INSTRUCTIONS FOR AUTHORS

Cancer Research, the official journal of the American Association for Cancer Research, Inc. (AACR), is devoted to the publication of significant, original studies in the basic and clinical areas of cancer research. Topics include biochemistry; biophysics; chemical, physical, and viral carcinogenesis and mutagenesis; clinical investigations including clinical trials; endocrinology; epidemiology and prevention; experimental pathology; experimental therapeutics; immunology and immunotherapy including biological therapy; molecular biology and genetics; physiology; radiobiology and radiation oncology; tumor biology, and virology.

Only papers reporting original, significant research and meeting high standards of scientific merit will be accepted. Papers are stringently reviewed and regular research articles are published within an average of 62 days from acceptance.

CATEGORIES OF PUBLICATION

The following types of material will be considered for publication:

(1) Papers reporting original experimental, clinical, translational or epidemiological studies relating to cancer that are well documented, novel and significant.

(2) Advances in Brief, which are short, definitive reports of highly significant and timely findings in the field. These submissions receive rapid review and, if acceptable, are published within 6-12 weeks of receipt. Manuscripts are published within 43 days of their acceptance. Those deemed to be of the highest priority will appear in print within 30 days of their acceptance. They should be approximately 3 printed pages in length (about 12 double-spaced typescript pages), containing an Abstract of about 100 words, a one-paragraph Introduction, an abbreviated Materials and Methods section, Results and Discussion sections (which may be combined), a maximum of 20 references, and no more than 4 items for the display of data (any combination of figures and tables).

(3) Perspectives in Cancer Research, which are invited articles analyzing very active or undeveloped areas of research and presenting fresh insights and personal viewpoints on where research in that area may or should be heading.

(4) Concise reviews on subjects of importance to cancer researchers. Authors of unsolicited reviews should submit an outline of the proposed article for approval by the Editorial Board. If submission of the complete article is encouraged, the review will be given particularly stringent editorial evaluation before acceptance.

(5) Public Issues, which are brief reports on topics of interest to cancer researchers and the public; these might include articles on funding for cancer research, training in the field, public education, science education, etc.

(6) Letters to the Editor, which consist of correspondence about manuscripts published in the Journal. Correspondence concerning articles that have not been published in Cancer Research will not be considered.

(7) Brief reports of meetings, symposia, and conferences on cancer research. These should comprise no more than 3 printed pages (approximately 12 double-spaced typescript pages) and include a statement of the purpose(s) of the meeting, an integrated summary of the findings presented, and recommendations for future research. The names and affiliations of key speakers may be included if space is available.

(8) Proceedings of symposia, published as external supplements to the Journal (Supplements to Cancer Research), the full expenses of which are assumed by the sponsoring agency. These proceedings are accepted for publication at the discretion of the Editor-in-Chief, based on the importance of the topic covered, the scope of the presentations, and the participants at the meeting.

(9) Brief announcements of scientific meetings and of courses in cancer-related biomedical science of interest to our readers. These should be submitted at least 3 months prior to the expected month of issue.

(10) Brief listings of recent deaths of distinguished contributors to the field of cancer research.

EDITORIAL POLICIES

Submission of a manuscript to Cancer Research implies that the author(s) of the paper understand and fully accept the policies of the Journal as detailed in these "Instructions for Authors."

When a manuscript is submitted for consideration, the authors should confirm in writing that neither the submitted paper nor any similar paper, other than an abstract or preliminary communication, has been or will be submitted to or published in any other primary scientific journal.

It is also understood that all authors listed on a manuscript have agreed to its submission and content. For revised manuscripts, if an author is deleted or a new author is added, it is the responsibility of the corresponding author to provide the Publications Department with written documentation at the time of resubmission that the authors involved are aware of and agree to the changes in authorship. Cancer Research accepts no responsibility for such changes.

The Journal maintains an international editorial board of Associate Editors with broad expertise in all areas of cancer research. These Associate Editors, along with a large group of external reviewers, provide fair and thorough evaluations of papers submitted to Cancer Research. When reviewing manuscripts, the Associate Editors and reviewers are expected to adhere to a strict code of ethical conduct in the review of scientific literature. This code mandates that the confidentiality of the material under review be maintained. Further details on appropriate conduct for Editors and reviewers can be found in Ethics and Policy in Scientific Publications (First Edition, 1992, published by the Council of Biology Editors, Inc., Chicago, IL 60603). Journal policy requires that authors, reviewers, and Associate Editors reveal to the Editor-in-Chief any relationships that they believe could be construed as causing a conflict of interest with regard to the manuscript submitted for review. Submission of a manuscript implies acceptance by all authors of the strict policy of the Journal that under no circumstances will the identities or information leading to the identities of the Associate Editors and reviewers be revealed.

Every effort is made to render editorial decisions promptly, consistent with thoroughness of review. Inquiries regarding the status of manuscripts should be submitted in writing. Collect telephone calls from authors cannot be accepted.

SUBMISSION AND PUBLICATION FEES

A nonrefundable submission fee of $75 is assessed for each manuscript and must be paid regardless of the decision rendered on the paper. A check (drawn on a U.S. bank) or purchase order in U.S. currency, payable to the AACR, must accompany the manuscript. If a purchase order must precede payment by an institution, it is the author's responsibility to ensure that the purchase order is followed by payment of the fee.

A page charge of $65 per printed page will be levied on all manuscripts accepted for publication. It is understood at the time of submission that the author(s) agree to pay this charge in the event of publication. Under exceptional circumstances, when no other source of grant or other support exists, the author(s) may apply to the Editor-in-Chief at the time of submission for a waiver of the page charges. All such applications must be countersigned by an appropriate institutional official stating that no funds are available for the payment of page charges.

PROCEDURES FOR SUBMISSION

Contributions should be addressed to: Dr. Carlo M. Croce, Editor-in-Chief, Cancer Research, AACR, 150 S. Independence Mall West, Public Ledger Bldg., Suite 816, Philadelphia, PA 19106-3483; Phone: (215) 440-9300; FAX: (215) 440-9354. The paper should be submitted by an author, preferably the senior author, who should indicate in a covering letter:

(1) that the paper is being submitted for consideration for publication in Cancer Research;

(2) the exact address to which all related correspondence should be sent and the telephone and FAX numbers at which the author can be reached;

(3) that neither the submitted paper nor any similar paper, other than an abstract or preliminary communication, has been or will be submitted to or published in any other primary scientific journal;

(4) that all of the authors are aware of and agree to the content of the paper and their being listed as authors on the paper;

(5) that authorization has been given to use any information conveyed by either personal communication or release of unpublished experimental data;

(6) the salient and novel findings of the paper in a concise paragraph;

(7) the subject category that applies to the manuscript (please choose one only):

- Biochemistry and Biophysics
- Carcinogenesis
- Clinical Investigations
- Endocrinology
- Epidemiology
INSTRUCTIONS FOR AUTHORS

Experimental Therapeutics
Immunology
Molecular Biology and Genetics
Tumor Biology
Virology

[The final category assignment of an article in an issue’s Table of
Contents is at the discretion of the Editors.]

(8) five key words describing the paper, to assist in the selection of
the Associate Editor and reviewers.

Authors may suggest appropriate Associate Editors (the names of whom are
listed in the front of each issue of Cancer Research) and reviewers to whom
the manuscript could be assigned. Full addresses of suggested reviewers should
be provided. Please note that final assignments are at the Editor-in-Chief’s
discretion.

Original submissions must include:
(1) The author’s covering letter in duplicate containing the above informa-
tion.
(2) Four copies of the manuscript and four sets of original illustrations.
Indicate which set of original illustrations should be used by the printer
in the event of publication.
(3) Papers in press or submitted for publication which are highly relevant to
the manuscript under review.

Revised manuscript submissions must include:
(1) A covering letter in duplicate, clearly indicating what alterations have
been made in response to the criticisms raised. Satisfactory reasons
should be given for noncompliance with any of the reviewers’ recom-
mandations for revision.
(2) Four copies of the revised version of the manuscript, plus a red-marked
copy of the manuscript indicating the changes made, and four sets of
original illustrations.
(3) A disk of the revised version of the manuscript to expedite typesetting
the article in the event of publication. The disk must be accompanied by
a completed Disk Submission Form, which can be found in the back of
each issue of Cancer Research. (See “Typesetting from Disks” section
later in these Instructions for further details.)

Note: For both original and revised submissions, we cannot guar-
antee that manuscripts and illustrations will be returned to the
author.

Authors are advised that the revised version of their manuscript is likely to
undergo another review if the original submission required extensive changes.
Authors are asked to submit their revised versions within one month from the
notification of the decision on a manuscript. The Editors acknowledge that a
longer period of time might be needed to make the revisions in some cases.
However, if a revised manuscript is not received within six months from the
date of its original receipt, the resubmission may be considered a new manu-
script and it will be subject to all of the conditions of an original submission.
Manuscripts that have been declined for publication will be reconsidered at
the Editor-in-Chief’s discretion. An author of a rejected manuscript who
wishes to resubmit must send a paper that has been revised in response to the
criticisms, along with a covering letter in which the revisions are described.
The manuscript identification number of the previous submission should be
referred to in the covering letter. If the Editor-in-Chief determines that the
paper can be reconsidered, it will be assigned a new manuscript identification
number, the author will be charged a new manuscript submission fee, and the
paper will undergo review as a new submission.

The Editors cannot determine a priori whether a paper will be acceptable
after revision. Therefore, a letter from the author that merely describes in-
tended revisions will not be acted upon.

FORMAT AND STYLE

Papers should conform strictly to Journal style. A recent issue of Cancer Research
will provide authors with assistance in the proper arrangement of
papers. Manuscripts are to be written in clear, grammatical English. Papers that are
not in Cancer Research style or that are not in good idiomatic English will
be returned to the author without review. Laboratory jargon as well as termi-
nology and abbreviations not consistent with internationally accepted guide-
lines should be avoided.

For general and technical assistance in writing scientific papers, authors
should refer to the following publications: Stedman’s Medical Dictionary
(Twenty-Fifth Edition, 1990, The Williams & Wilkins Co, Baltimore, MD);
Editors, Inc., Chicago, IL); and The ACS Style Guide (First Edition, 1986,
American Chemical Society, Washington, DC).

Data must be presented concisely. Large masses of data of peripheral
significance to the main thesis of the investigation will not be published in Cancer Research
but may be deposited with the National Auxiliary Publica-
tions Service, c/o Microfiche Publications, P.O. Box 3513, Grand Central
Station, New York, NY 10163-3513; (516) 481-2300. The manuscript should
contain a footnote that indicates how this ancillary material can be obtained.
Such data should be submitted for review along with the manuscript.

The manuscript should be typed on 21.6- × 28-cm (8⅝- × 11-inch) paper
with double spacing throughout, allowing for ample margins. Manuscripts
with typing on both sides of the page will be returned to the authors. Consec-
utive numbering of all pages is required, with the title page as page 1. The
typescript should be arranged in the following order: (a) title, (b) author(s)
and complete name(s) and location(s) of institution(s) or laboratory(es), (c) run-
number(s) (if any), (d) key words, (e) footnotes (if any), (f) text and references, (g) tables, (h) legends for all illustrations, (i) illustrations, and (j) other material. Numbered
and lettered sections in the text should be avoided. The appropriate location for
each table and illustration should be indicated by marginal notes. Simple
chemical formulas or mathematical equations should be presented in a form
that allows their reproduction in single horizontal lines of type; more compli-
cated mathematical formulas or chemical structures difficult to set in type
should be provided in the form of India ink drawings or glossy photographs for
camera-ready reproduction.

Title. Titles should be brief but informative, and limited if possible to about
100 characters. It is important for literature retrieval to include in the title
the key words necessary to identify the nature of the subject matter, including,
if applicable, the species on which the work is done. Use of expressions such as
"Studies on ..." or "Observations of ..." should be avoided, since they are not
informative. Chemical formulas or abbreviations should not be used. Also,
authors should use Roman or Arabic numerals to designate that the paper is one in a
series (see section below on Footnotes).

Authors and Their Affiliations. Authors are urged to include their full
names, complete with first and middle names or initials. Confusion often arises
in the literature when authors are identified by surname and initials only.
Authors’ academic degrees should not be included. The full names of institu-
tions and subsidiary laboratories should be given, together with a useful acro-
nym (including postal code). If several authors and institutions are listed on
a paper, it should be clearly indicated with which department and institution
each author is affiliated.

Running Title. A brief running title should be provided, not to exceed 50
characters. Running titles in the form of declarative or interrogative sentences
are not acceptable.

Key Words. On the title page, provide five key words identifying the nature of
the subject matter.

Footnotes. Lengthy footnotes are discouraged since the same information
in most instances can be presented more effectively in the text.

Footnotes to the title page and text are to be designated consecutively with
superprint Arabic numerals. A footnote to the title should contain information
on financial support, including the source(s) and number(s) of the grant(s). If
the paper is one of a series, a footnote to this effect may be included. Authors
should also include a footnote designating to whom reprint requests should be
addressed. An all-inclusive abbreviation footnote should contain a definition
for every nonstandard abbreviation used in the paper.

For footnotes to tables, see section on Tables below.

Abstract. The abstract, to appear at the beginning of the paper, should be
concise, yet indicative of the content of the paper. As abstracts are often copied
directly by the secondary services, they should recapitulate in abbreviated form
the purpose of the study and the experimental technique, results, and interpre-
tations of the data. Data such as the number of test subjects and controls,
species, strains or individuals, or viruses, drug dosages and routes of administra-
tion, tumor yields and latent periods, length of observation period, and magnitude
of activity should be included. Vague, general statements such as "The signifi-
cance of the results is discussed," or "Some physical properties were studied,"
are uninformative and not acceptable. All important terms relevant to the
content of the paper should be incorporated into the abstract to assist indexers
in the derivation of key words and abbreviations should be avoided. Authors
and, however, if they are needed, they must be properly identified so as
to make the abstract independent of the text. Authors may wish to keep in mind
that MEDLINE, the computerized monthly bibliography prepared by the
National Library of Medicine, includes only those abstracts that contain fewer
than 200 words; with very few exceptions, longer abstracts are not accessible
through that service.

Unabbreviated. It is not necessary to include all of the background literature
in this section. Brief reference to the most pertinent papers generally suffices
Addenda. Data acquired after acceptance of the paper, by the authors themselves or by others, cannot be added to the text. An addendum may be added in proof upon approval by the Editor-in-Chief. Addenda should be kept extremely brief. The full expense of printing an addendum will be charged to the author.

Tables. Tables should be constructed so that when typeset, they will fit within a single Journal column (8.9 cm or 3½ inches). Tabular material should not duplicate data already presented in the charts. Unnecessary columns of data that can easily be derived from the rest of the results in the table should not be included. Large groups of individual values should be avoided; instead, these should be averaged and an appropriate designation of the dispersion such as standard deviation or standard error included.

Authors are obliged to indicate the significance of their observations by appropriate statistical analysis.

Every table must have a descriptive title and an explanatory paragraph that clearly gives the experimental details for understanding by the reader without reference to the text. Each column must carry an appropriate heading and, if numerical measurements are given, these units should be added to the column heading. Tables should be numbered with Arabic numerals and table footnotes should be indicated with superscript italic letters ("*", etc.).

All units of measurement and concentration should be clearly designated. Exponential terminology is discouraged (the term mm is preferable to \(10^{-3}\) m). If exponents are absolutely unavoidable in column headings, the quantity expressed should be preceded, not followed, by the power of 10 by which its value has been multiplied, i.e., \(10^{-3} \times\) concentration (m). This will prevent confusion as to whether the quantity should be multiplied or divided to obtain the correct value.

Illustrations. Both line-cut (graphs and drawings) and half-tone (photographs, photomicrographs, electrophoretic patterns, etc.) illustrations should be designated figures.

Figures should be used when salient points need illustration for better comprehension by the reader. Half-tones are particularly expensive to reproduce and only those absolutely essential to the clarity of the presentation should be included. Straight-line functions such as relationships between concentration and absorbance, or Lineweaver-Burk plots when these are linear, should be described in a few lines in the text.

Each figure should be labeled in pencil with the first author's name and the figure number on an adhesive label on the reverse side. For half-tones, the top of the figure should also be noted.

Legends are required for all figures. They should briefly describe the data shown; details in the text should not be repeated. Staining should be included for half-tones, where applicable. Each legend should adequately identify all symbols, abbreviations, mathematical expressions, abscissas, ordinates, units, and reference points used on the figure.

Line-cut illustrations, including flow diagrams and complex biochemical structures, should be prepared with professional instruments (not simply type-written). They may be on Bristol board, tracing paper or cloth, or coordinate paper printed in light blue. They should not be mounted on heavy cardboard. Clear, glossy prints are acceptable in lieu of original drawings, provided that all parts of the illustration are in focus. X-ray films or Polaroid photographs are not acceptable. If original drawings are submitted, they should not be larger than 21.6 × 28 cm (8½ × 11 inches).

Computer-generated graphs are acceptable provided that their quality adheres to the same standards as those produced by other means, e.g., all labeling must be clear and scaling must be in the proper proportion to reproduce legibly when reduced.

Except for especially complicated drawings showing large amounts of data, all line-cut illustrations are published at one-column width (8.9 cm or 3½ inches) or less. It is recommended that they be submitted in one-column size. If larger ones are submitted, it is the responsibility of the author to see that the obsession is limited to three lines, lines, and especially the symbols are sufficiently large to permit reduction. When the graphs are reduced to the size of a single column, the labels and numbers must be at least 1.5 mm high and the smallest part of the illustration must be discernible or the drawing will be returned to the author for correction. On original artwork, this can be accomplished by having the minimum height for lower-case letters 5 mm; numerals and upper-case letters 6 mm; and symbols within 5 mm of the text. The thickness of ruled lines on graphs is also vital for clear presentation of the data.

The symbols should be defined in the legend. Only those common symbols for which the printer has type (\(\times\), \(\bigcirc\), \(\bigtriangleup\), \(\downarrow\), \(\uparrow\), \(\bigtriangleup\), \(\bigcirc\)) should be used. Lines connecting the symbols should not extend beyond the data points.

Graphs should be ruled off close to the area occupied by the curve, and abscissas and ordinates should be clearly marked with appropriate units. Explanations of the coordinate system must not extend beyond the respective lines. Do not box-in graphs with top and right-hand frame lines unless these are essential for reference. Titles printed outside the confines of the drawing waste
degree Celsius (Centigrade) \( ^\circ C \)
degree Fahrenheit \( ^\circ F \)
Kelvin \( K \)
diffusion coefficient \( D \)
equilibrium constant \( K_e \)
inhibition constant \( K_i \)
Michaels constant \( K_M \)
maximum velocity \( V_{\text{max}} \)

**Others**

- mole mol
- Curie Ci
- equivalent eq
- counts per minute cpm
- disintegrations per minute dpm
- revolutions per minute rpm
- volt V
- Svedberg unit S
- absorbance \( A \) (not O.D.)
- probability \( P \)
- roentgen R
- standard deviation SD
- standard error of the mean SE
- logarithm (Briggsian) \( \log \)
- logarithm (natural) \( \ln \)
- entropy \( S \)
- molecular weight \( M \)
- base pair bp
- kilobase kb

**In chemical compounds**

- ortho \( o \)
- meta \( m \)
- para \( p \)
- secondary sec
- tertiary tert

**Routes of administration**

- intramuscular i.m.
- intraperitoneal i.p.
- intravenous i.v.
- oral p.o.
- subcutaneous s.c.

**TERMINOLOGY**

Approved terms and abbreviations for chemical substances have been collected in *Biochemical Nomenclature and Related Documents*, International Union of Biochemistry, Second Edition, 1992. This volume is available from: Portland Press Inc., Ashgate Publishing Co., Old Post Road, Brookfield, VT 05036; Phone: (802) 276-3162; FAX: (802) 276-3837. Included are all recommendations issued by the IUPAC-IUB Commission on Biochemical Nomenclature in the following areas: general abbreviations and symbols; abbreviations and symbols for chemical names of special interest in biological chemistry; stereochemistry; natural products and related compounds; isotopically labeled and modified compounds; biochemical equilibrium data; \( \alpha \)-amino acids; symbols for aminocarboxylic derivatives and peptides; synthetic modifications of natural peptides; synthetic polypeptides or polymerized amino acids; amino acid sequences; conformation of polypeptide chains; peptide hormones; human immunoglobulins, multiple forms of enzymes; nucleic acids, polyribonucleotides, and their constituents; lipids; steroids, quinones with isoprenoid side chains; carotenoids; tocopherols and related compounds; carbohydrates; cyclitols; phosphorus-containing compounds of importance in biochemistry; folic acids and related compounds; vitamins B\(_k\) and related compounds; corticoids.

**Isotopically Labeled Compounds.** A radioactive nuclide is indicated by its mass number as a superscript to the left of the symbol \( (^3P) \); when written out, it should correspond to the spoken word (phosphorus-32).

In an isotopically labeled compound, the isotopic prefix should be placed in square brackets and immediately precede the name (word) to which it refers, as in \( ^{13}C \)-thymidine, \( ^{13}C \)-leucine, \( ^{13}C \)-methionine, \( ^{13}C \)-leucine, \( ^{13}C \)-leucine. When more than one position in a substance is labeled by means of the same isotope and the positions are not indicated, the number of labeled atoms is added as a subscript to the right of the element, as in \( ^{13}C_2 \)-glycolic acid. The symbol \( U \) indicates uniform labeling and \( G \), general labeling, e.g., \( U^{14}C \)-glucose (where the \( ^{14}C \) is uniformly distributed among all six positions) and \( G^{14}C \)-glucose (where the \( ^{14}C \) is distributed among all six positions, but not necessarily uniformly).

The isotopic prefix precedes that part of the name to which it refers, as in sodium \( ^{23}Na \)(formate, iodo \( ^{127}I \))-acetate, \( ^{13}C \)-[methyl]-cyclopentanediol, \( ^{15}N \)-[acetamide]-7-[\( ^{13}C \)]-idofluorene, fructose \( ^{13}C_\text{S}^{3}P \)-bisphosphate, \( 17\beta \)-estradiol. Terms such as \( ^{3}H \)-labeled albumin should not be contracted to \( ^{3}H \)-albumin (since native albumin does not contain iodine), and \( ^{3}H \)-labeled amino acids should similarly not be written as \( ^{3}H \)-amino acids (since there is no carbon in the amino group).

When isotopes of more than one element are introduced, their symbols should be arranged in alphabetical order, e.g., \( ^{3}H \)-\( ^{15}N \)-[l-\( ^{14}C \)]leucine or \( ^{15}N \)-\( ^{3}H \)-leucine. \( ^{15}N \)-[\( ^{14}C \)-carboxyl]-leucine, \( ^{15}N \)-[\( ^{14}C \)-methyl]-leucine, \( ^{15}N \)-[\( ^{14}C \)-methyl]-alanyl, \( ^{15}N \)-[\( ^{14}C \)-methyl]-alanine, \( ^{15}N \)-[\( ^{14}C \)-methyl]-leucine. The symbol indicating configuration always precedes the bracketed isotope, and a hyphen is used to separate it from the brackets, e.g., \( ^{15}N \)-[\( ^{14}C \)-leucine].

The same rules apply when the labeled compound is designated by a standard abbreviation or symbol other than the atomic symbol, e.g., \( \alpha \)-\( ^{3}P \)-ATP, \( \alpha \)-\( ^{3}P \)-CMP, or \( \alpha \)-\( ^{3}P \)-dUMP. The square brackets are not to be used, however, with atomic symbols, or when the isotopic symbol is attached to a word that is not a specific chemical name, abbreviation, or symbol. Proper usage here is: \( ^{14}C \)-\( \text{CO}_2 \), \( ^{14}C \)-\( \text{H}_2 \text{O} \), \( ^{15}N \)-\( \text{HS}_2 \text{SO}_4 \), \( ^{3}P \)-\( \text{P} \), \( ^{3}H \)-labeled, \( ^{3}H \)-tigard, \( ^{3}C \)-steroids.

**Enzymes.** Authors should use the Recommended Name given in *Enzyme Nomenclature 1992: Recommendations of the Nomenclature Committee of the International Union of Biochemistry on the Nomenclature and Classification of Enzymes* (Academic Press, Inc., Orlando, FL, 1992). In some cases the Systematic Name or the reaction catalyzed should also be included. It is strongly recommended that the Enzyme Commission number be stated at first mention.

For information on isozyme nomenclature, consult *Biochem Nomenclature and Related Documents*, mentioned previously.

**Histones.** The six histone fractions are to be labeled H1, H1\*, H2A, H2B, H3, and H4, rather than \( \text{H} \), \( \text{H} \), \( \text{H} \), \( \text{H} \), \( \text{H} \), \( \text{H} \). When reporting the calibration of interferon assays, authors should state the name, identifying number, and assigned potency of the international standard used to calibrate their assay, along with the observed geometric mean titer of the standard, the standard deviation of that value, the number of titrations performed to obtain that value, and the technical details of the assay.


**Outbred Animal Stocks.** Nomenclature for outbred laboratory animals should conform to that recommended by the Committee on Nomenclature, Institute of Laboratory Animal Resources: "A Nomenclature System for Outbred Animals," Lab. Animal Care, 20: 903–906, 1970.

**Drugs.** Generic names of drugs are preferred; a proprietary name may be used only after the first mention of the generic name and should be avoided in titles unless both names can be listed easily. If a foreign proprietary name is used, the name of the comparable U. S. product should be given. When there is no generic name for a drug, authors should give the chemical name or formula or a description of the active ingredients.

Authors should refer to the formally adopted generic names listed in *USAN and the USP Dictionary of 2-Acetic Acid Names (1995)*.
INSTRUCTIONS FOR AUTHORS

mined. The word "saline" should be replaced by "NaCl solution." along with the exact concentration. Inexact terms such as "physiological saline" or "phosphate-buffered saline" are not permitted; exact contents and concentrations should be given.

Decimals are preferred to fractions; the form 0.01, not .01, is required in text, tables, and illustrations.

Ionic charge should be designated by a superscript immediately following the chemical symbol, e.g., Mg"2", S"3".

POLICY CONCERNING AVAILABILITY OF MATERIALS

It is understood that by publishing any work in Cancer Research the authors agree to make freely available to other academic researchers any of the cells, clones of cells or DNA or antibodies, etc. that were used in the research reported and that are not available from commercial suppliers. Also, authors may be required to make primary data available to the Editor-in-Chief in cases of dispute.

TYPESETTING FROM DISKS

To expedite publication, Cancer Research is now copy editing accepted manuscripts electronically. When submitting revised manuscripts, authors are encouraged to send a disk of the paper along with the required four hard copy printouts. If the manuscript is accepted, the disk, with the printout as backup, will be sent to our printer, where the article will then be copy edited on-line and typeset from the disk.

The disk should contain all the parts of the manuscript on one file. However, tables and mathematical material, such as equations, may be excluded from the disk file because they must still be copy edited and typeset in the traditional manner from the accompanying hard copy. The disk will ultimately be returned to the authors.

Please label the outside of the disk with Cancer Research, the first author's name, a partial title of the manuscript, and the name of the computer file used to access the manuscript on disk. In addition, we will need to know the name of the computer used (e.g., IBM/PS2), the name of the operating system and version (e.g., DOS 3.3), and the word processing program and version (e.g., WordPerfect 5.0). Please provide this information to the AACR Publications Department when you send in your disk by filling out and returning the form labeled "Disk Submission Form" that appears after these "Instructions for Authors."

We can convert most commercially available word processing programs. Diskettes produced on IBM or IBM-compatible computers are preferred, but those produced on some Apple or Wang computers can also be converted. The following word processing programs can be converted, XyWrite III Plus, XyWrite for Windows, Word Perfect (IBM or Macintosh), Word Perfect for Windows, Microsoft Word (IBM or Macintosh), Word for Windows, WordStar, Microsoft Works, Ami Pro, MacWrite, MacWrite II, MacWrite Pro, Display Write, MultiMate, Volkswriter, Enable, Lotus Manuscript, Mass 11, Professional Write, Total Word, Write Now, FullWrite, Wang OIS (WPS), CPT 8000, and TEx formatted files. Authors preparing diskettes on Macintosh computers should use the Fast Save option. Files in ASCII can also be used, but are not preferred. However, even if your program is not in the preceding list, send in your disk with an appropriately completed Disk Submission Form and we will attempt to typeset it.

New releases of word processing software are not always immediately available for conversion. In addition, because of the file structures and internal coding, we cannot accept disks created on desktop publishing systems or those created on proprietary typesetting systems. They also cannot guarantee that all special characters can be translated. Therefore, the Journal does not assume responsibility for errors in the conversion of newly released software, customized software, or special characters.

Note: It is imperative that the authors ensure that the disk file is the most recent version of the manuscript and that it matches the most recently submitted hard copy.

ALTERATIONS IN PROOF

The Journal provides authors with page proofs for their examination. We urge our contributors to proofread and edit their manuscripts carefully before submission because alterations in proof are costly and, if extensive, can lead to publication delays.

Authors will be charged for all changes in proof not due to printer's errors. Each author's alteration in any line of text costs approximately $6.10. Lengthy insertions of entire sentences or paragraphs are billed at different rates depending upon the complexity of the alterations. The Editors retain the prerogative to question minor stylistic alterations and major alterations that might affect the scientific content of the paper.

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AMERICAN ASSOCIATION FOR CANCER RESEARCH
GUIDELINES FOR APPLICATION FOR ACTIVE AND CORRESPONDING MEMBERSHIP

BENEFITS OF MEMBERSHIP
The American Association for Cancer Research (AACR), a scientific society of over 10,000 laboratory and clinical cancer researchers, was founded in 1907 to facilitate communication and dissemination of knowledge among scientists and others dedicated to the cancer problem; to foster research in cancer and related biomedical sciences; to encourage the presentation and discussion of new, important observations in the field; to foster public education, science education, and training; and to advance the understanding of cancer etiology, prevention, diagnosis, and treatment throughout the world.

Members of the AACR enjoy the following benefits:
1. the privilege of sponsoring a proffered paper (abstract) for consideration for presentation at the AACR annual meeting;
2. an advance copy of the Program and Proceedings of the American Association for Cancer Research pertaining to each annual meeting;
3. reduced registration rates at annual meetings;
4. priority notice of small, focussed meetings in the AACR's exciting series of Special Conferences in Cancer Research;
5. reduced registration rates for Special Conferences;
6. opportunities for participation in AACR meetings in North America and abroad with other scientific societies around the world;
7. receipt of AACR Newsletters and other important announce-
   ments;
8. early notification of and reduced rates for participation in the AACR Employment Register;
9. an up-to-date Membership Directory of thousands of researcher-
   s in the cancer field;
10. the professional benefits of AACR's public education activities concerning funding for cancer research and press coverage of the latest research findings;
11. participation in Summer Workshops that foster networking opportunities and science education for young investigators; and
12. many more ongoing benefits.

QUALIFICATIONS FOR MEMBERSHIP
Active membership in the AACR is open to investigators who live in the Americas. Individuals who have conducted two years of research resulting in peer-reviewed publications relevant to cancer, or who have made substantial contributions to cancer research in an administrative or educational capacity, are eligible. If a candidate has conducted research in an area of biomedical science related to cancer, he or she will qualify for membership. Evidence of patents relevant to cancer research may be submitted as qualifications for membership in lieu of peer-reviewed publications.

Corresponding membership is open to persons who are not residents of the Americas. The qualifications for corresponding membership are the same as those indicated above for active membership. Visiting scientists from outside the Americas who intend to return to their countries of origin by the anticipated time of election should apply for corresponding membership. All other visiting scientists should apply for active membership and transfer to corresponding status upon leaving the Americas.

Graduate and medical students, postdoctoral fellows, and physicists in training who do not yet meet the above qualifications for active or corresponding membership should apply for associate membership. Forms for associate membership are available from the AACR Office.

PROCEDURES FOR APPLICATION
There are three deadlines for the receipt of a membership application: January 1, May 1, and September 1 of each year. The Membership Committee will review all complete applications for active membership that have been received by these deadlines and will submit recommendations on each candidate to the Board of Directors which formally elects all members. The same procedure is followed by the Special Memberships Committee which receives applications for corresponding membership. Candidates will be notified according to the following schedule:

<table>
<thead>
<tr>
<th>Receipt of Application</th>
<th>Notification of Candidate</th>
</tr>
</thead>
<tbody>
<tr>
<td>in AACR Office</td>
<td></td>
</tr>
<tr>
<td>January 1</td>
<td>March</td>
</tr>
<tr>
<td>May 1</td>
<td>July</td>
</tr>
<tr>
<td>September 1</td>
<td>November</td>
</tr>
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A complete application consists of the following material:
1. 6 copies of the form on the opposite side of this page, with all requested information provided.
2. 5 copies of the candidate's most current curriculum vitae and bibliography.
3. 5 copies of a letter of recommendation from a nominator who is an active, corresponding, emeritus, or honorary member of the AACR (at least one copy must be a signed, original letter). This letter should describe the candidate's achievements in laboratory research, clinical investigations, or epidemiological research, and it should affirm that this research adheres to accepted ethical scientific standards. —OR— The nominator may supply the responses requested at the bottom of the application form in the section entitled "STATEMENT OF SUPPORT" (at least one copy of the form must be the signed original).
4. 5 copies of a letter of recommendation as described in Item 3 above from a seconder who is an active, corresponding, emeritus, or honorary member of the AACR (at least one copy must be a signed, original letter). —OR— The seconder may supply the responses requested at the bottom of the application form in the section entitled "STATEMENT OF SUPPORT" (at least one copy of the form must be the signed original).
5. 5 reprints of each of two publications on which the candidate appears as author. As noted above, evidence of patents developed by the candidate may be submitted in lieu of one or both of the publications. If submitting patents, supply patent number and year awarded.

All material should be collated into five complete sets with the original application form as a covering document and sent to the address given below. Questions regarding procedures for membership application may also be directed to the following address:

American Association for Cancer Research
Public Ledger Building, Suite 816
150 S. Independence Mall West
Philadelphia, PA 19106-5483
Phone: 215/440-9300
FAX: 215-440-9313

RESPONSIBILITIES OF MEMBERSHIP
Candidates should be aware of the following responsibilities of membership in the AACR. Active members must pay annual dues. In 1995 annual dues for active members are $160, $95 of which is designated for AACR journal subscriptions. Newly elected members of the AACR who have already purchased subscriptions to Cancer Research, Clinical Cancer Research, Cell Growth & Differentiation, or Cancer Epidemiology, Biomarkers & Prevention at the higher, nonmember rates will receive reimbursement of the unused portion of those subscriptions once their first year's membership dues are paid in full.

Corresponding members are required to pay dues ($80 in 1995) and, if they wish, subscribe to Cancer Research, Clinical Cancer Research, Cell Growth & Differentiation, or Cancer Epidemiology, Biomarkers & Prevention at reduced member rates.

Applicants elected in March will be responsible for payment of that year's dues; applicants elected in July and November will pay dues for the following year. Applicants elected in March and July will be eligible to sponsor an abstract for the next annual meeting.

Every effort will be made to afford the same opportunity to applicants elected in November.

Margaret Foti
Executive Director
### APPLICATION FOR ACTIVE OR CORRESPONDING MEMBERSHIP

**NAME OF CANDIDATE:**

**DATE OF BIRTH:**

**PRESENT POSITION/TITLE:**

**INSTITUTIONAL AFFILIATION:**

**INSTITUTIONAL ADDRESS:**

<table>
<thead>
<tr>
<th>(City)</th>
<th>(State/Province)</th>
<th>(Country)</th>
<th>(Postal Code)</th>
</tr>
</thead>
</table>

**TELEPHONE NUMBER:**

**FAX NUMBER:**

**E-MAIL NUMBER (CARRIER):**

**PRIMARY FIELD OF RESEARCH**

- [ ] Biochemistry and Biophysics
- [ ] Biostatistics
- [ ] Carcinogenesis
- [ ] Cellular Biology and Genetics
- [ ] Clinical Investigations
- [ ] Endocrinology
- [ ] Epidemiology
- [ ] Immunology
- [ ] Molecular Biology and Genetics
- [ ] Preclinical Pharmacology and Experimental Therapeutics
- [ ] Virology
- [ ] Other: [ ]

**ACADEMIC DEGREES**

- Including where and when granted

**EXPERIENCE SINCE HIGHEST DEGREE WAS GRANTED**

- Please list most recent first

**PUBLICATIONS**

- Reprints of two peer-reviewed articles on which the candidate appears as an author must accompany this application. For these two articles list the authors, title, journal, volume, inclusive pages, and year. Do not submit abstracts. If submitting patents, supply patent number and year awarded.

**CANDIDATE NOMINATED BY:**

(Please print)

**SECONDED BY:**

(Please print)

**CANDIDATE IS APPLYING FOR**

- [ ] ACTIVE
- [ ] CORRESPONDING MEMBERSHIP

**STATEMENT OF SUPPORT**

- In place of letters of recommendation

Instead of submitting letters of recommendation, either the nominator or the seconder or both may complete the following section:

- How long has the candidate worked in the field of cancer research? [ ] years
- Will the candidate make a long-term contribution to cancer research? [ ] Yes [ ] No
- Does the candidate's research adhere to accepted ethical standards? [ ] Yes [ ] No
- I therefore recommend this candidate for membership in the American Association for Cancer Research.

- How long has the candidate worked in the field of cancer research? [ ] years
- Will the candidate make a long-term contribution to cancer research? [ ] Yes [ ] No
- Does the candidate's research adhere to accepted ethical standards? [ ] Yes [ ] No
- I therefore recommend this candidate for membership in the American Association for Cancer Research.

**Signature of nominator**

**Date**

**Signature of seconder**

**Date**

See Guidelines for Application on the reverse side of this form for further instructions.

*Both nominator and seconder must be active, corresponding, emeritus, or honorary members of the AACR.

(This form may be reproduced.)
QUALIFICATIONS FOR MEMBERSHIP

Associate membership is open to graduate students, medical students, postdoctoral fellows, and physicians in training who are following a course of study or who are working in a research program relevant to cancer. Scientists in training who already have a substantial record of publications may wish to apply for active or corresponding membership which confers full benefits of membership.

BENEFITS OF MEMBERSHIP

The American Association for Cancer Research (AACR), a scientific society consisting of laboratory and clinical cancer researchers, was founded in 1907 to facilitate communication and dissemination of knowledge among scientists and others dedicated to the cancer problem; to foster research in cancer and related biomedical sciences; to encourage presentation and discussion of new and important observations in the field; to foster public education, science education, and training; and to advance the understanding of cancer etiology, prevention, diagnosis, and treatment throughout the world. Associate members of the AACR enjoy the following benefits:

1. the privilege of sponsoring a paper for presentation at the AACR annual meeting provided that (a) the associate member is the presenter of the paper and (b) an active, corresponding, emeritus, or honorary member in good standing of the AACR also signs the abstract of the paper in support of the work (In this instance, the member who cosigns the abstract does not lose his or her own sponsorship privilege.);
2. an advance copy of the scientific Program and (if one has been purchased by the associate member) the Proceedings of the American Association for Cancer Research which contains abstracts of all papers being presented at each annual meeting;
3. the privilege of registering for the annual meeting at the low student rate (This rate is otherwise available only to predoctoral students.);
4. preferred access to the AACR Employment Register;
5. optional subscriptions to the Association's high-quality journals Cancer Research, Cell Growth & Differentiation, Cancer Epidemiology, Biomarkers & Prevention, and Clinical Cancer Research at reduced member rates;
6. priority notification of events in the AACR's series of special conferences on timely subjects in the field;
7. reduced registration rates at special conferences;
8. the receipt of AACR newsletters, meeting announcements, and an up-to-date membership directory; and
9. the facilitation of informal scientific exchange with leading researchers in the cancer field.

PROCEDURES FOR APPLICATION

Persons wishing to apply for associate membership must use the official application form on the reverse side of these instructions. Each candidate for associate membership must be nominated by an active, corresponding, emeritus, or honorary member in good standing of the AACR. Three completed copies of the form should be submitted; at least one of these copies must carry the original signatures of both the candidate and the nominator. The application form may be submitted to the Association Office at any time.

After review of applications for associate membership, the Executive Director will notify candidates of their election or deferral within one month of the receipt of the application form. When a successful candidate has been determined, the nominator will be notified. Dues for 1994 are $30 for associate members residing in the Americas and $40 for residents of other countries. For 1995 these rates are $35 and $45, respectively. This fee will be refunded to any candidate deemed to be ineligible for associate membership.

Checks should be in U.S. currency, made payable to AACR, Inc., and drawn on a U.S. bank. Send the three copies of the application form and the appropriate dues payment to:

American Association for Cancer Research
Public Ledger Building, Suite 816
150 S. Independence Mall West
Philadelphia, PA 19106-3483
215/440-9300

RESPONSIBILITIES OF MEMBERSHIP

Associate members must pay annual dues in an amount to be determined by the AACR Board of Directors. Dues for 1994 have been set at $30 per year for residents of the Americas and $40 for residents of other countries. For 1995 these rates are $35 and $45, respectively. This fee will be refunded to any candidate deemed to be ineligible for associate membership. Checks should be in U.S. currency, made payable to AACR, Inc., and drawn on a U.S. bank. Send the three copies of the application form and the appropriate dues payment to:

American Association for Cancer Research
Public Ledger Building, Suite 816
150 S. Independence Mall West
Philadelphia, PA 19106-3483
215/440-9300

Each Fall the AACR will send to current associate members an invoice for dues for the forthcoming year. Payment of this invoice must be accompanied by a statement signed by the associate member’s current registrar, dean, or department head, verifying the member’s current academic status. The Association’s By-Laws state that dues are payable for each year in advance by January 1 of the year to which they should be applied. An individual may be an associate member for a maximum of five years. Each year in which an individual pays dues will count as one full year of associate membership. Thus, an associate member who pays dues for 1994 may retain associate membership until December 31, 1998. The Board of Directors may terminate the membership of an associate member whose dues are in arrears for two years.

Margaret Foti
Executive Director
# APPLICATION FOR ASSOCIATE MEMBERSHIP

**NAME OF CANDIDATE:**

<table>
<thead>
<tr>
<th>LAST</th>
<th>FIRST</th>
<th>M.I.</th>
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**DATE OF BIRTH:**

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<th>INSTITUTIONAL AFFILIATION:</th>
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<tr>
<th>INSTITUTIONAL ADDRESS:</th>
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<th>(City)</th>
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<th>(Country)</th>
<th>(Postal Code)</th>
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**TELEPHONE NUMBER:**

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<tr>
<th>E-MAIL NUMBER (CARRIER):</th>
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</table>

**FAX NUMBER:**

**PRESENT ACADEMIC STATUS/TITLE (Please check only one):**

- Graduate Student
- Medical Student
- Physician in Training
- Postdoctoral Fellow

**PRIMARY FIELD OF RESEARCH (Please check only one):**

- Biochemistry and Biophysics
- Biostatistics
- Carcinogenesis
- Cellular Biology and Genetics
- Clinical Investigations
- Endocrinology
- Epidemiology
- Immunology
- Molecular Biology and Genetics
- Preclinical Pharmacology and Experimental Therapeutics
- Virology
- Other: (Please specify)

**ACADEMIC DEGREES (Please indicate degree(s) acquired to date along with the name of the academic institution and date of receipt. Provide information on degree currently being sought and the anticipated date of completion of this degree program.):**

<table>
<thead>
<tr>
<th>Degree</th>
<th>Institution</th>
<th>Date</th>
</tr>
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</table>

**RELEVANT RESEARCH EXPERIENCE NOT RELATED TO COURSE WORK (Please list most recent first.):**

<table>
<thead>
<tr>
<th>Experience</th>
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</table>

**PUBLICATIONS (List the authors, title, journal, volume, inclusive pages, and year of any article in a peer-reviewed journal on which the candidate appears as an author. Do not list abstracts. Continue on a separate sheet, if necessary.):**

<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
<th>Journal</th>
<th>Volume</th>
<th>Pages</th>
<th>Year</th>
</tr>
</thead>
</table>

**CANDIDATE NOMINATED BY:**

(Please type or print name of AACR active member in good standing.)

**SIGNATURES**

I hereby apply for associate membership in the American Association for Cancer Research. I have read the instructions on the reverse side of this form, and I understand the privileges and responsibilities of this class of membership. I certify that the statements on this application are true.

**Signature of Candidate:**

<table>
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<th>Date:</th>
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</table>

I recommend this candidate for associate membership in the American Association for Cancer Research. To the best of my knowledge, the candidate is qualified for this class of membership, and the statements on this application are true.

**Signature of Nominator:**

| Date: |

Submit three copies of this form. At least one copy must contain the original signatures of the candidate and the nominator. Enclose a check in U.S. funds, made payable to AACR, Inc., and drawn on a U.S. bank for one year's dues. For 1994 dues are $30 for associate members residing in the Americas and $40 for residents of other countries. For 1995, these rates will be $35 and $45, respectively.

Check one of the following boxes only if this form is being submitted between September 1 and December 31:

- The enclosed dues payment should be applied to the ☐ current ☐ forthcoming calendar year.

(Note: If dues are applied to the forthcoming year, membership will take effect on January 1, but the candidate will not be eligible to sponsor an abstract for presentation at the annual meeting in March or April of that year.) See Guidelines for Application on the reverse side of this form for further instructions.

*Nominator must be active, corresponding, emeritus, or honorary member of the AACR.

(This form may be reproduced.)
ADVANCE REGISTRATION FORM

AMERICAN ASSOCIATION FOR CANCER RESEARCH
86TH ANNUAL MEETING - TORONTO, ONTARIO, CANADA - March 18-22, 1995

Return to
American Association for Cancer Research • Public Ledger Building, Suite 816
150 S. Independence Mall West • Philadelphia, PA 19106-3483 • FAX: 215-440-9313

DEADLINES: • February 3, 1995 for reduced rates and to ensure receipt of meeting materials by mail in late February or early March
• February 24, 1995 for all registration by mail (Registration forms received after this date will not be accepted. Registration will be conducted at the Metro Toronto Convention Centre from March 18-22.)
• March 15, 1995 to cancel registration and receive refund less cancellation fee (US$25/C$35)

(Please print)

NAME: ____________________________ First/Middle Initial ____________________________ AACR Member Number ____________________________

ADDRESS: ____________________________ Institution ____________________________

Street, Building, or Post Office Box

City ____________________________ State or Province ____________________________ Zip/Postal Code ____________________________ Country (if not U.S.) ____________________________

TELEPHONE NO.: ____________________________ FAX NO.: ____________________________

☐ Check this box if you have a physical disability and have special requirements for transportation, hotel accommodations, or other facilities in connection with the meeting. A member of the Association Staff will contact you.

WHAT IS YOUR PRIMARY FIELD OF RESEARCH (Please check only one):
☐ 1Biochemistry and Biophysics ☐ 2Carcinogenesis ☐ 3Cellular Biology & Genetics ☐ 4Clinical Investigations
☐ 5Endocrinology ☐ 6Epidemiology ☐ 7Experimental Therapeutics ☐ 8Immunology ☐ 9Molecular Biology & Genetics
☐ 10Prevention ☐ 11Radiobiology/Radiation Oncology ☐ 12Virology ☐ 13Other (please specify): ____________________________

ARE YOU THE PRESENTER OF AN ABSTRACT SUBMITTED FOR THE 1995 AACR MEETING? ☐ Yes ☐ No

ON WHICH DAYS WILL YOU ATTEND THE 1995 AACR ANNUAL MEETING?
☐ Saturday, March 18 ☐ Sunday, March 19 ☐ Monday, March 20 ☐ Tuesday, March 21 ☐ Wednesday, March 22

PAYMENT OF REGISTRATION

Fees may be paid by check or with a MasterCard, VISA, American Express, or Eurocard account. All payments must be made in U.S. or Canadian currency, and all checks must be drawn on a U.S. or Canadian bank. Payment must accompany this form; purchase orders will not be accepted as payment. Honorary members may register gratis.

On or Before Feb. 3 After Feb. 3
☐ Active/Corresponding Member Rate 105/150 135/193
☐ Nonmember Rate 220/315 255/365
(includes a copy of AACR Proceedings)
☐ Emeritus Member Rate 50/72 50/72
(includes a copy of AACR Proceedings)
☐ Associate Member/Student Rate* 50/72 60/86
(does not include a copy of AACR Proceedings)
☐ AACR Proceedings* 35/50 35/50
☐ Overseas Airmail Surcharge* 22/32 N.A.
☐ Program on Diskette (check format below) 15/22 15/22
☐ IBM 5½" ☐ IBM 3½" ☐ Apple 3½"

TOTAL ENCLOSED OR CHARGED ____________________________

METHOD OF PAYMENT

☐ Check payable to AACR, Inc. in U.S. or Canadian currency, drawn on a U.S. or Canadian bank

☐ MasterCard ☐ VISA ☐ American Express ☐ Eurocard

☐ Person/Institution Issuing Check Check No. ____________________________

☐ Card Number ____________________________ Expiration Date ____________________________

*Students must enclose a statement, signed by the registrar, dean, or department head of their university or college on official letterhead, confirming their status. Postdoctoral fellows or physicians in training do not qualify for the student registration rate unless they are Associate Members of the AACR. An application for Associate Membership may accompany this form, but these should be submitted well before the February 3 deadline, as review of the Associate Membership application may delay registration.

+AACR members with paid-up subscriptions to an AACR journal and registrants who pay the nonmember fee receive the Proceedings automatically. If these members or nonmembers check this box and pay the fee, they will receive an additional copy of the Proceedings.

*Optional payment for registrants outside of the U.S. and Canada only. Registrants paying this surcharge will receive meeting publications via airmail–printed matter before the annual meeting.

AACR members in good standing will receive copies of the Program and Proceedings prior to the meeting. Nonmember and student registrants who meet the February 3 deadline will also receive the Program and (if they have purchased it) the Proceedings prior to the meeting. Nonmembers and students who do not meet the deadline must pick up publications at the meeting site.

REFUND POLICY

Refunds on registration fees will be granted on written request received in the AACR Office by March 15, 1995. Requests received after this date will not be honored. Receipts and badges (if they have been mailed) must be returned to the AACR Office with the refund request. A cancellation fee of US$25/C$35 will be deducted from all refunds to cover administrative costs.

Signature ____________________________

(This form may be reproduced.)
Signal Transduction of Normal and Tumor Cells

Co-Sponsored by the National Cancer Institute of Canada
with Additional Support from the National Institute of Environmental Health Sciences

April 1-6, 1995
The Banff Centre, Banff, Alberta, Canada

SCIENTIFIC PROGRAM

Tyrosine Kinases
Michael Stern / New Haven, CT
Lewis C. Cantley / Boston, MA
William J. Muller / Hamilton, Ontario, Canada
Morag Park / Montreal, Quebec, Canada

Development
Mariano Barbacid / Princeton, NJ
Joseph Culotti / Toronto, Ontario, Canada
Michael Hoffman / Madison, WI
Ashley R. Dunn / Melbourne, Australia

Cell Cycle
Brenda J. Andrews / Toronto, Ontario, Canada
James M. Roberts / Seattle, WA
Edward E. Harlow / Charlestown, MA
Jeffrey L. Wrana / New York, NY

Tumor Suppressors
Alan Bernstein / Toronto, Ontario, Canada
Paul Polakis / Richmond, CA
Additional Speakers to be Announced

Immune System/Hematopoiesis
André Veillette / Montreal, Ontario, Canada
Tak W. Mak / Toronto, Ontario, Canada
Cheim Rolfman / Toronto, Ontario, Canada
James N. Ihle / Memphis, TN

DNA Viruses and the Immune System
Grant McFadden / Edmonton, Alberta, Canada
William S.M. Wold / St. Louis, MO
Thomas Schall / Palo Alto, CA
David C. Johnston / Hamilton, Ontario, Canada

Cytoplasmic Effectors
Anthony J. Pawson / Toronto, Ontario, Canada
Christopher J. Marshall / London, England
Sara A. Courtneidge / Heidelberg, Germany
Heidi E. Hamm / Chicago, IL

Transcription
Robert N. Eisenman / Seattle, WA
Steven Burley / New York, NY
Michael Z. Gilman / Cambridge, MA
James Woodgett / Toronto, Ontario, Canada
Michael Levine / La Jolla, CA

Applicants are encouraged to submit abstracts for poster presentation.

Application Deadline: January 20, 1995

Information and Application Forms
American Association for Cancer Research
Public Ledger Building, Suite B16
150 South Independence Mall West
Philadelphia, PA 19106-3483
215-440-9300 215-440-9313 (FAX)
Guidelines for Submitting Disks to American Association for Cancer Research Publications

The word processing packages that we prefer are as follows:

- XyWrite III Plus (for the IBM)
- WordPerfect 4.2, 5.0, 5.1 (for the IBM)
- WordPerfect (for the Mac)
- Wordstar (for the IBM)
- Microsoft Word (for the IBM)
- Microsoft Word Macintosh (Versions 1–4) 400/800K
- Wang OIS (WPS)

Also acceptable:

- Apple II DOS 3.3
- Apple with Appleworks Software
- Apple III Plus DOS 3.3
- Apple Macintosh 400K Disc/ MacWrite 2.2 (text)
- Apple Macintosh Plus 800K Disc/ MacWrite 4.5 (text)
- CPT 8000
- DEC WPS-8
- DEC Decmate II
- DEC Decmate III
- Display Write 3
- Display Write 4
- IBM Displaywriter Word Processor 6580
- Lanier Business One Step
- Lanier No Problem
- Lanier Super No Problem
- MASS-11 PC
- Multimate
- PC Write
- PFS Professional Write
- Volkswriter 4.0

New releases of word processing software are not always immediately available for conversion. In addition, because of the file structures and internal coding, we cannot accept disks created on desktop publishing systems or those created on proprietary typesetting systems. We also cannot guarantee that all special characters can be translated. Tabular and mathematical material, such as equations, will not be captured from the disk but will be rekeyed.

To expedite work and for your own security, we do require that you submit a hard copy printout of the disk file. The tables and equations will be keyed from this hard copy. We also need to know the name of the file to be converted, the type of hardware (e.g., IBM PC) on which the files were created, the operating system (e.g., DOS 3.3), and the version of the software (e.g., WordPerfect 5.1) used to create the file.

PLEASE FILL OUT ALL INFORMATION ON REVERSE SIDE AND SUBMIT THIS FORM WITH YOUR DISK. DISKS WILL NOT BE PROCESSED WITHOUT THIS INFORMATION.
DISK SUBMISSION FORM

AACR journals are now using personal computers to copyedit manuscripts accepted for publication. When submitting a revised manuscript, authors are encouraged to submit an electronic disk of the paper along with the required four hard copy printouts. Disks will ultimately be returned to the authors.

See reverse for the word processing packages that can be accepted.

File preparation

Please be sure that the file you send is the most recent version of the manuscript and that it matches the most recently submitted printed copy. The file should contain all the parts of the manuscript in one file. Mathematical and tabular material, however, will be processed in the traditional manner and may be excluded from the disk file.

Note: AACR does not assume responsibility for errors in conversion of customized software, newly released software, or special characters.

Please label the outside of the disk with the journal name, the first author's name, a partial title of the manuscript, and the name of the computer file used to access the manuscript on disk. To process your disk efficiently, we need the following information. Please be sure to provide ALL the information.

Name used to access paper on disk: __________________________
Name of computer used (e.g., IBM/PS2): __________________________
Operating system and version (e.g., DOS 3.3): __________________________
Word processing program and version (e.g., WordPerfect 5.0): __________________________
[See reverse for acceptable programs.]

Manuscript number: __________________________
First author: __________________________
Corresponding author (if different from first author): __________________________
Telephone/FAX numbers: __________________________

This form (both sides) may be reproduced.
The Oncogene Handbook
Robin T. Hesketh
1994, 640 pp., $99.00
ISBN: 0-12-344555-8

The Oncogene FactsBook
Robin T. Hesketh
A Volume in the FACTSBOOK Series
Key information on oncogenes, tumor viruses, and tumor suppressor genes has been selected from The Oncogene Handbook and arranged in the series style, making essential information readily accessible.
Paperback: $42.00
January 1995, 304 pp./ISBN: 0-12-344550-7

The Cytokine Handbook
Second Edition
Edited by Angus W. Thomson
August 1994, 615 pp., $95.00
ISBN: 0-12-689661-5

Photobiology
Eli Kohen, Joseph Hirschberg, and Rene Santus
A concise treatment of photobiology, this book includes chapters on the biological effects of solar ultraviolet radiation; optical properties of skin; photocarcinogenesis; photoimmunology; photosensitive, photalergic, and light-aggravated (Photo-Koebner) photodermatoses; phototherapy; photochemotherapy; and photodynamic phototherapy (PDT).
March 1995, c. 544 pp., $69.95 (tentative)/ISBN: 0-12-417755-7

Non-Radioisotopic Protein Kinase Assay Kit
NRPK Assay kit (Code No. 5220)
Non-radioactive method for measuring protein kinase activities. The activity of c-AMP dependent protein kinase (PKA) or protein kinase C (PKC) is measured separately by using second messengers adequate to the kinases. The assays are based on ELISA that utilizes a synthetic peptide and a monoclonal antibody recognizing phosphorylated form of the peptide.

MEDICAL & BIOLOGICAL LABORATORIES CO., LTD.
5-10 Marunouchi 3 chome, Naka-ku, Nagoya 460, JAPAN
TEL: (052) 971-2081 FAX: (052) 971-2337

MBL International Corporation
440 Arsenal Street, Watertown, MA 02172, USA
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PLENARY SESSION
An Integrated View of the Cancer Cell (Donald S. Coffey)

SYMPOSIA
The Cell Cycle and Tumor Suppressor Genes (Thea D. Tsist滶)
DNA Damage and Repair (Philip C. Hanawalt)
Natural Products in Chemoprevention of Cancer (Michael B. Sporn)
Ribozymes and Antisense Oligonucleotides and the Alteration of Gene Expression (Kevin J. Scanlon)
Genetic Susceptibility to Cancer (Kenneth W. Kinzler)
Contributions of Environmental Factors to Cancer (Kenneth Olden)
Cell Surface Glycosylation Defining Malignancy (Sen-itiroh Hakomori)
Peripheral Stem Cells and High-Dose Chemotherapy (Peter J. Queenerberry)
Apoptosis (Alan R. Eastman)
Biology of Radiation Oncology (H. Rodney Withers and C. Norman Coleman)
Biomarkers of Carcinogenesis (David Sidransky)
Transcription Factors and Carcinogenesis (Frank J. Rauscher III)
Gene Therapy in Cancer Clinical Trials
Telomeres and Telomerasases (Carol W. Greider and Jerry W. Shay)
Extracellular Matrix, Gene Expression, and Cell Signalling (Hynda K. Kleinman)
Mechanistic Basis for Ethnic Differences in Cancer Risk (Kenneth Olden)
Signal Transduction and Gene Control and Development (James E. Darnell)
Angiogenesis (Judah Folkman and Adrian L. Harris)
Genes, Development, and Cancer (Eric N. Olson)
Growth Factors, Receptors, and Differentiation (Angie Rizzino)
New Strategies and Targets for Chemotherapy (Joseph R. Bertino and Eddie Reed)
Genetic Approaches to Invasion and Metastasis (Robert S. Kerbel and Patricia S. Steeg)
Immunotherapy: Tumor Vaccines (David A. Berd)
Graft versus Tumor Effects (Richard J. O'Reilly)
Dietary Intervention in Hormonal Carcinogenesis (Diane F. Birt and Lovell A. Jones)
The Role of Stromal-Epithelial Interactions in Growth and Neoplasia (Leland W. K. Chung)
Cancer Prevention and Intermediate Biomarkers (Peter Greenwald)
Combinatorial Chemistry for Anticancer Drug Discovery (Sydney E. Salmon)
Translational Research in Breast Cancer (Marc E. Lippman)
DNA Methylation (Peter A. Jones and Stephen B. Baylin)

METHODS WORKSHOPS
General, In Situ, and Quantitative PCR (including Differential Display) (Saraswati Sukumar)
Gene Targeting (Janet Rossant and Andras Nagy)

CONTROVERSY SESSIONS
Are Estrogens Implicated in Breast Cancer? (Lovell A. Jones)
Is Mammography Before Age 50 Beneficial? (Virginia L. Ernst)
What Are the Limits and Benefits of PSA as a Screening Tool? (John Trachtenberg)
Breast Cancer Prevention: What Will We Advise Women with BRCA1? (Louise C. Strong)
What Are the Risks of Electromagnetic Fields in Causing Cancer? (Mark A. Israel)
Is Bone Marrow Transplantation Indicated for Breast Cancer? (Nancy E. Davidson)

MEET-THE-EXPERT SUNRISE SESSIONS
New Developments in Clinical Pharmacology (Merrill J. Egorin)
Site-specific Gene Expression in Transgenic Animals (Norman Greenberg)
Organ-specific Carcinogenesis (Cheryl Lyn Walker)
Modeling and Analyzing Clinical Trials (Steven Piantadosi)
Multivariate Determinants of Radiocurability (Richard P. Hill)
Multidrug Resistance (Victor Ling)
Cytokines, Vaccines, and Gene Therapy (Jonathan W. Simons)
Tyrosine Kinases and Phosphatases
Prostate Cancer (John T. Isaacs)
Lung Cancer (Stephen B. Baylin)
Colon Cancer (Ronald N. Buick)
Pediatric Malignancies (Joseph V. Simone)
Hematological Malignancies (Lee M. Nadler)
Stem Cell Transplantation (Elizabeth J. Shpall)
Molecular Determinants of Multidrug Resistance (Elizabeth W. Newcomb)
Is a Mutagenic Event Involved in Initiation? (Ann R. Kennedy)
Glutathione S-Transferase (Kenneth D. Tew)
Farnesyl Transferase as a Target for Therapy (Alexander W. Wood)
Liver Cancer Etiology and Prevention (John D. Groopman)
Biochemical Determinants of Carcinogenesis (Allan B. Okey)

EDUCATIONAL WORKSHOPS
To Be Announced

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