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The following categories of publication are acceptable. (1) Reports of original research, *i.e.*, experimental, clinical, or statistical papers that clearly and concisely report the results of timely and significant studies in which the data are sufficiently well documented to be acceptable to the critical reader; (2) Brief Communications of *special* timeliness and significance for rapid publication (however, these papers will be given stringent review by members of the Editorial Board and will be accepted only under unusual circumstances); (3) brief reviews on a subject of importance to cancer researchers (however, such reviews will also be given stringent editorial evaluation before acceptance); (4) Letters to the Editor, which deal with especially important issues; (5) reports of meetings and symposia related to cancer research; (6) announcements of meetings, and books and other publications in fields related to cancer. Announcements should be forwarded to the Editorial Office no less than 4 to 6 months before the date of the meeting.

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Papers should conform to the style and usage of the Journal. For assistance in the proper arrangement of papers, consult a recent issue of CANCER RESEARCH. Manuscripts are to be written in clear, grammatical, idiomatic English. Papers which do not meet these requirements will be returned to the authors without review since the Editorial Office does not have the facilities or staff for converting manuscripts to acceptable English standards. Investigators not entirely familiar with the English language can avoid

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Data should be presented as concisely and as clearly as possible by eliminating verbosity and laboratory slang. It is essential that the typescripts be proofread carefully to avoid typographical errors.

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Type the manuscript on 8¹/₂- x 11-inch paper with double or triple spacing throughout and allow for ample margins. Number *all* pages in succession, the title page being page 1. Numbered and lettered sections should be avoided. Use separate sheets for (a) title, (b) authors and complete name of institution or laboratory, (c) running title, (d) footnotes, (e) tables, (f) legends for illustrations, and (g) other subsidiary material. Indicate by marginal notes the appropriate location of tables and illustrations. Simple chemical formulas or mathematical equations may be presented in a form which allows their reproduction in single horizontal lines of type; however, complicated mathematical formulas or chemical structures which are difficult to set in type should be drawn in India ink and inserted in the text where required.

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Authors and Their Affiliations. Authors' names should be complete with first and middle names or initials but should not include degrees. Give the full names of institutions and subsidiary laboratories, together with a useful address (including zip code).

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Introduction and Discussion. Wide-ranging reviews of the literature in either the Introduction or Discussion sections should be rigorously avoided; these sections should, on the whole, deal with the experimental results in the paper. Large masses of data of peripheral significance to the main thesis of the investigation should not be included in the paper. The data may be deposited in the National Auxiliary Publications Service of the American Society for Information Science,

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Results. Results should be presented in tables, figures, or charts. Only data necessary for the understanding of the experimental work should be included in the Results section.

Under certain circumstances, it may be desirable to combine the Results and Discussion sections.

References. Please refer to a recent issue of the Journal for style. Arrange references in alphabetical order and list all authors (with their initials) for each reference. For journals, it is important to give the complete title, journal, volume number, inclusive pages, and year. Serial compendia, such as *Advances in Cancer Research* and the *Annual Review of Biochemistry*, which appear annually in numbered sequence, should be cited as if they were journals rather than books, thus omitting the names of publishers and editors. Consult *Chemical Abstracts* for abbreviations of journals and serials. When citing a specific chapter or article in a book, list the author(s) of the chapter, its title, editor(s) of the book, book title, volume, edition, inclusive pages of the chapter, location and name of the publisher, and year. For complete books, give all of the above information that is pertinent.

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The number of citations in the bibliography should be kept to a minimum. If review articles amply cover the background, it is unnecessary to repeat this same material with many additional references.

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Footnotes. Footnotes to the title page and text are to be designated with consecutive superscript numerals.

Tables. For assistance in the preparation of tables, refer to a current issue of the Journal. Tables should be numbered with arabic numerals, and table footnotes should be indicated with superscript italic letters (^a, ^b, ^c, etc.). Every table must have a descriptive title and an explanatory paragraph directly underneath the title, which clearly gives the experimental details for proper understanding by the reader. Do not duplicate material already presented in the charts. Unnecessary columns of data which can easily be derived from results in the table should not be included. Each column should carry an appropriate heading and, if numerical measurements are given, these units should be added to the column heading. Clearly designate all units of

measurement, concentration, etc., and avoid exponential terminology (e.g., the term mM is preferable to 10^{-3} M). Large masses of individual values should be avoided; instead, these should be averaged and carry an appropriate designation of the dispersion, such as standard deviation or standard error. Authors are obliged to indicate the significance of observations by appropriate statistical analysis; tables without such information are not acceptable.

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Denote points of observation with different symbols, rather than different types of lines, and explain their significance directly on the chart or in the legend. If possible, use only those common symbols for which the printer has type (X, O, ●, □, ■, △, ▲, ⊙).

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Figures. Halftone illustrations (photomicrographs and photographs) are designated as *figures*. These are difficult and expensive to reproduce and should therefore be kept to a bare minimum. Because of the Journal's ever-increasing publication load, along with rising printing costs, the Editors must insist that authors submit only those photographs which are absolutely essential to the clarity of the presentation.

Arrange photographs on "plates" enclosed within an area not to exceed $7\frac{1}{4}$ x 9 inches. These should be submitted on glossy white paper and be correctly exposed and sharply focused. Considerable space may be saved by suitably cropping figures so that 4 to 6 photographs can be illus-

trated on one plate. Unless the authors can justify the necessity, plates with single photographs will be returned for revision.

Color photographs are discouraged unless the authors can state that they are necessary for the clear presentation of the data; if these are accepted by the Editors, the complete expense of reproducing such plates will be charged to the author. Current estimates for color reproduction can be obtained by correspondence with the Editor.

Mount each set of figures on white cardboard and protect them with tissue overlays. Tooling (thin white or black lines) between the photographs should be uniform. Figure numbers, in arabic numerals, should be entered in India ink *directly* on the photographs and, if possible, should be in the lower right-hand corner of each photograph. Waxbased lettering such as PRES-TYPE or LETTRA-SET, often used for labeling, tend to crumble and adhere to vinyl overlays.

An appropriate legend for each figure, including stains and magnifications where applicable, is required.

Terminology and Abbreviations

For clarity and ease of reading, keep abbreviations to a minimum. Do not abbreviate short terms or introduce non-standard abbreviations.

The IUPAC-IUB combined commissions on biochemical nomenclature have published a list of approved names and abbreviations for chemical substances as follows: for abbreviations and symbols, *J. Biol. Chem.*, 241: 527-533, 2491-2495, 1966; for coenzymes, vitamins, etc., *J. Biol. Chem.*, 241: 2987-2994, 1966; for synthetic modifications of natural peptides, *J. Biol. Chem.*, 242: 555-557, 1967; for synthetic peptides, *J. Biol. Chem.*, 243: 2451-2453, 1968; for lipids, *J. Biol. Chem.*, 242: 4845-4849, 1967; for single-letter abbreviations for amino acids, *J. Biol. Chem.*, 243: 3557-3559, 1968; for cyclitols, *J. Biol. Chem.*, 243: 5809-5819, 1968; for steroids, *Biochemistry*, 8: 2227-2242, 1969.

Specialized terminology for components of macromolecules, such as proteins, nucleic acids, and polysaccharides, should follow that given in the January 1970 issue of the *Journal of Biological Chemistry*. This issue also gives accepted chemical abbreviations for nucleotides, coenzymes, phosphorylated derivatives, etc. Enzymes should be identified by the appropriate IUB Commission number as given by the recommendations of the International Union of Biochemistry, 1964. This number may be included in the text in a footnote, and the common or trivial name can be used thereafter.

Designations for inbred mouse strains should conform to the listing of the Committee on Standardized Genetic Nomenclature for Mice, *Cancer Res.*, 28: 391-420, 1968.

Wherever possible, tumors used in experimental investigations should be clearly described and identified in acceptable terminology. Where these tumors are well known and have been readily identified in previous publications, extended descriptions and photomicrographs are unnecessary and should not be included.

Accepted Abbreviations. Authors may use, without definition, the abbreviations in the list below:

DPN ⁺ , DPNH	diphosphopyridine nucleotide and its reduced form
TPN ⁺ , TPNH	triphosphopyridine nucleotide and its reduced form
NAD ⁺ , NADH	nicotinamide adenine dinucleotide and its reduced form
NADP ⁺ , NADPH	nicotinamide adenine dinucleotide phosphate and its reduced form
Please note that DPN ⁺ -DPNH, NAD ⁺ -NADH and TPN ⁺ -TPNH, NADP ⁺ -NADPH are paired abbreviations for the oxidized and reduced forms of the same substances. Either system is acceptable; however, both systems should not be used interchangeably in the same manuscript.)	
CoA, acyl-CoA	coenzyme A and its acyl derivatives (e.g., acetyl, etc.)
AMP, GMP, IMP, UMP, CMP, TMP	the 5'-phosphates of ribosynucleosides of adenine, guanine, hypoxanthine, uracil, cytosine, and thymine
ADP, etc.	the 5'(pyro)-diphosphates of adenosine, etc.
ATP, etc.	the 5'(pyro)-triphosphates of adenosine, etc.
RNA, DNA	ribonucleic acid, deoxyribonucleic acid
RNase, DNase	ribonuclease, deoxyribonuclease
mRNA	messenger RNA
nRNA	nuclear RNA
rRNA	ribosomal RNA
tRNA	transfer RNA (sRNA is not recommended for RNA preparations that accept amino acids and should no longer be used.)
Tris	tris(hydroxymethyl)aminomethane
EDTA	ethylenediaminetetraacetate
POPO	1,4-bis[2-5-phenyloxazoly]] benzene
PPO	2,5-diphenyloxazole
All other abbreviations should be explained in an inclusive footnote after the first one is used.	

Other Abbreviations.

<i>Units of Concentration</i>	
molar (mole/liter)	M
millimolar (mmole/liter)	mM (preferred to 10 ⁻³ M)
micromolar (μmole/liter)	μM (preferred to 10 ⁻⁶ M)

Avoid the use of the expression mg%; weight concentrations should be given as g per ml, g per 100 ml, g per liter, etc.

Units of Length, Area, Volume, Mass, Time

meter	m
centimeter	cm
square centimeter	sq cm
millimeter	mm
micron	μ
Angstrom	Å
liter	l (in tables only)

Instructions to Authors

milliliter	ml (use instead of cc or cm ³)
microliter	μl (not λ)
gram	g
milligram	mg
microgram	μg (not γ)
kilogram	kg
hour (s)	hr
minute (s)	min
second (s)	sec
counts per minute	cpm
disintegrations per minute	dpm
revolutions per minute	rpm
Curie	Ci
Svedberg unit	S
mole	not abbreviated

Physical and Chemical Units

retardation factor	R _F
acceleration of gravity	g
sedimentation coefficient	s
degree Centigrade	° (not °C)
degree Fahrenheit	° F
degree Kelvin (absolute temp.)	° K
inhibition constant	K _i
Michaelis constant	K _m
maximum velocity	V _{max}

Others

absorbance	A (not O.D.)
probability	p
roentgen	R
standard deviation	S.D.
standard error of the mean	S.E.

in chemical compounds

ortho	<i>o</i>
meta	<i>m</i>
para	<i>p</i>
secondary	<i>sec</i>
tertiary	<i>tert</i>

routes of administration

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

Isotope designations should conform to the following style: ³²P, ¹⁴CO₂, glycine-2-¹⁴C, but ³H-labeled thymidine.

Decimals are preferred to fractions; the form 0.01, not .03, is required in text, tables, and charts.

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