This information is current as of April 15, 2017.
# CONTENTS

**NUMBER 1, JANUARY 1969**

## IMMUNOCHEMISTRY

### Role of Fumaropimaric Acid in Guinea Pig Complement Dependent and Non-Complement Dependent Biologic Reactions. I. Inhibition of Forssman, Reversed Passive Arthus, and PCA Reactions by Fumaropimaric Acid. M. Michael Glovsky, Peter A. Ward, Elmer L. Becker and Noah J. Halbrook ................................................................. 1

### Protein–Carbohydrate Interaction. XVII. The Effect of Polysaccharide Molecular Weight on the Concanavalin A-Polysaccharide Precipitation Reaction. Lucy L. So and I. J. Goldstein... 53

### Physicochemical Properties of Human Reaginic Antibodies. VIII. Effect of Reduction and Alkylation on γE Antibodies. Kimishige Ishizaka and Teruko Ishizaka ................................. 69

### Purification of Two Protein Antibiotics by Dissociation from Thioltated Antibody. Benjamin Wolf and Harriet Izenberg ......................................................... 123

### Hereditary Deficiency of the Second Component of Complement in Man: An Immunochemical Study. Martin R. Klemperer ............................................................. 168

### Two Antigenic Subtypes of Human Lambda Immunoglobulin Chains. Frank W. Tischendorf and Elliott F. Osserman ................................................................. 172

### Studies on the Chemical Structure and the Antigenic Determinant of Type II Antigen of Group F Streptococci. Marc F. Michel, Jeanette van Vondo and Richard M. Krause .............................. 215

### The Specificity of a Monoclonal Macroglobulin (γM) Antibody: Reactivity with Primate γG Immunoglobulins. Marvin J. Stone and Henry Metzger ........................................ 222

### Immunoglobulins of the Rhesus Monkey (Macaca mulatta). II. Properties of Rhesus IgG and IgM Antibody in Hemaggulination, Precipitation and Skin Sensitization. James D. Lakin, Roy Patterson and Jacob J. Pruzansky ...................................................... 253

## CELLULAR IMMUNOLOGY

### Water Soluble Guinea Pig Transplantation Antigen from Carcinogen-Induced Sarcomas. B. D. Kahan, E. C. Holmes, R. A. Reisfeld and D. L. Morton ........................................... 28

### Delayed Hypersensitivity to Purified Streptococcal M Protein in Guinea Pigs and in Man. Edwin H. Beachey, Humberto Alberti and Gene H. Stollerman ........................................... 42

### Antibody Elicited by Brucella abortus Antigen In Vitro: Prolonged Production by Cell Suspensions. Marvis Richardson ................................................................. 77

### Reversal of Post-Thymectomy Wasting in Mice with Immunocompetent Cells: Influence of Histocompatibility Differences. O. Stutman, E. J. Yunis and R. A. Good ............................... 87

### A Neutrophil Chemotactic Factor from Human C3. Peter A. Ward and Larry J. Newman ................................................................. 93

### The Effects of Single Low Antigen Doses on Immunologic Responsiveness in Adult Rabbits. Sumner C. Kraft and Richard M. Rothberg ................................................... 100

### Mixed Lymphocyte Blastogenesis in Response to Multiple Histocompatibility Antigens. Daniel G. Colley and Charles W. DeWitt ................................................................. 107

### A Cytotoxic Antiglobulin Technique for Assay of Antibodies to Histocompatibility Antigens. Leroy Fass and Ronald B. Herberman ................................................................. 140

### Critical Variables of the Jerne Plaque Technique as Applied to Rodent Antibody-Forming Systems Responding to Heterologous Red Cell Antigens. K. F. Hübner and N. Gengoziian ................................................................. 155

### Effect of Antilymphocytic Serum on Rat Lymphocytes. Ruth W. Tyler, N. B. Everett and M. Roy Schwarz ................................................................. 179

### The Effect of Immunologically Induced Lymphopenia on Antibody Formation. John Baum, George Liebermann and Eugene P. Frenkel ................................................... 187

### Immunologic Tolerance to Sulfanilic Acid Assessed by the Hapten-Specific Hemolytic Plaque Technique. Tomáš Hraba and Bruce Merchant ................................................... 229

## IMMUNOPATHOLOGY

Facilitatory and Inhibitory Effects of Phytohemagglutinin on Experimental Allergic Encephalomyelitis in Guinea Pigs. Cheng-Mei Shaw ................................................ 63
Characterization of a Soluble Cytoplasmic Antigen Reactive with Sera from Patients with Systemic Lupus Erythematosus. Geoffrey Clark, Morris Reichlin and Thomas B. Tomasi, Jr. 117
Two Mechanisms of Immunologically-Induced Injury to Rabbit Platelets. Roger M. des Prez and Richard E. Bryant ............................ 241

MICROBIAL AND VIRAL IMMUNOLOGY
Poliovirus Antibody Response in Serum and Nasal Secretions following Intranasal Inoculation with Inactivated Poliovaccine. Pearay L. Ogra and David T. Karzon ..................... 15
Effect of DEAE-Dextran on Interferon Production and Protective Effect in Mice Treated with the Double-Stranded Polynucleotide Complex Polyinosinic-Polyctydylid Acid. F. Dianzani, G. Rita, P. Cantagalli and S. Gagnoni ......................... 24
Immune Response of Cattle to Different Serotype Antigens in Monovalent and Trivalent Foot-and-Mouth Disease Vaccines. J. H. Graves .......................... 58
Endotoxin-Induced Modification of Plasmodium berghei Infection in Mice. Rob Roy MacGregor, John N. Sheagren and Sheldon M. Wolff ............................... 131
Induction of Ocular Resistance to Vaccinia Virus by Typhoid Vaccine: Role of Interferon. Jang O. Oh and Chieko Yoneda .................................................. 145

COMMUNICATIONS
Preparation of Rabbit Immune Serum with Neutralizing Activity against a Simian Cytomegalovirus (SA6). D. V. AbIashi, L. M. Martos, R. V. Gilden and B. Hampar ..................... 263
The Fixation of Guinea Pig Complement by γ1 and γ2 Immunoglobulins. Abraham G. Osler, Benedito Oliveira, Hyua S. Shin and Ann L. Sandberg .................................... 269

NUMBER 2, FEBRUARY 1969
IMMUNOCHEMISTRY
Studies on Human Antibodies. VII. Acrylamide Gel Electrophoresis of Purified Human Antibodies and Myeloma Proteins, Their Heavy and Light Chains. Marianne M. Dorner, William J. Yount and Elvin A. Kabat .................................................. 273
The Relationship of the Hemolytic Activity of Active C1s to Its TAME Esterase Action: A New Method of Purification and Assay. K. Nagaki and R. M. Stroud .......................... 421
Comparisons of Reaginic Antibodies from Three Species. Roy Patterson, Mary Roberts and Jacob J. Pruszansky .......................... 466
Studies on Cryoprecipitation. II. Immunochemical Characterization of a Human Cryoglobulin. Anil Saha, Sheldon Sambury, Kenwyn Smart, Douglas C. Heiner, Austin U. Sargent and Bram Rose .................................................. 476
Cleavage of the Fe Fragment of IgA. Vincent Yakulis, Nicolas Costea and Paul Heller ......................... 488
Quantitative Estimation of Antibodies in Different Immunoglobulin Classes. Giorgio Torrigiani and Ivan M. Roitt ..................... 492
Molecular Heterogeneity of Immunoglobulin-M (γM-Globulin). Alan Solomon .................................................. 496

CELLULAR IMMUNOLOGY
Isoantigens Available to Circulating Antibodies. Isaac Witz, Nathan Kaliss and David Pressman .................................................. 283
The Immunologic Memory of LAF Mice following a Single Injection of Sheep Red Cells. Jevrosima Radovich, Helen Hemingsen and David W. Talmage .......................... 288
CONTENTS

Stimulation of Immunoglobulin and Anamnestic Antibody in Vitro. Diane J. Yashphe and Albert H. Coons ................................................................. 306
Characterization of IgM and IgG Antibodies Produced during the Anamnestic Response Initiated in Vitro. Henry P. Godfrey, Diane J. Yashphe and Albert H. Coons ................................................................. 317
Biologic Properties of Rat Antibodies. III. Histamine Release Mediated by Two Classes of Antibodies. Herbert C. Morse, III, K. Frank Austen and Kurt J. Bloch ................................................................. 327
Mechanism of Immunologic Tolerance. I. Induction of Tolerance to Bovine γ-Globulin by Injection of Antigen into Intact Organs in Vitro. David W. Scott and Byron H. Waksman ................................................................. 347
Ontogeny of Circulating Immunoglobulins in Normal, Bursectomized and Irradiated Chickens. Ronee van Meter, R. A. Good and M. D. Cooper ................................................................. 370
A Refractory Period in Adoptive Immunization following Secondary Stimulation of Mice. Frank J. Twarog and Noel R. Rose ................................................................. 375
Studies on the Induction of Immunologic Unresponsiveness. III. Antigen Form and Mouse Strain Variation. Edward S. Golub and William O. Weigle ................................................................. 389
Inhibition of Capillary Migration by Antigen-Antibody Complexes. Lynn Spitler, Heinz Huber and H. Hugh Fudenberg ................................................................. 404
The in Vitro Release of Leukocyte Histamine by Staphylococcal Antigens. R. Russell Martin and Arthur White ................................................................. 437
In Vitro Antibody Synthesis by Diffusion Chamber Cultures of Spleen Cells. I. Methods and Effect of 10,000 r on Antibody Synthesis. Douglas C. Vann and T. Makinodan ................................................................. 442
In Vitro Antibody Synthesis by Diffusion Chamber Cultures of Spleen Cells. II. Effect of Increased Levels of Free Antibody. Douglas C. Vann ................................................................. 451
Enhancing Antibody. I. Bioassay for Normal Skin Grafts. Barry Zimmerman and Joseph D. Feldman ................................................................. 507
Chromatographic Studies on Spleen and Lymph Node Extracts with Antibody Activity. Frederick I. Tsuji, David L. Davis and David H. Donald ................................................................. 519

IMMUNOPATHOLOGY

Immunoglobulin and Specific Antibody Synthesis in a Chronic Inflammatory Focus: Antigen-Induced Synovitis. Hugo E. Jasin and Morris Ziff ................................................................. 355
Immunologic Response to Altered Encephalitogenic Protein in Guinea Pigs. Robert H. Swanborg ................................................................. 381

MICROBIAL AND VIRAL IMMUNOLOGY

Humoral Immunity in Rodent Malaria. I. Estimation of Parasitemia by Electronic Particle Counting. Carter L. Diggs and Abraham G. Osler ................................................................. 292
Humoral Immunity in Rodent Malaria. II. Inhibition of Parasitemia by Serum Antibody. Carter L. Diggs and Abraham G. Osler ................................................................. 298
Immunosuppression by Leukemia Viruses. II. Cytokinetics of Appearance of Hemolysin-forming Cells in Infected Mice during the Anamnestic Response to Sheep Erythrocytes. Walter S. Cegłowski and Herman Friedman ................................................................. 338
Correlation between the Neutralizing Activity of Human Serum against Herpes Simplex Virus and a Simian Herpesvirus (SA8). B. Hampar, D. A. Stevens, L. M. Martos, D. V. Ablashi, M. A. K. Burroughs and G. A. Wells ................................................................. 397
Anti-Dengue Immunoglobulins and Serum β1γ/γ Globulin Levels in Dengue Shock Syndrome. Philip K. Russell, Anong Intavivat, L. M. Martos and Sopana Kancharapanit ................................................................. 412
Immunofluorescence Assay for Antigen and Antibody in Lactic Dehydrogenase Virus Infection of Mice. David D. Porter, Helen G. Porter and Beverly B. Deerhake ................................................................. 431

COMMUNICATIONS

Antigenic Relationship between the Equine and the Hong Kong Human Variant of Influenza Type A2 Virus. Julius A. Kasel, Robert V. Fulk and Robert B. Couch ................................................................. 530

NUMERER 3, MARCH 1969

IMMUNOCHEMISTRY

C3 Inactivator of Man. I. Hemolytic Measurement by the Inactivation of Cell-Bound C3. Shaun Ruddy and K. Frank Austen ................................................................. 533
CONTENTS

Immunocochemical Study of Hemoglobin-Free Human Erythrocyte Membranes. Calderon Howe and Lucille T. Lee .......................................................... 573

A Glycoprotein That Induces Nephrotoxic Antibody: Its Isolation and Purification from Rat Glomerular Basement Membrane. Seiich Shibata, Yuzo Miyakawa, Takuji Naruse, Toshiko Nagasawa and Takehide Takuma ..................................................... 593

Use of Insoluble Antibody for Quantitative Determination of Small Amounts of Immunoglobulin. Dean Mann, Harriet Granger and John L. Fahey .............................................................. 618

Studies on IgA. I. Fractionation Procedure for Isolation of IgA from Pooled Normal Human Plasma. Rainer H. Zschocke, Hans G. Griebte, Gerhard L. Bach and Truman O. Anderson 625

Hapten-Specific Insoluble Immunoabsorbents Prepared from Hide Powder (Collagen). Bernard B. Levine and Vera Levitska ............................................................ 647


Occurrence and Properties of Rabbit IgG Antibody. L. S. Rodkey and M. J. Freeman .......................................................... 713

Immunogenicity of a Fragment of Human Serum Albumin. Claude Lapresle and Irwin J. Goldstein .......................................................... 733

IMMUNOGENETICS

Identification and Genetic Control of Three Rabbit γA Immunoglobulin Allotypes. Thomas P. Conway, Sheldon Dray and Edward A. Lichter .......................................................... 544

Delineation of Two Antigenic Markers, “Non a” and “Non g” Related to the Genetic Antigens of Human Globulin. Jacob B. Natvig, Henry G. Kunkel and Fenneke G. Joelin .......................................................... 611


CELLULAR IMMUNOLOGY

Effect of Serum on Cells Producing Hemolytic Antibodies in Short-Term Experiments In Vitro. H. Strander .......................................................... 602

In Vitro and in Vivo Properties of Antimacrophage Sera. M. S. Hirsch, G. W. Gary, Jr. and F. A. Murphy .......................................................... 656

Development and Function of the Immunoglobulin-Producing System. II. Role of the Bursa in the Development of Humoral Immunological Competence. W. A. Cain, M. D. Cooper, P. J. Van Alten and R. A. Good .......................................................... 671

Characteristics of Some “Natural” Autoantibodies in Rabbits. Noel R. Rose and Constance E. Brinckerhoff .......................................................... 682

Mycoplasmoidal Effect of Polymorphonuclear Leukocyte Extract. Adnan S. Dajani and Elia M. Ayoub .......................................................... 698


Isologous and Homologous Lymphoid Transplants. II. Isolation of Three Stages of Immunoglobulin Production in the Differentiation of the Primary Immune Response to Protein Antigen. Newton E. Hyslop, Jr. and Sanford H. Stone .......................................................... 751

Subtypes of Human ABO Blood Groups and Subtype-Specific Antibodies. O. Mäkelä, E. Ruoslahti and C. Ehnholm .......................................................... 763

MICROBIAL AND VIRAL IMMUNOLOGY

Antibody Responses in Nasal Secretions and Serum of Elderly Persons following Local or Parenteral Administration of Inactivated Influenza Virus Vaccine. Julius A. Kasel, Evan B. Hume, Robert V. Fulk, Yasuboshi Togo, Margret Huber and Richard B. Hornick .......................................................... 555


Relationship between Viremia and Interferon Production of Japanese Encephalitis Virus. Hinnae K. Rokutanda .......................................................... 662
### CONTENTS

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>679</td>
<td>Latex Reagent for Determining IgM Levels in Cord and Newborn Sera.</td>
<td>John L. Sever, Edward Shanbrom, Robert Steinmeier, Steven A. Schacher,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>George McCracken and David A. Fuccillo.</td>
</tr>
<tr>
<td>688</td>
<td>The Effect of Induced Isohemagglutinin on the Course of Blood-Induced</td>
<td>L. L. Congdon, J. N. Farmer and R. P. Breitenbach.</td>
</tr>
<tr>
<td></td>
<td>Plasmodium lophurae Infections in Chickens.</td>
<td></td>
</tr>
<tr>
<td>728</td>
<td>Biologic and Immunologic Characteristics of Cold-Adapted Influenza</td>
<td>H. R. Maassab.</td>
</tr>
<tr>
<td></td>
<td>Virus.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and Bacteria.</td>
<td></td>
</tr>
<tr>
<td>772</td>
<td>A Mathematical and Experimental Study of the Kinetics of Neutralization</td>
<td>William M. Krummel and Jonathan W. Uhr.</td>
</tr>
<tr>
<td></td>
<td>of Bacteriophage φX 174 by Antibodies.</td>
<td></td>
</tr>
<tr>
<td>786</td>
<td>Inhibition of the Mixed Leukocyte Culture Reaction (MLC) by</td>
<td>Harold N. Rode and Julius Gordon.</td>
</tr>
<tr>
<td></td>
<td>Pre-incubation of the Leukocytes with Sucrose.</td>
<td></td>
</tr>
<tr>
<td>788</td>
<td>DNA-Binding Assay for Detection of Anti-DNA Antibodies of NZB/NZW</td>
<td>Alfred D. Steinberg, Theodore Pincus and Norman Talal.</td>
</tr>
<tr>
<td></td>
<td>F1 Mice.</td>
<td></td>
</tr>
<tr>
<td>790</td>
<td>Lack of Skin-Sensitizing Property of γD Myeloma Protein in Guinea</td>
<td>Zoltan Ovary.</td>
</tr>
<tr>
<td></td>
<td>Pigs.</td>
<td></td>
</tr>
<tr>
<td>795</td>
<td>Inhibition of the Lytic Effect of Guinea Pig Complement by Rabbit</td>
<td>Raymond A. Kempf, Irma Gigli and K. Frank Austen.</td>
</tr>
<tr>
<td></td>
<td>Complement.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Characterization from Ovarian Cyst Fluid of a Blood Group Substance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lacking A, B, H, Le a and Le b Specificity.</td>
<td></td>
</tr>
<tr>
<td>826</td>
<td>A Comparative Antigenic Study of γE-Globulin and Myeloma-IgND.</td>
<td>Hans Bennich, Kimishige Ishizaka, Teruko Ishizaka and S. Gunnar</td>
</tr>
<tr>
<td></td>
<td>Johansson.</td>
<td></td>
</tr>
<tr>
<td>832</td>
<td>A Comparison of Seven Procedures to Detect the Primary Binding of</td>
<td>Percy Minden, Bascom F. Anthony and Richard S. Farr.</td>
</tr>
<tr>
<td></td>
<td>Antigen by Antibody.</td>
<td></td>
</tr>
<tr>
<td>848</td>
<td>Presence of L-L Interchain Disulfide Bonds in Reconstituted γG</td>
<td>Howard M. Grey.</td>
</tr>
<tr>
<td></td>
<td>Molecules.</td>
<td></td>
</tr>
<tr>
<td>870</td>
<td>Immunochemical Studies on the Cross-Reactivity between Streptococcus</td>
<td>Judith A. Kane and Walter W. Karakawa.</td>
</tr>
<tr>
<td></td>
<td>bovis, Strain S19, and Group A Streptococcal Carbohydrates.</td>
<td></td>
</tr>
<tr>
<td>877</td>
<td>Studies on Brain Antigens. II. Water Soluble Antigenic Proteins of</td>
<td>Victor B. Hatcher and Catherine F. C. MacPherson.</td>
</tr>
<tr>
<td></td>
<td>Bovine Brain.</td>
<td></td>
</tr>
<tr>
<td>884</td>
<td>Histamine Release from Human Leukocytes by Anti-γE Antibodies.</td>
<td>Teruko Ishizaka, Kimishige Ishizaka, S. Gunnar O. Johansson and Hans</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bennich.</td>
</tr>
<tr>
<td>947</td>
<td>Factors Influencing the Production of Early, Heat Labile, Rabbit</td>
<td>Nathan J. Zwaifler and Jennifer O. Robinson.</td>
</tr>
<tr>
<td></td>
<td>Anaphylactic Antibody.</td>
<td></td>
</tr>
<tr>
<td>975</td>
<td>Immunoglobulins of the Rhesus Monkey (Macaca mulatta). III. Structure</td>
<td>James D. Lakin, Roy Patterson and Jacob J. Pruzansky.</td>
</tr>
<tr>
<td></td>
<td>and Activity of Rhesus IgG and IgM Antibodies Synthesized in the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary Response and in the Hyperimmune State.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IgM Anti-Forssman Antibodies Using the C'1a Fixation and Transfer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technique.</td>
<td></td>
</tr>
<tr>
<td>993</td>
<td>The Effects of Ionic Strength, Temperature, and Antibody Class and</td>
<td>William D. Linscott.</td>
</tr>
<tr>
<td></td>
<td>Avidity on Fixation and Transfer of the First Component of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complement.</td>
<td></td>
</tr>
<tr>
<td>1032</td>
<td>Structural Analysis of a Slowly Sedimenting Proteolytic Fragment of</td>
<td>Anne Goodman and F. P. Inman.</td>
</tr>
<tr>
<td></td>
<td>Human Immunoglobulin M.</td>
<td></td>
</tr>
</tbody>
</table>
Biologic Activity and Morphology of Three Types of Rabbit IgM Antibody Subunits. Bruce Chesebro and Sven-Eric Svehag ........................................................... 1064

CELLULAR IMMUNOLOGY

An Isotopic Antiglobulin Technique for Measuring Antibodies to Cell-Surface Antigens. F. C. Sparks, C. C. Ting, W. G. Hammond and R. B. Herberman ........................................................... 842


The Immune Response of Mice to Keyhole Limpet Hemocyanin Bound to Macrophages. Emil R. Unanue ................................................................................ 893

A Method for the Immunoadsorption of Cells to an Antibody-Coated Polyurethane Foam. Warren H. Evans, Michael G. Mage and Elbert A. Peterson ........................................................... 899

Enrichment of Antibody Plaque-Forming Cells by Immunoadsorption to an Antigen-Coated Polyurethane Foam. Michael G. Mage, Warren H. Evans and Elbert A. Peterson ........................................................... 908

Use of Thymectomized, Irradiated Rats to Study Immunogenicity of Bovine γ Globulin. R. Michael Williams and Byron H. Waksman ................................................................................ 925

Studies on Heterologous Antilymphocyte and Antithymocyte Sera. III. Differential Effects of Rabbit Anti-Mouse Sera on Splenic Lymphocytes and Macrophages. Rolf F. Barth, Robert L. Hunter, Joanne Southworth and Alan S. Rabson ................................. 932

Do Antibody-Forming Cells Circulate in the Blood? Jeffrey M. Roseman, Lee D. Leserman, Frank W. Fitch and Donald A. Rowley ........................................................... 990

The Immunosuppressive Effect of Passively Administered Antibody IgG Fragments. Jean-Charles Cerottini, Patricia J. McConahey and Frank J. Dixon ........................................................... 1008


Graft Versus Host Inhibition. I. Incubated Parental Strain Spleen and Liver Cells Administered to F1 Mice. Mortimer M. Bortin, Alfred A. Rimm and Edward C. Saltzstein .......................... 1042

Studies of the Chicken Immune Response. III. Cellular and Humoral Antibody Production in the Splenectomized Chicken. Sister Danile Keily and Peter Abramoff ........................... 1058

Delayed Hypersensitivity. III. Effect of Pre-exposure to Antigen upon Macrophage Migration: Eleanor A. Lipsmeyer and Fred S. Kantor ..................................................................................... 1074

Antigen-Induced Cell Proliferation in Cultures from Antibody-Deficient Chickens. H. J. Meuwissen, P. J. Van Alten and R. A. Good ..................................................................................... 1079

Differentiation of Antibody-Forming Cells. II. Effect of Antigen Dose on Proliferation of Precursor Cells and Plaque-Forming Cells. Priscilla A. Campbell and Phyllis Kind ........................................................... 1084

IMMUNOPATHOLOGY

The Effect of Intravenous Antigen on Circulating Monocytes in Animals with Delayed Hypersensitivity. Takeshi Yoshida, Baruj Benacerraf, Robert T. McCluskey and Pierre Vassalli ................................. 804

Lymphocyte in Vitro Cytotoxicity: Mechanism of Lymphotoxin-Induced Target Cell Destruction. Terry W. Williams and Gail A. Granger ................................................................................... 911

Wasting Disease Induced with Cortisol Acetate. III. Immunologic Studies. John W. Jutila ..................................................................................... 963

MICROBIAL AND VIRAL IMMUNOLOGY

Extracellular Esterases of Streptococci and the Distribution of Specific Antibodies in Human Sera of Various Age Groups. Aaron H. Stock and Raymond J. Lynn ........................................................................ 859

Development of Humoral and Cell-Mediated Immunity to Lymphocytic Choriomeningitis Virus in the Mouse. Jørgen Hannover Larsen ........................................................................ 941

Antibodies to Herpesvirus hominis Types 1 and 2 in the Rabbit. André J. Nahmias, Walter R. Dowdle, Joel H. Kramer, Carolyn F. Luce and S. Cleo Mansour ........................................................................ 956


Physical Characteristics of Rubella Virus. Kendall O. Smith and Thomas E. Hobbins ................................................................................... 1016

CONTENTS ix

Development of an Attenuated Mumps Virus Vaccine. II. Immune Response of Animals to Vaccination with Inactivated and Live Attenuated Mumps Viruses. Grace Shramek and Friedrich Deinhardt ................................................................................ 1093

COMMUNICATIONS

Distribution of Keto-Deoxyoctononic Acid and Sialic Acid in N. meningitidis. Eberhard Hackenthal ....................................................................................... 1099

Antibody Responses in Children and Elderly Persons following Local or Parenteral Administration of an Inactivated Influenza Virus Vaccine, A~/Hong Kong/68 Variant. Robert V. Fulk, David S. Fedson, Margret A. Huber, James R. Fitzpatrick, Bruce F. Howar and Julius A. Kasel ..................................................................................... 1102

The Subunit Structure of Influenza Virus Envelope Protein. Edward A. Eckert ...................................................................................... 1105

NUMBER 5, MAY 1969

IMMUNOCHEMISTRY

Immunochemical Relationships of Certain Streptococcal Group and Type Polysaccharides to Pneumococcal Capsular Antigens. Michael Heidelberger, Jan M. N. Willers and Marc F. Michel .................................................................................... 1119

Quantitative Precipitin Analysis of Influenza Virus Host Antigen and of Sulfated Mucopolysaccharides of Chicken Embryonic Allantoic Fluid. Lucille T. Lee, Calderon Howe, Karl Meyer and Haing U. Choi ................................................................. 1144

Anti-Immunoglobulin Control of Immune Hemolysis. J. A. Romeyn and Stephen Ross .................................................................................. 1242

Preparation of Fluorescent Antibody Reagents Monospecific to Light Chains of Human Immunoglobulin. Morinobu Takahashi, Yasuo Yagi and David Pressman .................................................................................. 1268

Induction of Immunity and Immunologic Paralysis in Mice against Polyvinyl Pyrrolidone. Birger Andersson ................................................................................ 1309

IMMUNOGENETICS

A New Allotypic Antigen of Rabbit Colostral γA Immunoglobulin. Tohru Masuda, Kagemasa Kuribayashi and Massao Hansaka ......................................................................................... 1156

Detection of Rabbit Pancreas-Specific Isoantibodies by Bis-Diazotized Benzidine Hemagglutination. Constance E. Brinckerhoff and Noel R. Rose .................................................................................. 1208


CELLULAR IMMUNOLOGY

Isolation and Characterization of Free λ Chain of Immunoglobulin Produced by an Established Cell Line of Human Myeloma Cell Origin. I. λ Chain in Culture Medium. Y. Matsuoka, Y. Yagi, G. E. Moore and D. Pressman .................................................................................. 1136

Immunologic Unresponsiveness in the Adult Guinea Pig. IV. Induction of Unresponsiveness with Aggregated Serum Proteins. Harold F. Dvorak, Blanche A. Simpson and Robert C. Bast, Jr................................................................. 1163

Ca++-Dependent Binding of Antigen-19 S Antibody Complexes to Macrophages. Waltraut H. Lay and Victor Nussenzweig ......................................................................................... 1172


Local Plasmacytopoiesis in Delayed Hypersensitivity Reactions. M. H. Flax, J. H. Elliott, J. J. Daly, K. Willms-Kretschmer, J. S. McCarthy and S. Leskowitz .................................................................................. 1214

The Response of Long- and Short-Lived Small Lymphocytes of the Rat to Pokeweed Mitogen. Larry Stayner and M. Roy Schwarz .................................................................................. 1260

Pattern of Immunoglobulin Production in Individual Cells of Human Hematopoietic Origin in Established Culture. Morinobu Takahashi, Yasuo Yagi, George E. Moore and David Pressman .................................................................................. 1274

Coccidioidin Delayed Hypersensitivity: Skin Test and in Vitro Lymphocyte Reactivities. Burton Zweiman, Demosthenes Pappagianis, Howard Maibach and Eugene A. Hildreth ................................................................. 1284
CONTENTS

IMMUNOPATHOLOGY

Alterations in Immune Responses by Attenuated Venezuelan Equine Encephalitis Vaccine. II. Pathology and Soluble Antigen Localization in Guinea Pigs. Jim W. Airhart, Gilberto S. Trevino and Charles P. Craig. ............................................................. 1228

MICROBIAL AND VIRAL IMMUNOLOGY

Antigenic Relationships among the Coronaviruses of Man and between Human and Animal Coronaviruses. Kenneth McIntosh, Albert Z. Kapikian, Kathleen A. Hardison, Janet W. Hartley and Robert M. Chanock ................................................................... 1109

The Detection of Neutralizing Antibody to Lymphoeytic Choriomeningitis Virus in Mice. John Hotchin, Lois Benson and Edward Sikora. ................................................................................ 1128

Discrimination between Two Strains (Types) of Herpes Simplex Virus by Various Modifications of the Neutralization Test. Clayton E. Wheeler, Jr., Robert A. Briggaman and Richard R. Henderson. ................................................................. 1179

Alterations in Immune Responses by Attenuated Venezuelan Equine Encephalitis Vaccine. I. Adjuvant Effect of VEE Virus Infection in Guinea Pigs. Charles P. Craig, Scott L. Reynolds, Jim W. Airhart and Edward V. Staab .......................................................

Studies of Immune and Normal Opsonins during Experimental Staphylococcal Infection in Rabbits. D. Scott Nickerson, John A. Kazmierowski, John H. Dossett, Ralph C. Williams, Jr. and Paul G. Quiè. ............................................................... 1235


The Adjuvant Effect of Powdered Ferric Oxide: Enhancement of Response to Mycoplasma pneu-
moniae and Respiratory Syncytial Virus Vaccines. Joel Warren, Meir Kende and Kouichi Takano. .............................................................................................................. 1300


COMMUNICATIONS

Complement: Heterogeneity of Binding of the First Component of Complement as a Function of Antibody Concentration. William D. Linscott ................................................................. 1322

Density of BAI Strain A Avian Leukosis Virus-Antibody Complexes Relative to Antigen-Antibody Ratio. Robert B. Fritz and J. W. Beard. .................................................................................. 1326

Cytophilic Antibody in Heterologous Antilymphocytic Serum: Its Presence, Absorption and Possible Biologic Significance. P. G. Gill. .................................................................................. 1329

Susceptibility of Anti-Chlamydial IgG Antibodies to Reduction and Alkylation. Abdallah M. Isa. ........................................................................................................... 1332

SPECIAL ARTICLE

Abstracts of Papers Presented at the United States-Japan Complement Seminar, Tokyo, Japan, November 11-13, 1968 ................................................................. 1336

NUMBER 6, JUNE 1969

IMMUNOCHEMISTRY

Decreased Rate of Synthesis of Immunoglobulin (IgG) in Rats Infected with Moloney Leukemia Virus. Susan F. Cure and Natalie E. Cremer. ................................................................. 1345

Immunochemical Studies on Blood Groups. XLIII. The Interaction of Blood Group Substances from Various Sources with a Plant Lectin, Concanavalin A. Kenneth O. Lloyd, Elvin A. Kabat and Sherman Beychok. .................................................................................. 1354

Immunochemical Studies on Blood Groups. XLIV. Human Antibodies against a New Determinant Present in Blood Group Substances from Hog Gastric Mucosa. Carlos Moreno and Elvin A. Kabat. .......................................................................................... 1363

Antigen-Antibody Reactions in Agar. VII. A Micro-Modification of the Oudin Agar Gel Precipitin Method for the Determination of Antibody Concentrations in Absolute Weight Units. Alonza R. Hayden. .......................................................................................... 1394
Antigen-Antibody Reactions in Agar. VIII. Treatment of Antisera and Optical Densities of Precipitin Reactions. Alonza R. Hayden and Elmer L. Becker ......................... 1398
The Enhancement of Antibody Formation by Escherichia coli Lipopolysaccharide and Detoxified Derivatives. Jay R. Schenck, Martha P. Hargie, Mickey S. Brown, Donna S. Ebert, Agnes L. Yoo and Floyd C. McIntire ........................................ 1411
Immunochimical Studies in Cobrotoxin. C. C. Chang and C. C. Yang .................... 1437
Studies on Thyroglobulin Immunity. VI. Thyroid Hormones and Thyroglobulin Specificity. S. S. Margherita and B. N. Premachandra ........................................ 1511

IMMUNOGENETICS
Comparison of AA1 Allotypic Specificity Carried by Rabbit IgG and IgM. Mariangela Segre, Diego Segre and F. P. Imman .................................................. 1368
Availability of Transplantation Alloantigens to Circulating Antibodies: Studies with Alloantibodies of Known Specificity. Isaac Witz, Gustavo Cudkowicz and David Pressman ................. 1373
Individual Patterns of Ram Seminal Antigens. Abraham C. Kulangara .................... 1445
Immunoglobulin Synthesis by Cultured Mouse Myeloma Cells. Yuziro Namba and Masao Hansoka .............................................................. 1486
The Influence of Heredity and Environment on Human Immunoglobulin Levels. M. Allansmith, B. McClellan and M. Butterworth ............................................ 1504

CELLULAR IMMUNOLOGY
Inhibition of in Vitro Cell Migration in Experimental Allergic Encephalomyelitis. Helene C. Rauch, R. W. Ferraresi, S. Raffel and Elizabeth Roboz Einstein ....................... 1431
Inhibition of Macrophage Migration by a Skin-Reactive Polysaccharide from BCG Culture Filtrates. H. P. Godfrey, Harold Baer and S. D. Chaparros ..................... 1466

IMMUNOPATHOLOGY
Antigens of Normal and Atherosclerotic Intima. Hans W. Intorp, Felix Milgrom and Ernest Witebsky .............................................................. 1404
The Effect of Antilymphocytic Serum (ALS) on the Reticuloendothelial System (RES) of Mice. Villis R. Marshall and Peter R. Knight ........................................ 1498

MICROBIAL AND VIRAL IMMUNOLOGY
The Serum Bactericidal Reaction. III. Antibody and Complement Requirements for Killing a Rough Escherichia coli. John N. Goldman, Shaun Ruddy, K. Frank Austen and David S. Feingold ................................................................. 1379
Distribution of Poliovirus Antibody in Serum, Nasopharynx and Alimentary Tract following Segmental Immunization of Lower Alimentary Tract with Poliovaccine. Pearay L. Ogra and David T. Karzon ........................................ 1423
Immobilizing Antibodies in Pyelonephritis. George J. Pazin and A. I. Braude ......... 1454

COMMUNICATIONS
Unusual Conditions for Crystallization of the Fe Fragment of Chicken IgG. Ralph T. Kubo and Albert A. Benediet ......................................................... 1523
Reactivity of Human Lymphocytes to Autologous and Homologous Serum. Allen B. Bredt and Michael R. Mardiney, Jr. ............................................. 1526