content in bovine spermatozoa.
Gerald A. Rufo, Jr., Patrick K. Schoff, and Henry A. Lardy

2559 Epidermal growth factor and potent phorbol tumor promoters induce epidermal growth factor receptor phosphorylation in a similar but distinctively different manner in human epidermoid carcinoma A431 cells.
Shintaro Iwashita and C. Fred Fox
Indicates a Communication
Nucleic Acids, Protein Synthesis, and Molecular Genetics

• Identification of an 82,000-dalton protein responsible for K⁺/H⁺ antiport in rat liver mitochondria.
  William H. Martin, Andrew D. Beavis, and Keith D. Garlid

2179 Halide binding by the purified halorhodopsin chromatoprotein. I. Effects on the chromophore.
  Michael Steiner, Dieter Oesterhelt, Masahiro Ariki, and Janos K. Lanyi

2185 Halide binding by the purified halorhodopsin chromatoprotein. II. New chloride-binding sites revealed by ³¹Cl NMR.
  Joseph J. Falke, Sunney I. Chan, Michael Steiner, Dieter Oesterhelt, Paul Tourner, and Janos K. Lanyi

2223 Subcellular distribution of ³¹Hnitrendipine binding in smooth muscle.
  Ashok K. Grover, Chiu-Yin Kwan, Elizabeth Luchowski, Edwin E. Daniel, and David J. Triggle

2331 Cytochrome electron spin resonance line shapes, ligand fields, and components stoichiometry in ubinuclear-cytochrome c oxidoreductase.
  John C. Salerno

2365 Adenine nucleotide stimulation of Ca⁺⁺-induced Ca⁺⁺ release in sarcoplasmic reticulum.
  Gerhard Meusser

2390 Effect of a zwitterionic detergent on the state of aggregation and catalytic activity of cytochrome P-450, and NADPH-cytochrome P-450 reductase.
  Steven L. Wagner, William L. Desn, and Robert D. Gray

2651 Molecular cloning of cDNA sequences for rat MZ-2066 Stoichiometry of iron binding by uteroferrin and its factor gene and its revertants.
  Michael Steiner, Dieter Oesterhelt, Paul Tourner, and Janos K. Lanyi

2622 Secondary structural composition of the Na⁺/K⁺-ATPase E, and Ea conformers.
  Thomas J. Gresalfi and B. A. Wallace

2656 Proline dehydrogenase from Escherichia coli K12. Reconstitution of a functional membrane association.
  Susan B. Graham, James T. Stephenson, and Janet M. Wood

Protein Chemistry and Structure

• Identification of a novel Ca⁺⁺-binding protein (CBP-18) from bovine brain.
  Allan S. M. and Claude B. Kee

2109 Cloning and regulation of messenger RNA for mouse apolipoprotein E.
  Karen L. Rose, Diana H. Quon, Kelly A. O'Donnell, George J. Dizikes, George C. Fareed, and Aledons J. Luisi

2130 Nucleic acid binding affinity of ß gene 5 protein in the cooperative binding mode.
  Albert M. Bobst, John C. Ireland, and Elizabeth V. Bobst

2149 The role of the ß-lactamase signal sequence in the secretion of proteins by Escherichia coli.
  James T. Kadonaga, Antoine E. Gauthier, Donald R. Strauss, Andrew D. Charles, Michael D. Edge, and Jeremy R. Knowles

2166 Glucocorticoid regulation of pro-opiomelanocortin gene transcription in the rat pituitary.
  James E. H. Eberwine and James L. Roberts

Protein Chemistry and Structure

• Identification of an 82,000-dalton protein responsible for K⁺/H⁺ antiport in rat liver mitochondria.
  William H. Martin, Andrew D. Beavis, and Keith D. Garlid

2179 Halide binding by the purified halorhodopsin chromatoprotein. I. Effects on the chromophore.
  Michael Steiner, Dieter Oesterhelt, Masahiro Ariki, and Janos K. Lanyi

2185 Halide binding by the purified halorhodopsin chromatoprotein. II. New chloride-binding sites revealed by ³¹Cl NMR.
  Joseph J. Falke, Sunney I. Chan, Michael Steiner, Dieter Oesterhelt, Paul Tourner, and Janos K. Lanyi

2223 Subcellular distribution of ³¹Hnitrendipine binding in smooth muscle.
  Ashok K. Grover, Chiu-Yin Kwan, Elizabeth Luchowski, Edwin E. Daniel, and David J. Triggle

2331 Cytochrome electron spin resonance line shapes, ligand fields, and components stoichiometry in ubinuclear-cytochrome c oxidoreductase.
  John C. Salerno

2365 Adenine nucleotide stimulation of Ca⁺⁺-induced Ca⁺⁺ release in sarcoplasmic reticulum.
  Gerhard Meusser

2390 Effect of a zwitterionic detergent on the state of aggregation and catalytic activity of cytochrome P-450, and NADPH-cytochrome P-450 reductase.
  Steven L. Wagner, William L. Desn, and Robert D. Gray

2651 Molecular cloning of cDNA sequences for rat MZ-2066 Stoichiometry of iron binding by uteroferrin and its factor gene and its revertants.
  Michael Steiner, Dieter Oesterhelt, Paul Tourner, and Janos K. Lanyi

2622 Secondary structural composition of the Na⁺/K⁺-ATPase E, and Ea conformers.
  Thomas J. Gresalfi and B. A. Wallace

2656 Proline dehydrogenase from Escherichia coli K12. Reconstitution of a functional membrane association.
  Susan B. Graham, James T. Stephenson, and Janet M. Wood

• Indicates a Communication
Predictions of the secondary structure of antithrombin III and the location of the heparin-binding site. 
German B. Villanueva

Crystallization of the gene 45 protein from the DNA replication fork of bacteriophage T4. 
Christina Thaller, Bruce Alberts, Elizabeth Goldsmith, Stephen Sprang, and Robert Fletterick

Oxygen binding and aggregation of bullfrog hemoglobin. 
Lei-Ting Tam and Austen F. Riggs

Free α-like material from bovine pituitaries. Removal of its O-linked oligosaccharide permits combination with lutropin-β. 
Thomas F. Parsons and John G. Pierce