INSTRUCTIONS FOR AUTHORS

Cancer Research is the official journal of the American Association for Cancer Research, Inc., and is devoted to the publication of significant, original research in all the subfields of cancer research, including: biochemistry; biology; biophysics; chemical and physical carcinogenesis, and mutagenesis; clinical investigations; endocrinology; epidemiology; experimental pathology; immunology; molecular biology and genetics; physiology; preclinical pharmacology and experimental therapeutics (including biological therapy); radiobiology and radiotherapy; and virology. Clinical investigations and epidemiological studies are published in a separate section from papers in the basic sciences.

Only those papers that report results of novel and timely studies and that meet high standards of scientific quality will be accepted. Papers are submitted to stringent review and are published within about three months of acceptance.

CATEGORIES OF PUBLICATION

The following types of manuscripts are considered for publication:

1. Papers containing results of original experimental, clinical, or statistical studies that are sufficiently well documented to be acceptable to the critical reader.

2. 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.

3. Perspectives in Cancer Research, which are invited articles analyzing either 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. Letters to the Editor which deal with issues of importance to cancer researchers. If experimental data are included, these should be kept to the minimum required for adequate understanding. Also included under this category is correspondence about manuscripts published in the Journal. Correspondence which concerns articles not published in Cancer Research will not be considered.

5. Brief reports of meetings, symposia, and conferences related to cancer research. These should comprise no more than 3 printed pages (approximately 15 double-spaced typed 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.

6. Proceedings of symposia, published as external supplements to the Journal (Cancer Research Supplements), the full expenses of which are assumed by the sponsoring agency. These proceedings are published at the discretion of the Editor and do not undergo the usual review process.

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

8. Brief announcements of recent deaths of distinguished contributors to the field of cancer research.

EDITORIAL POLICY

When a manuscript is received for consideration, the Editors assume that no similar paper, other than an abstract or preliminary report, has been or will be submitted for publication elsewhere. Further, it is understood that all authors listed on a manuscript have agreed to its submission. Submission of a manuscript implies acceptance of the strict policy of the Journal that under no circumstances will the identities of the Associate Editors and reviewers be revealed.

Typically, a submitted manuscript is sent to an Associate Editor who selects two investigators in the field as reviewers. After the Editor's approval of their recommendations concerning acceptability, decisions are forwarded from the Editorial Office to authors. Every effort is made to render editorial decisions promptly, consistent with thoroughness of review. Authors should note that the average review time is 10 weeks from receipt of the manuscript. If there is a major discrepancy in the opinions of the reviewers, this may necessitate sending the paper to an additional reviewer. In this case, more time may be needed to finalize the review process.

Since editorial staff time to answer telephone calls from authors is limited, inquiries regarding the status of manuscripts should, if possible, be submitted in writing and should be made only on those manuscripts that exceed the average review time.

The Editorial Office cannot accept collect telephone calls from authors.

SUBMISSION AND PUBLICATION FEES

A manuscript processing fee of $75 is assessed for each manuscript to help defray the cost of editorial review. A check (drawn on a U.S. bank) or purchase order in U.S. currency, payable to the American Association for Cancer Research, Inc., must accompany the manuscript. Authors are requested to fulfill their own institutional obligations with respect to purchase orders and call numbers so that payment of the manuscript handling charge can be expedited.

If an author resubmits a manuscript that our Editors previously found unacceptable for publication, it is journal policy to consider it a new submission, assign it a new manuscript number, and charge the author another $75 manuscript processing fee. The covering letter accompanying such submissions should indicate that the paper is a resubmission of a manuscript previously declined for publication and give the number of the earlier submission.

A page charge of $55 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 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. Peter N. Magee, Editor, Cancer Research Editorial Office, Fels Research Institute, Temple University School of Medicine, Philadelphia, PA 19140. They should be submitted by an author, preferably the senior author, who should indicate in a covering letter:

1. that the paper should be considered for publication in Cancer Research;

2. the exact address to which all related correspondence should be sent and a telephone number at which the author can be reached;

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

4. the salient and novel findings of the paper (in as concise a statement as possible);

5. which one of the following subject categories applies to the manuscript:

- BASIC SCIENCES SECTION
  - Biochemistry and Biophysics
  - Carcinogenesis
  - Endocrinology
  - Immunology
  - Molecular Biology and Genetics
  - Preclinical Pharmacology and Experimental Therapeutics
  - Tumor Biology
  - Virology

- CLINICAL INVESTIGATIONS SECTION
  - Clinical Studies
  - Epidemiological Studies

[Please note, these categories are subject to modification over the course of the year to reflect the continually changing fields of cancer research. Final category assignment of an article in an issue's Table of Contents is at the discretion of the Editor. More detailed instructions are provided with each issue.]

Authors may suggest appropriate Associate Editors to whom the manuscript could be assigned for review. Final assignment to an Associate Editor is at the Editor's discretion.

Original submissions must include:

1. The author's covering letter in duplicate containing the above information.

2. Four copies of the manuscript.

3. At least two sets of original illustrations. (If only two sets of original illustrations are submitted, we require that the author also include two sets of photocopies.)

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INSTRUCTIONS FOR AUTHORS

Revised manuscript submissions must include:
(1) A covering letter in duplicate, clearly indicating what alterations have been made in response to the reviewer's criticisms. Satisfactory reasons should be given for noncompliance with any of the recommendations for revision.
(2) Four copies of the revised version of the manuscript, plus a redmarked copy of the manuscript indicating the changes made.
(3) A stamped self-addressed postcard containing the manuscript and knowledge receipt of the revision.

Note: If a new author has been added or an author has been deleted since the original submission, it is the responsibility of the corresponding author to ensure that the authors involved are aware of and agree to the changes in authorship. Cancer Research accepts no responsibility for such changes.

Revised manuscripts may undergo another review by an Associate Editor and/or referees, particularly if the original submission required extensive changes.

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 good idiomatic English will be returned to the author without review. Laboratory slang as well as terminology and abbreviations not consistent with internationally accepted guidelines should be avoided.


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 Publications Service, c/o Microfiche Publications, P.O. Box 3513, Grand Central Station, New York, NY 10016-3513. 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 (8½ × 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. Consecutive numbering of all pages is requested, with the title page as page 1. The typescript should be arranged in the following order: (a) title, (b) author(s) and complete names(s) and location(s) of institution(s) or laboratory(ies), (c) running title, (d) footnotes, (e) text and references, (f) tables, (g) legends for all illustrations, (h) illustrations, and (i) 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 complicated 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 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. Titles in the form of declarative or interrogative sentences are not acceptable. Also, do not 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 when authors are identified by surname only. Authors' academic degrees should not be included. The full names of institutions and subsidiary laboratories should be given, together with a useful address (including postal code). If several authors and institutions are listed on a paper, it should be clearly indicated which department and institution each author is affiliated.

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

Footnotes. Lengthy footnotes are discouraged since the same information can in most instances be presented more effectively in the text. Footnotes to the title page and text are to be designated consecutively with superscript 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 (Authors should also include a footnote designating to whom reprint requests should be addressed. An all-inclusive abbreviation (Footnotes)."

Regarding submission of the paper authors should verify the accuracy of all references and should check that all references have been cited in the text. Examples of the two most common types of Journal references are: Kolonel, L. N., Yoshizawa, C. N., Hirohata, T., and Myers, B. C. Cancer occurrence in shipyard workers exposed to asbestos in Hawaii. Cancer Res., 45: 3924–3928, 1985.


Journal articles and serial compendia. The complete title, journal, volume number, inclusive page numbers, and year of publication should be given. Serial compendia, such as Advances in Cancer Research and the Annual Review of Biochemistry, which appear annually in numbered sequence,
should be cited as journals rather than books, thus omitting the names of publishers and editors. Biological Abstracts should be consulted for abbreviations of journals and serials.

Books and chapter citations. Citation of a specific chapter or article in a book should carry the author(s) of the chapter, its title, editor(s) of the book, book title, edition, volume, inclusive pages of the chapter, location and name of the publisher, and year of publication. For references to complete books, give all of the above information that is pertinent.

Papers in press and unpublished material. Papers in press may be listed among the references with the journal name and tentative year of publication. Papers in preparation or submitted for publication should be cited in a footnote, not in the References section. This rule also applies to unpublished data or personal communications. The names of all authors should be given, along with manuscript titles if possible.

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. 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 (above etc.).

All units of measurement and concentration should be clearly designated. Exponential terminology is discouraged (the term mm is preferable to 10⁻³). Critical details, such as apparent density 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., 10⁻¹ × 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, etc.) illustrations should be designated figures.

Figures should be used when salient points need illustration for better comprehension by the reader. Halftones 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 the adhesive label on the reverse side. For halftones, 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 halftones, 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 typewritten). 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).

Extravagantly 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 abscissas, ordinates, lines, and especially the symbols are sufficiently large to permit reduction. When the graphs are reduced to the size of a single column, the letters 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 the drawings 5 mm. The thickness of ruled lines on graphs is also vital for clear presentation of the data. Size recommendations for lines are as follows: #1 Leroy for graph grids, bonds, and arrows; #2 Leroy for graph borders or reference lines; and #5 Leroy for graph curves or emphasis lines.

Symbols should be defined in the legend. Only those common symbols for which the printer has type (×, ø, ©, □, ■, △, ▽, ◆) 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 coordinates should 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 space; all of this information should be included in the legend. Also, to conserve space those curves that may appropriately appear together should be included in a single graph.

The use of exponentials for labeling coordinates in graphs is considered ambiguous and should, if possible, be avoided. If exponentials must be used, the quantity expressed should be preceded by the power of 10 by which its value has been multiplied, i.e., 10⁻¹ × concentration (M). The form “Concentration (M × 10⁻³)” is not acceptable. If powers of 10 are used, the legend should designate how the quantity is to be calculated (whether multiplied or divided) to give the correct value. The use of these illustrations should be omitted or trimmed to exclude all but essential material. The set of halftone illustrations intended for the printer’s use must be made from original negatives, i.e., they must be first generation glossy prints. Photographs made from other prints are not acceptable for reproduction. Karyotypes should be presented in the form of cardboard plates onto which chromosome sections from an original photomicrograph are pasted.

All halftones will be published at either 1-, 1½-, or 2-column width and placed as close as possible to their first citation in the text. Halftones must be prepared within these dimensions if they are to be reproduced without reduction; otherwise, they will be reduced to conform to these widths.

Figure numbers should not be included on the face of the illustration. However, halftones that must appear together for comparison should be grouped under one figure number with each section lettered “a,” “b,” “c,” etc., in the lower right-hand corner on the face of the illustration. Composite figures may be mounted on a plate, with the sections buttied together and tooling (thin white lines) placed between the parts of the figure. For optimal reproduction, the contrast among photographs on a plate should be consistent. The overall dimensions of photographs on a plate should not exceed 18.4 × 22.4 cm (7¼ × 9 inches). The minimum dimensions to which the plate can be reduced must be indicated on the back.

Symbols, arrows, or letters used in photomicrographs should contrast with the background. Wax-based lettering such as PRES-TYPE and LETRASET is discouraged because of its tendency to crumble and adhere to vinyl overlays. Tissue overlays on halftones are a necessary protection. The important areas of the photographs that must be reproduced with greatest fidelity should be indicated in overlays.

Internal scale markers should always be included on the photographs to avoid the observer opposite to listing magnification in the legend since it may be necessary to reduce the figures. Magnifications given in the legend will reflect size before reduction.

Color Photographs. The complete expense of reproducing color photographs will be charged to the author. Estimates for color reproduction can be obtained from the Editorial Office. Please be advised that the cost of color reproduction in recent Cancer Research articles has ranged from $850 to $2000 per page of color. The price is dependent upon such factors as the size and complexity of the illustration; i.e., the smaller and fewer parts to a figure, the less expensive it is to reproduce in color. Thus, if the illustration is a composite figure, the parts should be mounted together in as space-saving an arrangement as possible. All color illustrations must be submitted on flexible backing, including mounted composite figures. Please note that the author is responsible for submitting prints that are of sufficient quality to permit accurate reproduction, and if approving the final color proof. Cancer Research assumes no responsibility for the quality of the photograph as it appears in the Journal.

ABBREVIATIONS

Abbreviations are in general a hindrance to readers in fields other than that of the author(s), to abstractors, and to scientists in foreign countries.
INSTRUCTIONS FOR AUTHORS

Authors should limit their use to an absolute minimum. Single words should not be abbreviated, e.g., daunomycin, folate, vincristine. Abbreviations are not to be used in titles, but running titles may carry abbreviations for purposes of brevity. Abstracts may contain abbreviations for terms mentioned many times in that section but their identification is mandatory.

Authors should follow the recommendations of the IUPAC-IUB Commission on Biochemical Nomenclature (see section below on Terminology). All nonstandard abbreviations should be identified in an inclusive abbreviation footnote to the first such abbreviation after the Abstract.

Abbreviations that form recognizable words, such as EAT and MOPS, are discouraged.

Standard Abbreviations. Authors may use, without definition, the abbreviations in the following lists.

NAD*, NADH
nicotinamide adenine dinucleotide and its reduced form
NADP*, NADPH
nicotinamide adenine dinucleotide phosphate and its reduced form
(DPN*, TPN*, and their reduced forms are not acceptable.)
CoA, acyl-CoA
coenzyme A and its acyl derivatives (e.g., acetyl)
AMP, GMP, IMP, UMP, CMP, TMP
the 5'-phosphates of ribosyladenine, -guanine, -inosine, -uracil, -cytosine, and -thymine
ADP, etc.
the 5'(pyro)diphosphates of adenine, etc.
ATP, etc.
the 5'(pyro)triphosphates of adenine, etc.
dAMP, dGMP, dIMP
the 5' phosphates of 2'-deoxyribosyladenine, etc.
RNA, DNA
ribonucleic acid, deoxyribonucleic acid
RNase, DNase
ribonuclease, deoxyribonuclease
mRNA
messenger RNA
nRNA
nuclear RNA
rRNA
ribosomal RNA
tRNA
transfer RNA (tRNA is not recommended for RNA preparations that accept amino acids.)
P, PP,
orthophosphate, pyrophosphate
Tris
tris(hydroxymethyl)methylamine
EDTA
ethylenediaminetetraacetate
POPOP
1,4-bis[2-(5-phenyloxazolyl)]benzene
PPO
2,5-diphenylloxazole
DEAE, TEAE
diethyldiaminomethyl, triethyldiaminomethyl
UV, IR
ultraviolet, infrared
RBC, WBC
red blood cell(s), white blood cell(s)

Units of Concentration

molar (moles/liter)
m
millimolar (millimoles/liter)
mM (preferred to 10^-3 M)
micromolar (micromoles/liter)
µM (preferred to 10^-6 M)
nanomolar
nM (not µM)
picomolar
pM (not µµM)

The expression µg % should be avoided; weight concentrations should be given as g per ml, g per 100 ml, g per liter, etc.

Units of Length, Area, Volume, Mass, Time

The abbreviations below are correct for both singular and plural forms of each term.

meter
m
centimeter
cm
square centimeter
cm²
millimeter
mm
micrometer (not micron)
µm (not µ)
nanometer (not millimicron)
nm (not µm)
picometer (not micromicron)
pm (not µµm)
Angstrom (0.1 nm)
Å
liter
not abbreviated
milliliter
ml
microliter
µl (not λ)
gram
g
milligram
mg

Physical and Chemical Units

retardation factor
Rt
acceleration of gravity
g
sedimentation coefficient
s
sedimentation coefficient in water at 20°C
degree Celsius (Centigrade)
°C
degree Fahrenheit
°F
Kelvin
K
diffusion coefficient
D
equilibrium constant
K
inhibition constant
Ki
Michaelis constant
Km
maximum velocity
Vmax

Others

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

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, Third Edition, 1978. This volume is available from: The Biochemical Society, 7 Warwick Court, London WC1R 5DP, United Kingdom. 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; α-amino acids; symbols for aminoacid derivatives and peptides; synthetic modifications of natural peptides; synthetic polypeptides or polymersized amino acids; aminoacid sequences; conformation of polypeptide chains; peptide hormones; human immunoglobulins, multiple forms of enzymes; nucleic acids, polynucleotides, 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 and related compounds; cortinoids.
Isotopically Labeled Compounds. A radioactive nuclide is indicated by its mass number as a superscript to the left of the symbol (P); when written out, it should correspond to the superscript 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 [14C]thymidine, [α-32P]cysteine, l-[methyl-14C]methionine, [3H]-3-hydroxykynurenine. When more than one position in a substance is labeled by means of the same isotope and the positions are not indicated, the prefix of labeled carbon is added as a subscript to the right of the element, as in [14C]glucaric acid. The symbol U indicates uniform labeling and G, general labeling, e.g., [U-14C]glucose (where the 14C is uniformly distributed among all six positions) and [G-14C]glucose (where the 14C 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 [13C]formate, iodot[13C]acetic acid, 1-α-methyl-13C-cyclopentanol, α-naphthyl[3H]nicotinic acid, 2-acetamido-7-[35S]iodofluorescein, fructose 1.6-[1-32P]bisphosphate, 17β-[3H]estradiol. Terms such as "trans-131I-labeled albumin" should not be contracted to "(131)Ialbumin" (since native albumin does not contain iodine), and "U-14C-labeled amino acids" should similarly not be written as "14C 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., [3-14C; 2-3D; 15N]serine. Deuterium and tritium may be designated as "H" or "D" and "T", respectively.

When not sufficiently distinguished by the foregoing means, the positions of isotopic labeling are indicated by Arabic numerals. Greek letters, or prefixes in italics, as appropriate; these are to be placed within square brackets to appear before the symbol of the element concerned and are attached to it by a hyphen. Examples of this style are [1-13C]alanine, l-[2-13C]leucine or l-[7-13C]leucine, [carboxy-13C]leucine, [2,3-14C]malic anhydride, [3,4-13C]S-methionine, l-[methyl-14C]methionine. The symbol indicating configuration always precedes the bracketed isotope, and a hyphen is used to separate it from the brackets, e.g., d-[13C]glucose; l-[3-14C]leucine.

The same rules apply when the labeled compound is designated by a standard abbreviation or symbol other than the atomic symbol, e.g., [α-32P]ATP, [α-32P]CMP, or [α-32P]dUTP. The square brackets are not to be used when the prefix or symbol is attached to a word that is not a specific chemical name, abbreviation, or symbol. Proper usage here is: HCO3-, H2O2, H3SO4-, 32P-, 131I-labeled, H- ligands, 13C-steroids.

Enzymes. Authors should use the Recommended Name given in Enzyme Nomenclature 1984. Recommendations of the Nomenclature Committee of the International Union of Biochemistry on the Nomenclature and Classification of Enzymes (Academic Press, Inc., Orlando, FL, 1984) and "Supplement 1: Corrections and Additions," Eur. J. Biochem., 157: 1–26, 1986. 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 enzyme nomenclature, consult Biochemical Nomenclature and Related Documents, mentioned previously.

Histones. The six histone fractions are to be labeled H1, H1*, H2A, H2B, H3, and H4, rather than F1, F1*, F2a, F2b, F3, and F2a1, respectively.

Interferon Assays. 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.


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 when both names are mentioned. When a 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 Drug Names (1988).

Tumors. Tumors used in experimental investigations should be clearly described and identified in acceptable terminology. If these tumors are well known and have been identified in previous publications, extended descriptions and photomicrographs are unnecessary.

All authors of manuscripts intended to use the TNM staging system approved by the International Union Against Cancer and the American Joint Committee on Cancer, whenever applicable.

General. The composition of all solutions and buffers should be specified in sufficient detail so that the concentration of each component can be determined. The word "saline" should be replaced by "NaCl solution," along with the prescribed 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., Mg2++, S-. Advice on biochemical nomenclature is readily available from Dr. Waldo E. Cohn, Director, Office of Biochemical Nomenclature, Biology Division, Oak Ridge National Laboratory, Box X, Oak Ridge, Tennessee 37831; (615) 574-0808.

ALTERATIONS IN PROOF

The Journal provides authors with page proofs for their examination. Extensive alterations in proofs would result in sharply increased costs and delays in publication and will necessarily be charged to the authors. We urge our contributors to proofread and edit their manuscripts carefully before submission. The Editors retain the prerogative to question minor stylistic alterations and major alterations that might affect the scientific content of the paper. Proofs should be returned to the Editorial Office within 48 hours of receipt; scheduled publication cannot be guaranteed if proofs are received after that time.

REPRINTS

Reprint order forms are sent to authors along with their proof. If the form has been omitted inadvertently from the shipment, the Editorial Office should be contacted immediately.

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