

THE JOURNAL OF **IMMUNOLOGY**[®]

Official Journal of The American Association of Immunologists □□□

Introducing Our 1975 Line of Testing Services.

**Our expanded 'Viral Testing Laboratory'...
your special requirements are our routine.**

ANIMAL SERODIAGNOSTIC TESTING

Hemagglutination Inhibition (HI) or
Complement Fixation (CF) or
Indirect Immunofluorescence (IFA)

Reovirus Type 3

Pneumonia Virus of Mice (PVM)

K Virus

Theiler's Encephalomyelitis (GD VII)

Polyoma

Sendai

Minute Virus of Mice (MVM)

Mouse Adenovirus

Mouse Hepatitis (MHV)

Simian Myxovirus (SV_s)

Toolan H-1

Kilham Rat Virus (KRV)

Lymphocytic Choriomeningitis (LCM)

Ectromelia (using Vaccinia virus)

Rat Coronavirus (RCV)

Avian Leucosis (COFAL)

ANIMAL VIRUS DIAGNOSTIC TESTING

Mouse Antibody Production (MAP)

Lymphocytic Choriomeningitis (LCM) Virus
Isolation

Lactic Dehydrogenase Virus Isolation

Murine Leukemia Virus By XC Plaque Assay

VIRUCIDAL ASSAYS

HUMAN SERODIAGNOSTIC TESTING

Herpes Simplex

Coxsackie Group B

Mumps

Cytomegalovirus

Mycoplasma pneumoniae

Other viral antibody screening available on
request.

MYCOPLASMA TESTING

Isolation from Cell Cultures,
Reagents, Clinical Specimens or
Animal Species Identification

BACTERIOLOGICAL TESTING

Isolation of Salmonella sp.
and Pseudomonas sp. from
mouse fecal specimen

Our Serodiagnostic Testing Laboratory is
licensed as a Clinical Laboratory by both the
Center for Disease Control, Atlanta, Georgia
and the State of Maryland.

Since we cannot anticipate all of the require-
ments investigators may have, please let us
know if you require testing services not listed.

Please write if you would like additional
information or, you may call us Toll Free
800 638-0998. Maryland customers call
(301) 654-3400.



**MICROBIOLOGICAL
ASSOCIATES**

A Division of Whittaker Corporation
MAIN OFFICE / 4733 BETHESDA AVE
BETHESDA, MARYLAND 20014

THE JOURNAL
OF
IMMUNOLOGY

VOLUME 115

NUMBER 1 TO 3

BALTIMORE, MD. 21202
1975

COPYRIGHT © 1975 BY THE WILLIAMS & WILKINS COMPANY

THE JOURNAL OF IMMUNOLOGY®

INFORMATION FOR CONTRIBUTORS

Manuscripts should be sent to

Dr. Joseph D. Feldman
Department of Immunopathology
Scripps Clinic and Research Foundation
La Jolla, California 92037

If and when the manuscript is published, it will become the sole property of the Journal and all copyright will be taken out in the name of The Williams & Wilkins Company, and all rights in copyright reserved to The Williams & Wilkins Company.

Contributions may be short or long; the length should be commensurate with the scientific content. The chief criteria for acceptance are quality, originality and clarity.

INSTRUCTIONS FOR PREPARATION OF MANUSCRIPT

The original and two (2) copies of the manuscript, including references, legends, figures and illustrations, must be submitted. The text and all other material, e.g., footnotes, references, acknowledgments, must be typed in double space (at least $\frac{3}{16}$ inch or 5 mm spacing) on one side of $8\frac{1}{2}'' \times 11''$ paper of good quality. The two (2) copies may be legible carbon, mimeographed or xerox copies.

A short title to be used as a running head should be typed alone on the first page. Type the complete title on the second page, and the authors' full names (first name, middle initial(s), surname) and affiliations on the third page. *The format of the Journal must be followed in typing the text and the list of references.* All material to be set in a type size different from that of the text, such as tables, case histories, quotations, formulas, legends for figures and illustrations, footnotes, and references must be typed on separate pages. If abbreviations are to be used in the paper, the abbreviations and their meanings should be typed double-spaced on a separate sheet. Legends should not be attached to or

written on figures or illustrations. The position of tables and figures in the text may be indicated on the page margin.

Manuscripts that do not conform to these specifications may not be accepted, at the Editor's discretion.

Illustrations and Photomicrographs. Photographs of figures and other illustrative material must be on glossy paper (in triplicate); they must be clearly marked on the reverse side with the number, author's name and orientation (top). Graphs should be in black ink on unlined or bluelined paper. If graphs exceed $9'' \times 12''$ in size, they must be accompanied by glossy photographic reproductions within that size.

For photomicrographs a better grade of paper may be used at additional cost, up to \$100.00 for a single page. Estimates can be obtained when the manuscript is submitted for publication.

Communications. Short papers, at the author's request, may be printed in the Communications section of the Journal. These papers must not exceed two (2) printed pages in length, including summary, references, tables and figures. The text of a full printed page contains about 1,000 words. If accepted, their publication will be accelerated, usually within three (3) months of receipt by the Editor's office. For this reason, proofs are not sent to authors, but rather to the office of the Editor. Suitability for publication will be judged on the basis of timeliness, novelty and importance by the usual refereeing procedure. The author must bear the complete cost of publication, at the rate of \$110.00 per page.

Page Charges. Authors will be charged \$110.00 per page for each page exceeding four (4) per article and \$110.00 per page for each page of a Communication.

Reprints. Reprints must be ordered in advance. A form showing the cost of reprints, together with an order slip, is sent with the galley proof. No more than 1,000 reprints of any article may be purchased. The invoice for reprints will include any charge for excess pages.

**THE AMERICAN ASSOCIATION
OF IMMUNOLOGISTS**

OFFICERS

Robert A. Good, *President*
New York, New York

Manfred M. Mayer, *Vice President*
Baltimore, Maryland

Henry Metzger, *Secretary-Treasurer*
American Association of Immunologists
9650 Rockville Pike
Bethesda, Maryland 20014

COUNCILLORS

K. Frank Austen
Boston Massachusetts

David W. Talmage
Denver Colorado

Irwin H. Lepow
Farmington, Connecticut

D. Bernard Amos
Durham, North Carolina

Joseph D. Feldman
La Jolla, California

THE JOURNAL OF IMMUNOLOGY®

Information for Subscribers

Published monthly, beginning January, 1929. (From 1916 to 1925, and in 1928 Volumes I-X inclusive, and Vol. XV published bi-monthly.)

The subscription price is \$80.00 per year in U.S.A.; \$83.75 elsewhere; institutions \$100.00. Single copies, when available, are \$8.50 in U.S.A.; \$8.75 elsewhere. The subscriptions of members of the American Association of Immunologists are included in the membership dues and are handled by the Association's Treasurer, Dr. Henry Metzger, American Association of Immunologists, 9650 Rockville Pike, Bethesda, Md. 20014. All other subscriptions should be sent to the publishers.

Change of address: Publisher must be notified 60 days in advance. Journals undeliverable because of incorrect address will be destroyed. Duplicates can be obtained (if available) from the publisher at the regular price of single issues.

New subscriptions and renewals are entered to begin with the January or July issue.

Subscriptions should be renewed promptly: To avoid a break in your series, subscriptions should be renewed promptly. The publishers cannot guarantee to supply back issues on belated renewals.

Microfilm. For availability, inquire of The Williams & Wilkins Company.

Reprints of individual articles are available *only* from authors.

THE WILLIAMS & WILKINS COMPANY

BALTIMORE, MARYLAND 21202 U. S. A.

FROM ACADEMIC PRESS . . .

ADVANCES IN IMMUNOLOGY

VOLUME 21

edited by F. J. DIXON and HENRY G. KUNKEL

CONTENTS: *R. J. Poljak*, X-Ray Diffraction Studies of Immunoglobulins. *T. J. Kindt*, Rabbit Immunoglobulin Allotypes: Structure, Immunology, and Genetics. *W. O. Weigle*, Cyclical Production of Antibody as a Regulatory Mechanism in the Immune Response. *A. Coutinho and G. Moller*, Thymus-Independent B-Cell Induction and Paralysis. 1975, 256 pp., \$20.00/£9.60

THE ANTIGENS

VOLUME 3

edited by MICHAEL SELA

CONTENTS: *K. Jann and O. Westphal*, Microbial Polysaccharides. *J. W. Goodman*, Antigenic Determinants and Antibody Combining Sites. *G. L. Ada and P. L. Ey*, Lymphocytic Receptors for Antigens. *D. G. Marsh*, Allergens and the Genetics of Allergy. *S. Ferrone, M. A. Pellegrino, and R. A. Reisfeld*, A Biologic and Chemical Profile of Histocompatibility Antigens. *G. E. Kenny*, Antigens of the Mycoplasmatales and Chlamydiae. *W. H. Burns and A. C. Allison*, Virus Infections and the Immune Responses They Elicit. 1975, 656 pp., \$46.50/£22.30; subscription price, \$39.50

Miami Winter Symposia—Volume 9

MOLECULAR APPROACHES TO IMMUNOLOGY

edited by E. E. SMITH and D. W. RIBBONS

(Proceedings of the Miami Winter Symposia, January 13–17, 1975, sponsored by the Department of Biochemistry, University of Miami, Miami, Florida)

CONTENTS: *G. M. Edelman*, The Sixth Feodor Lynen Lecture. The Shock of Molecular Recognition. *G. M. Edelman*, The Subject and Style of Modern Immunology: An Introduction. *H. N. Claman*, Current Concepts in Cellular Immunology. *G. E. Roelants*, Recognition of Antigen by T Lymphocytes. *M. Cohn*, The Logic of Cell Interactions in Determining Immune Responsiveness. *M. D. Scharff, et al.*, The Use of Mutant Myeloma Cells to Explore the Production of Immunoglobulins. *C. Milstein, et al.*, Immunoglobulin Genes in a Mouse Myeloma and in Mutant Clones. *A. R. Williamson and A. J. McMichael*, Genes Coding for Antibodies. *P. Leder, et al.*, The Organization and Diversity of Immunoglobulin κ and γ Genes. *B. A. Cunningham*, Cell Surface Antigens and Cell Surface Proteins. *D. H. Katz, et al.*, The Role of Products of the Histocompatibility Gene Complex in Immune Responses. *A. L. Goldstein, et al.*, The Role of Thymosin and the Endocrine Thymus on the Ontogenesis and Function of T-Cells. *R. K. Gershon*, Immunoregulation by T Cells. *R. W. Holley and I. S. Trowbridge*, Control of Growth of Mammalian Cells. *E. Haber, et al.*, Restricted Clonal Responses: A Tool in Understanding Antibody Specificity. *B. F. Frangione, et al.*, Repetitive Hinge Region Sequences in a $\gamma 3$ Heavy Chain Disease Protein—Isolation of an 11,000 Dalton Fragment. *F. A. Garver, et al.*, Structural Characterization of a Mutant Human Lambda Type L-Chain Immunoglobulin. *F. A. Garver, et al.*, Heterogeneity of the C-Region of an IgG1 Immunoglobulin: The Structure of γ -Heavy Chain Disease Protein Baz. *A. Lipton, et al.*, Growth Factor for a Viral Transformed Cell from Rat Liver and Hemicorpus Perfusion. *E. Kondracki and F. Milgrom*, Lymphocyte Responses to Mitogens and Antigens in Agarose-Gel Cultures. *H. W. Chen, et al.*, Sterol Synthesis in Normal, Phytohemagglutinin-Stimulated, and Leukemic Mouse Lymphocytes. *G. Koch, et al.*, Can Protein Synthesis in Cultured Cells be Regulated by Membrane-Mediated Events? *J. A. Molinari, et al.*, Alteration of Membrane Antigens by Trypsin. *H. Whitten, et al.*, IgM Complex Receptors on T and B Lymphocytes. *B. Q. Lanier, et al.*, B and T Lymphocytes in Dysgammaglobulinemia. *E. G. Elias*, The Role of Thymic Extract in Transfer of Delayed Hypersensitivity (D.H.S.) and Immunostimulation. *R. K. Zwerner and R. T. Acton*, Growth Properties and Alloantigenic Expression of Murine Lymphoblastic Cell Lines Grown in Suspension Culture. *C. Bell*, Regulation of Ab Activity of Rabbit (Rab) Ig⁺ Lymphocytes (LC) by Products of Rab Ig⁻ LC. *W. Liang and E. P. Cohen*, Evidence for the Genetic Control of Antigenic Modulation. *N. A. Sher, et al.*, The Response of Congenitally Athymic (NUDE) Mice to Infection with *Mycobacterium Bovis* (Strain BCG). *B. Becker and J. R. Kaufman*, Nonspecific Stimulators of the Immune System. 1975, 370 pp., \$15.00/£7.20

Miami Winter Symposia—Volume 10

CRITICAL FACTORS IN CANCER IMMUNOLOGY

edited by J. SCHULTZ and R. C. LEIF

(Proceedings of the Miami Winter Symposia, January 13–17, 1975, sponsored by the Papanicolaou Cancer Research Institute, Miami, Florida)

CONTENTS: *F. N. Putnam*, Structure and Function of Immunoglobins. *M. Sela*, Synthetic Approaches to Some Applied Aspects of Antigenicity. *F. H. Bach, et al.*, Detection of Cell Surface Alloantigens. *E. Farber, et al.*, New Antigen Markers for Premalignant Cell Populations in Liver Cancer. *A. Nisonoff, et al.*, Genetic Control of Homogeneous Anti-Phenylarsonate Antibodies Produced in Strain A Mice. *R. C. Leif, et al.*, The Identification by Plaque Cytogram Assays and BSA Density Distribution of Immunocompetent Cells. *P. A. Alexander and S. A. Eccles*, The Contribution of Immunological Factors to the Control of Metastatic Spread of Sarcoma in Rats. *H. H. Fudenberg*, Are Autoimmune Diseases and Malignancy Due to Selective T-Cell Deficiencies? *K. E. Hellstrom and I. Hellstrom*, The Role of Blocking Serum Factors in Immunity to Embryonic Tumor Antigens. *W. D. Terry*, Current Status of Selected Approaches to Immunotherapy. *E. Klein*, Immunological Aspects of Burkitt's Lymphoma and the Epstein-Barr Virus. *A. White*, Integration of the Effects of Thymosin and Other Hormones in the Regulation of Host Immunological Competence. *H. S. Lawrence*, Transfer Factor and Cancer. *A. H. Rule*, Does Human Carcinogenesis Involve Derepressive Gene Activation?: Oncoclonal Antigens, A Model System. *H. J. Heiniger and B. A. Taylor*, Genetic Control of Lymphocyte Transformation by PHA. *E. B. Rosenberg, et al.*, Carcinoembryonic Antigen Levels in Normal Blood Bank Donors. *N. T. Felberg, et al.*, CEA Family Syndrome: Abnormal Carcinoembryonic Antigen (CEA) Levels in Families with Retinoblastoma. *B. Schachter, et al.*, Normal Human Sera Detecting Human Leukemia Associated Antigens. *E. L. Lloyd, et al.*, Immunodiagnostic Test for Osteosarcoma in Patients with a High Body Burden of Radium. *H. N. Rose and C. M. McGrath*, Immunochemical Demonstration of α -Lactalbumin Synthesis in a Human Mammary Carcinoma Cell Line. *M. M. Black, et al.*, Immunogenicity of Human Breast Cancer; Antigenic Similarity to Murine Mammary Tumor Virus (MuMTV). *P. Koldovsky, et al.*, Attempt to Distinguish Surface Antigens of Wilms' Tumor Derived Cells. *T. L. Rednour and A. S. Bennett*, Lipid Composition of Plasma Membranes of Spontaneous Mammary Carcinomas in Mice. *R. B. Naso, et al.*, The Specific Immune-Precipitation of Intracellular Precursor-Like Polypeptides of Rauscher Leukemia Virus. *I. Schenkein and J. C. Bystryk*, Partial Isolation, Specificity and Immunogenicity of Antigens Associated with the B16 Melanoma. *T. W. Orme, et al.*, Cellular Localization of HSV-2 Associated Antigens in Transformed Mouse Cells. *J. S. Lo and J. A. Kellen*, Immunochemical Studies in Experimental Glioma. *E. L. Springer, et al.*, Scanning and Transmission Electron Microscopy of Human T Cell Mediated Cytolysis. *E. W. Lamon, et al.*, Tumor Cell Destruction by Lymphocytes Induced with Tumor Specific IgM. *B. H. Tom, et al.*, Leukocyte Aggregation Test: *In Vitro* Assessment for Transplantation and Tumor Immunity. *K. F. Lindahl and F. H. Bach*, Specific Recognition of Mouse H-2 Alloantigens by Human Lymphocytes. *C. B. Bagwell, et al.*, A Mathematical Model and Computer Simulation of the Growth and Rejection of a Murine Ascites Tumor Allograft. *T. S. Johnson, et al.*, Immunization of Mice against Syngeneic

EL4 Tumor Challenge by Inoculations of Radiation-Blocked EL 4 Cells. *D. L. Prudhomme, et al.*, Determination of complement-Dependent Antibody Cytotoxicity for EL4 Leukemia Cells by Cell Volume Distribution Analysis. *S. A. Benjamin, et al.*, Immune Dysfunction and Pulmonary Neoplasia Induced by Chronic Pulmonary Irradiation. *R. Spitzer, et al.*, Evidence Indicating Malfunction of Complement as a Vital Factor in the Evolution of Acute Lymphocytic Leukemia. *H. F. Havas and M. Fenton*, The Effect of Plasmacytomas on Immunoglobulin Levels and on the Primary Immune Response of Balb/C Mice. *W. Dutz, et al.*, Persistent Cell Mediated Immune Deficiency Following Infantile Diarrhea. *T. Blanke, et al.*, Immunostimulant Properties of Amphotericin B. *G. Medoff, et al.*, The Immunotherapeutic and Antitumor Properties of Amphotericin B. *H. B. Warner and H. R. Strausser*, Enhancement of Mycobacteria-Induced Cellular Immune Responses with Endotoxin. *P. S. Morahan, et al.*, Macrophage Mediated Antitumor Activity Induced by a Synthetic Immunopotentiator (PYRAN). *A. Ghaffar*, Anti-Tumor Effect of *C. PARVUM*: Effect on the Immune Response to Live and Irradiated Tumour. *M. M. Bortin, et al.*, Graft versus Leukemia VI. Adoptive Immunotherapy in Combination with Chemoradiotherapy for AKR Spontaneous Leukemia-Lymphoma. *R. N. Hiramoto and V. K. Ghanta*, A Model for Determining the Minimal Residual Tumor Cell Numbers. *H. G. Gratzner, et al.*, Immunofluorescent Identification of DNA Replication in Single Cells with Anti-BRDU Antibodies.

1975, 368 pp., \$18.50/£9.25

N.B.: Postage plus 50c handling charge on all orders not accompanied by payment.

Prices subject to change without notice.

ACADEMIC PRESS

A Subsidiary of Harcourt Brace Jovanovich, Publishers
111 FIFTH AVENUE, NEW YORK, N.Y. 10003
24-28 OVAL ROAD, LONDON NW1 7DX