

# CLINICAL MICROBIOLOGY REVIEWS

## 2009 INSTRUCTIONS TO AUTHORS

### SCOPE

*Clinical Microbiology Reviews* (CMR) accepts reviews that are of primary interest to clinical microbiologists, medical microbiologists and immunologists, public health workers, infectious disease clinicians, and others who are interested in the pathogenesis, laboratory diagnosis, epidemiology, and control of human and veterinary pathogens. The articles should present comprehensive, critical summaries of current knowledge in the field and should not be limited to a discussion of the author's work. Sufficient historical or other background material may be included for those readers who are not current with the latest advances in the particular field. If the material covered is controversial, the author should attempt to provide balanced coverage. Appropriate reviews would include those addressing pathogenic mechanisms, specific or groups of microbial pathogens, clinical and laboratory aspects of newly recognized or reemerging infectious diseases, recently developed antimicrobial agents and their application, and new diagnostic laboratory technology.

The editors welcome any suggestions for topics and authors from either prospective authors or others. Prospective authors are advised to discuss with the editor in chief the suitability of their proposed contribution. The preparation of an annotated topical outline is required, since it often elicits constructive suggestions from editorial consultants. In addition, a list of key references showing the author's contributions to the field as well as other investigators' findings and a one- or two-paragraph statement detailing the aim, scope, and relevance of the review should be included with the outline.

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1. **Arendsen, A. F., M. Q. Solimar, and S. W. Ragsdale.** 1999. Nitrate-dependent regulation of acetate biosynthesis and nitrate respiration by *Clostridium thermoaceticum*. *J. Bacteriol.* **181**:1489–1495.
2. **Cox, C. S., B. R. Brown, and J. C. Smith.** *J. Gen. Genet.*, in press.\* {Article title is optional; journal title is mandatory.}
3. **da Costa, M. S., M. F. Nobre, and F. A. Rainey.** 2001. Genus I. *Thermus* Brock and Freeze 1969, 295,<sup>AL</sup> emend. Nobre, Trüper and da Costa 1996b, 605, p. 404–414. In D. R. Boone, R. W. Castenholz, and G. M. Garrity (ed.), *Bergey's manual of systematic bacteriology*, 2nd ed., vol. 1. Springer, New York, NY.
4. **Elder, B. L., and S. E. Sharp.** 2003. Cumitech 39, Competency assessment in the clinical laboratory. Coordinating ed., S. E. Sharp. ASM Press, Washington, DC.
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6. **Fitzgerald, G., and D. Shaw.** In A. E. Waters (ed.), *Clinical microbiology*, in press. EFH Publishing Co., Boston, MA.\* {Chapter title is optional.}
7. **Forman, M. S., and A. Valsamakis.** 2003. Specimen collection, transport, and processing: virology, p. 1227–1241. In P. R. Murray, E. J. Baron, M. A. Pfaller, J. H. Tenover, and R. H. Tenover (ed.), *Manual of clinical microbiology*, 8th ed. ASM Press, Washington, DC.
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10. **Odell, J. C.** April 1970. Process for batch culturing. U.S. patent 484,363,770. {Include the name of the patented item/process if possible; the patent number is mandatory.}
11. **O'Malley, D. R.** 1998. Ph.D. thesis. University of California, Los Angeles. {Title is optional.}
12. **Rotimi, V. O., N. O. Salako, E. M. Mohaddas, and L. P. Philip.** 2005. Abstr. 45th Intersci. Conf. Antimicrob. Agents Chemother., abstr. D-1658. {Abstract title is optional.}
13. **Smith, D., C. Johnson, M. Maier, and J. J. Maurer.** 2005. Distribution of fimbrial, phage and plasmid associated virulence genes among poultry *Salmonella enterica* serovars, abstr. P-038, p. 445. Abstr. 105th Gen. Meet. Am. Soc. Microbiol. American Society for Microbiology, Washington, DC. {Abstract title is optional.}
14. **Stratagene.** 2006. Yeast DNA isolation system: instruction manual. Stratagene, La Jolla, CA. {Use the company name as the author if none is provided for a company publication.}

\*A reference to an in-press ASM publication should state the control number (e.g., CMR00577-09) if it is a journal article or the name of the publication if it is a book.

Online references must provide the same information that print references do, but some variation is allowed. For online journal articles, posting or revision dates may replace the year of publication, and a DOI or URL may be provided in addition to or in lieu of volume and page numbers. Some examples follow.

1. **Charlier, D., and N. Glansdorff.** September 2004, posting date. Chapter 3.6.1.10, Biosynthesis of arginine and polyamines. In R. Curtiss III et al. (ed.), *EcoSal—Escherichia coli and Salmonella: cellular and molecular biology*. ASM Press, Washington, DC. <http://www.ecosal.org/ecosal/index.jsp>. {Note that each chapter has its own posting date.}
2. **Dionne, M. S., and D. S. Schneider.** 2002. Screening the fruitfly immune system. *Genome Biol.* **3**:REVIEWS1010. <http://genomebiology.com/2002/3/4/reviews/1010>.
3. **Smith, F. X., H. J. Merianos, A. T. Brunger, and D. M. Engelman.** 2001. Polar residues drive associa-

- tion of polyleucine transmembrane helices. *Proc. Natl. Acad. Sci. USA* **98**:2250–2255. doi:10.1073/pnas.041593698.
4. **Winnick, S., D. O. Lucas, A. L. Hartman, and D. Toll.** 2005. How do you improve compliance? *Pediatrics* **115**:e718–e724.

Note: a posting or accession date is required for any online reference that is periodically updated or changed.

**(ii) References cited in the text.** References to unpublished data, manuscripts submitted for publication, unpublished conference presentations (e.g., a report or poster that has not appeared in published conference proceedings), personal communications, patent applications and patents pending, computer software, databases, and websites (home pages) should be made parenthetically in the text as follows.

... similar results (R. B. Layton and C. C. Weathers, unpublished data).

... system was used (J. L. McNerney, A. F. Holden, and P. N. Brighton, submitted for publication).

... as described previously (M. G. Gordon and F. L. Rattner, presented at the Fourth Symposium on Food Microbiology, Overton, IL, 13 to 15 June 1989). {*For nonpublished abstracts and posters, etc.*}

... this new process (V. R. Smoll, 20 June 1999, Australian Patent Office). {*For non-U.S. patent applications, give the date of publication of the application.*}

... available in the GenBank database (<http://www.ncbi.nlm.nih.gov/Genbank/index.html>).

... using ABC software (version 2.2; Department of Microbiology, State University [<http://www.stu.micro>]).

URLs for companies that produce any of the products mentioned in your study or for products being sold may not be included in the article. However, company URLs that permit access to scientific data related to the study or to shareware used in the study are permitted.

**(iii) References related to supplemental material.** References that are related only to supplemental material hosted by ASM or posted on a personal/institutional website should not be listed in the References section of an article; include them with the supplemental material itself.

**(iv) Referencing publish-ahead-of-print manuscripts.** Citations of ASM Accepts manuscripts should look like the following example.

**Wang, G. G., M. P. Pasillas, and M. P. Kamps.** 15 May 2006. Persistent transactivation by Meis1 replaces Hox function in myeloid leukemogenesis

models: evidence for co-occupancy of Meis1-Pbx and Hox-Pbx complexes on promoters of leukemia-associated genes. *Mol. Cell. Biol.* doi:10.1128/MCB.00586-06.

Other journals may use different styles for their publish-ahead-of-print manuscripts, but citation entries must include the following information: author name(s), posting date, title, journal title, and volume and page numbers and/or DOI. The following is an example:

**Zhou, F. X., H. J. Merianos, A. T. Brunger, and D. M. Engelman.** 13 February 2001, posting date. Polar residues drive association of polyleucine transmembrane helices. *Proc. Natl. Acad. Sci. USA.* doi:10.1073/pnas.041593698.

### Correspondent Footnote

The complete mailing address, a single telephone number, a single fax number, and a single e-mail address for the corresponding author should be included on the title page of the manuscript. This information will be published in the article as a footnote to facilitate communication, and the e-mail address will be used to notify the corresponding author of the availability of proofs and, later, of the PDF file of the published article.

### Errata

The Erratum section provides a means of correcting errors that occurred during the writing, typing, editing, or printing (e.g., a misspelling, a dropped word or line, or mislabeling in a figure) of a published article. Submit Errata via Rapid Review (see “[How To Submit Manuscripts](#),” above). In the Abstract section of the submission form (a required field), put “Not Applicable.” Upload the text of your Erratum as an MS Word file. Please see a recent issue for correct formatting.

### Authors’ Corrections

The Author’s Correction section provides a means of correcting errors of omission (e.g., author names or citations) and errors of a scientific nature that do not alter the overall basic results or conclusions of a published article (e.g., an incorrect unit of measurement or order of magnitude used throughout, contamination of one of numerous cultures, or misidentification of a mutant strain, causing erroneous data for only a portion [non-critical] of the study). Note that the addition of new data is not permitted.

For corrections of a scientific nature or issues involving authorship, including contributions and use or ownership of data and/or materials, all disputing parties must agree, in writing, to publication of the Correction. For omission of an author’s name, letters must be signed by the authors of the article and the author whose name

was omitted. The editor who handled the article will be consulted if necessary.

Submit an Author's Correction via Rapid Review (see "How To Submit Manuscripts," above). In the submission form, select Erratum as the manuscript type; there is no separate selection in Rapid Review for an Author's Correction, but your Correction will be published as such if appropriate. In the Abstract section of the submission form (a required field), put "Not Applicable." Upload the text of your Author's Correction as an MS Word file. Please see a recent issue for correct formatting. Signed letters of agreement must be supplied as supplemental material (scanned PDF files).

## Abbreviations

**General.** Abbreviations should be used as an aid to the reader, rather than as a convenience to the author, and therefore their **use should be limited**. Abbreviations other than those recommended by the International Union of Pure and Applied Chemistry-International Union of Biochemistry (IUPAC-IUB) (*Biochemical Nomenclature and Related Documents*, Portland Press, London, United Kingdom, 1992; available at <http://www.chem.qmul.ac.uk/iupac/bibliog/white.html>) should be used only when a case can be made for necessity, such as in tables and figures.

It is often possible to use pronouns or to paraphrase a long word after its first use (e.g., "the drug" or "the substrate"). Standard chemical symbols and trivial names or their symbols (folate, Ala, and Leu, etc.) may also be used.

Define each abbreviation and introduce it in parentheses the first time it is used; e.g., "cultures were grown in Eagle minimal essential medium (MEM)." Generally, eliminate abbreviations that are not used at least three times in the text (including tables and figure legends).

**Not requiring introduction.** In addition to abbreviations for Système International d'Unités (SI) units of measurement, other common units (e.g., bp, kb, and Da), and chemical symbols for the elements, the following should be used without definition in the title, summary, text, figure legends, and tables: DNA (deoxyribonucleic acid); cDNA (complementary DNA); RNA (ribonucleic acid); rRNA (complementary RNA); RNase (ribonuclease); DNase (deoxyribonuclease); rRNA (ribosomal RNA); mRNA (messenger RNA); tRNA (transfer RNA); AMP, ADP, ATP, dAMP, ddATP, and GTP, etc. (for the respective 5' phosphates of adenosine and other nucleosides) (add 2', 3', or 5'-when needed for contrast); ATPase and dGTPase, etc. (adenosine triphosphatase and deoxyguanosine triphosphatase, etc.); NAD (nicotinamide adenine dinucleotide); NAD<sup>+</sup> (nicotinamide adenine dinucleotide, oxidized); NADH (nicotinamide adenine dinucleotide, reduced); NADP (nicotinamide adenine dinucleotide

phosphate); NADPH (nicotinamide adenine dinucleotide phosphate, reduced); NADP<sup>+</sup> (nicotinamide adenine dinucleotide phosphate, oxidized); poly(A) and poly(dT), etc. (polyadenylic acid and polydeoxythymidylic acid, etc.); oligo(dT), etc. (oligodeoxythymidylic acid, etc.); UV (ultraviolet); PFU (plaque-forming units); CFU (colony-forming units); MIC (minimal inhibitory concentration); Tris [tris(hydroxymethyl)aminomethane]; DEAE (diethylaminoethyl); EDTA (ethylenediaminetetraacetic acid); EGTA [ethylene glycol-bis(β-aminoethyl ether)-N,N,N',N'-tetraacetic acid]; HEPES (N-2-hydroxyethylpiperazine-N'-2-ethanesulfonic acid); PCR (polymerase chain reaction); and AIDS (acquired immunodeficiency syndrome). Abbreviations for cell lines (e.g., HeLa) also need not be defined.

The following abbreviations should be used without definition in tables:

amt (amount)	SE (standard error)
approx (approximately)	SEM (standard error of the mean)
avg (average)	sp act (specific activity)
concn (concentration)	sp gr (specific gravity)
diam (diameter)	temp (temperature)
expt (experiment)	tr (trace)
exptl (experimental)	vol (volume)
ht (height)	vs (versus)
mo (month)	wk (week)
mol wt (molecular weight)	wt (weight)
no. (number)	yr (year)
prepn (preparation)	
SD (standard deviation)	

## Reporting Numerical Data

Standard metric units are used for reporting length, weight, and volume. For these units and for molarity, use the prefixes m, μ, n, and p for 10<sup>-3</sup>, 10<sup>-6</sup>, 10<sup>-9</sup>, and 10<sup>-12</sup>, respectively. Likewise, use the prefix k for 10<sup>3</sup>. Avoid compound prefixes such as mμ or μμ. Use μg/ml or μg/g in place of the ambiguous ppm. Units of temperature are presented as follows: 37°C or 324 K.

When fractions are used to express units such as enzymatic activities, it is preferable to use whole units, such as "g" or "min," in the denominator instead of fractional or multiple units, such as μg or 10 min. For example, "pmol/min" is preferable to "nmol/10 min," and "μmol/g" is preferable to "nmol/μg." It is also preferable that an unambiguous form such as exponential notation be used; for example, "μmol g<sup>-1</sup> min<sup>-1</sup>" is preferable to "μmol/g/min." Always report numerical data in the applicable SI units.

For a review of some common errors associated with statistical analyses and reports, plus guidelines on how to avoid them, see the article by Olsen (*Infect. Immun.* **71**:6689–6692, 2003).

For a review of basic statistical considerations for virology experiments, see the article by Richardson and Overbaugh (*J. Virol.* **79**:669–676, 2005).

## NOMENCLATURE

The spelling of bacterial names should follow the *Approved Lists of Bacterial Names (Amended) & Index of the Bacterial and Yeast Nomenclatural Changes* (V. B. D. Skerman et al., ed., ASM Press, Washington, DC, 1989) and the validation lists and notification lists published in the *International Journal of Systematic and Evolutionary Microbiology* (formerly the *International Journal of Systematic Bacteriology*) since January 1989. In addition, two sites on the World Wide Web list current approved bacterial names: Bacterial Nomenclature Up-to-Date ([http://www.dsmz.de/microorganisms/main.php?contentleft\\_id=14](http://www.dsmz.de/microorganisms/main.php?contentleft_id=14)) and List of Prokaryotic Names with Standing in Nomenclature (<http://www.bacterio.cict.fr/>). If there is reason to use a name that does not have standing in nomenclature, the name should be enclosed in quotation marks in the title and at its first use in the abstract and the text and an appropriate statement concerning the nomenclatural status of the name should be made in the text. “*Candidatus*” species should always be set in quotation marks.

Names used for viruses should be those approved by the International Committee on Taxonomy of Viruses (ICTV) and published in *Virus Taxonomy: Eighth Report of the International Committee on Taxonomy of Viruses* (C. M. Fauquet et al., ed., Elsevier Academic Press, San Diego, CA, 2005). In addition, the recommendations of the ICTV regarding the use of species names should generally be followed: when the entire species is discussed as a taxonomic entity, the species name, like other taxa, is italic and has the first letter and any proper nouns capitalized (e.g., *Tobacco mosaic virus*, *Murray Valley encephalitis virus*). When the behavior or manipulation of individual viruses is discussed, the vernacular (e.g., tobacco mosaic virus, Murray Valley encephalitis virus) should be used. If desired, synonyms may be added parenthetically when the name is first mentioned. Approved generic (or group) and family names may also be used.

For enzymes, use the recommended (trivial) name assigned by the Nomenclature Committee of the IUB as described in *Enzyme Nomenclature* (Academic Press, Inc., New York, NY, 1992) and at <http://www.chem.qmul.ac.uk/iubmb/enzyme/>.

For nomenclature of restriction enzymes, DNA methyltransferases, homing endonucleases, and their genes, refer to the article by Roberts et al. (*Nucleic Acids Res.* **31**:1805–1812, 2003).

Genetic nomenclature should essentially follow the recommendations of Demerec et al. (*Genetics* **54**:61–76, 1966) and those given in the instructions to authors of the *Journal of Bacteriology*, *Molecular and Cellular Biology*, and *Eukaryotic Cell* (January issues). To facilitate accurate communication, **it is important that standard genetic nomenclature be used whenever possible and that deviations or proposals for new naming systems be endorsed by an appropriate authoritative body.** Review and/or publication of submitted manuscripts that contain

new or nonstandard nomenclature may be delayed by the editor or the Journals Department so that they may be reviewed by the Genetics and Genomics Committee of the ASM Publications Board. **Before submission of manuscripts, authors may direct questions on genetic nomenclature to the committee’s chairman: Maria Costanzo** (e-mail: [maria@genome.stanford.edu](mailto:maria@genome.stanford.edu)). Such a consultation should be mentioned in the manuscript submission letter.

## ILLUSTRATIONS AND TABLES

**To acknowledge a shift in readership and subscriptions from the print journals to the online publications, starting in 2009, the online version will be considered the journal of record for CMR and all other ASM journals. This change means that RGB (red, green, blue) color space will now be the preferred format for authors’ color files. The switch to RGB color will enable the online journals to reproduce scientific data with more accuracy and detail than is possible in a printed version. The RGB color space is the native color space of computer monitors and of most of the equipment and software used to capture scientific data, and it can display a wider range of colors (especially bright fluorescent hues) than the CMYK (cyan, magenta, yellow, black) color space used by print devices that put ink (or toner) on paper.**

**The print version of the journal (and reprints) must still use CMYK colors. CMYK versions of color illustrations will be created automatically from the supplied RGB versions by ASM’s print provider. Figure color in the print journal may not match that in the online journal of record because of the smaller range of colors capable of being reproduced by CMYK inks on a printing press. For additional information on RGB versus CMYK color, refer to the Cadmus digital art site, [http://art.cadmus.com/da/guidelines\\_rgb.jsp](http://art.cadmus.com/da/guidelines_rgb.jsp).**

### Image Manipulation

Computer-generated images may be processed only minimally. Processing (e.g., changing contrast, brightness, or color balance) is acceptable only if applied to all parts of the image, as well as to the controls, equally, and descriptions of all such adjustments and the tools used (both hardware and software) must be provided in the manuscript. Unprocessed data and files must be retained by the authors and be provided to the editor on request.

### Illustrations

**File types and formats.** Illustrations may be continuous-tone images, line drawings, or composites. Color graphics are encouraged.

Illustrations may be supplied as PDF files for review purposes only on initial submission; in fact, we recommend this option to minimize file upload time. At the modification stage, production quality digital files must be submitted. All graphics submitted with modified

manuscripts must be bitmap, grayscale, or in the RGB (preferred) or CMYK color mode. Halftone images (those with various densities or shades) must be grayscale, not bitmap. CMR accepts TIFF or EPS files but discourages PowerPoint for either black-and-white or color images. For instructions on creating acceptable EPS and TIFF files, refer to the Cadmus digital art website, <http://art.cadmus.com/da/index.jsp>. PowerPoint requires users to pay close attention to the fonts used in their images (see the section on fonts below). If instructions for fonts are not followed exactly, images prepared for publication are subject to missing characters, improperly converted characters, or shifting/obscuring of elements or text in the figure. For proper font use in PowerPoint images, refer to the Cadmus digital art website, [http://art.cadmus.com/da/instructions/ppt\\_disclaimer.jsp](http://art.cadmus.com/da/instructions/ppt_disclaimer.jsp).

**Authors must check the acceptability of their digital images for production by running their files through Rapid Inspector**, a tool provided at the following URL: <http://rapidinspector.cadmus.com/RapidInspector/zmw/index.jsp>. Rapid Inspector is an easy-to-use, Web-based application that identifies file characteristics that may render the image unusable for production.

If you require additional information, please send an e-mail inquiry to [digitalart@cadmus.com](mailto:digitalart@cadmus.com).

**Minimum resolution.** It is extremely important that a high enough resolution is used. All separate images that you import into a figure file must be at the correct resolution before they are placed. (For instance, placing a 72-dpi image in a 300-dpi EPS file will not result in the placed image meeting the minimum requirements for file resolution.) Note, however, that the higher the resolution, the larger the file and the longer the upload time. Publication quality will not be improved by using a resolution higher than the minimum. Minimum resolutions are as follows:

300 dpi for grayscale and color  
600 dpi for combination art (lettering and images)  
1,200 dpi for line art

**Size.** All graphics **should be submitted at their intended publication size**; that is, the image uploaded should be 100% of its print dimensions so that no reduction or enlargement is necessary. Resolution must be at the required level at the submitted size. Include only the significant portion of an illustration. White space must be cropped from the image, and excess space between panel labels and the image must be eliminated.

Maximum width for a 1-column figure:  $3\frac{5}{16}$  inches (ca. 8.4 cm)  
Maximum width for a 2-column figure:  $6\frac{7}{8}$  inches (ca. 17.4 cm)  
Minimum width for a 2-column figure:  $4\frac{1}{4}$  inches (10.8 cm)  
Maximum height:  $9\frac{1}{16}$  inches (23.0 cm)

**Contrast.** Illustrations must contain sufficient contrast to be viewed easily on a monitor or on the printed page.

**Labeling and assembly.** All final lettering, labeling, and tooling, etc., must be incorporated into the figures. It cannot be added at a later date. If a figure number is included, it must appear well outside the boundaries of the image itself. (Numbering may need to be changed at the copyediting stage.) Each figure must be uploaded as a separate file, and any multipanel figures must be assembled into one file; i.e., rather than sending a separate file for each panel in a figure, assemble all panels in one piece and supply them as one file.

**Fonts.** To avoid font problems, set all type in one of the following fonts: Arial, Helvetica, Times Roman, European PI, Mathematical PI, or Symbol. Courier may be used but should be limited to nucleotide or amino acid sequences, where a nonproportional (monospace) font is required. All fonts other than these must be converted to paths (or outlines) in the application with which they were created.

**Compression.** Images created with Macintosh applications may be compressed with Stuffit. Images created with Windows applications may be compressed with WinZip or PKZIP.

**Color illustrations.** CMR encourages authors to submit high-quality color images with their manuscripts. There are no color charges for publication in CMR. To maximize online reproduction, color illustrations should be supplied in the RGB color mode, as either (i) RGB TIFF images with a resolution of at least 300 pixels per inch (raster files, consisting of pixels) or (ii) Illustrator-compatible EPS files with RGB color elements (vector files, consisting of lines, fonts, fills, and images). Color illustrations may also be supplied in the CMYK color mode; other than in color space, CMYK files must meet the same production criteria as RGB files.

## Drawings

Submit graphs, charts, complicated chemical or mathematical formulas, diagrams, and other drawings as finished products not requiring additional artwork or typesetting. All elements, including letters, numbers, and symbols, must be easily readable, and both axes of a graph must be labeled. Keep in mind that the journal is published both in print and online and that the same electronic files submitted by the authors are used to produce both.

When creating line art, please use the following guidelines:

(i) **All art must be submitted at its intended publication size.** For acceptable dimensions, see “Size” above.

(ii) **Avoid using screens (i.e., shading)** in line art. It can be difficult and time-consuming to reproduce these images without moiré patterns. Various pattern back-

grounds are preferable to screens as long as the patterns are not imported from another application. If you must use images containing screens,

- (a) Generate the image at line screens of 85 lines per inch or lower.
- (b) When applying multiple shades of gray, differentiate the gray levels by at least 20%.
- (c) Never use levels of gray below 20% or above 70% as they will fade out or become totally black upon scanning and reduction.
- (iii) Use thick, solid lines that are no finer than 1 point in thickness.
- (iv) No type should be smaller than 6 points at the final publication size.
- (v) Avoid layering type directly over shaded or textured areas.
- (vi) Avoid the use of reversed type (white lettering on a black background).
- (vii) Avoid heavy letters, which tend to close up, and unusual symbols, which the printer may not be able to reproduce in the legend.

(viii) If colors are used, avoid using similar shades of the same color and avoid very light colors.

In figure ordinate and abscissa scales (as well as table column headings), avoid the ambiguous use of numbers with exponents. Usually, it is preferable to use the Système International d'Unités (SI) symbols ( $\mu$  for  $10^{-6}$ , m for  $10^{-3}$ , k for  $10^3$ , and M for  $10^6$ , etc.). A complete listing of SI symbols can be found in the International Union of Pure and Applied Chemistry (IUPAC) publication *Quantities, Units and Symbols in Physical Chemistry* (RSC Publishing, Cambridge, United Kingdom, 2007); an abbreviated list is available at <http://www.old.iupac.org/reports/1993/homann/index.html>. Thus, a representation of 20,000 cpm on a figure ordinate is to be made by the number 20 accompanied by the label kcpm.

When powers of 10 must be used, the journal requires that the exponent power be associated with the number shown. In representing 20,000 cells per ml, the numeral on the ordinate would be "2" and the label would be "10<sup>4</sup> cells per ml" (not "cells per ml  $\times 10^{-4}$ "). Likewise, an enzyme activity of 0.06 U/ml would be shown as 6 accompanied by the label 10<sup>-2</sup> U/ml. The preferred designation would be 60 mU/ml (milliunits per milliliter).

## Tables

Tables that contain artwork, chemical structures, or shading must be submitted as illustrations in an acceptable format at the modification stage. The preferred format for regular tables is MS Word; however, WordPerfect and Acrobat PDF are also acceptable. Note that

a straight Excel file is not currently an acceptable format. Excel files must be either embedded in a Word or WordPerfect document or converted to PDF before being uploaded. **If your modified manuscript contains PDF tables, select "for reviewing purposes only" at the beginning of the file upload process.**

Tables should be formatted as follows. Arrange the data so that **columns of like material read down, not across**. The headings should be sufficiently clear so that the meaning of the data is understandable without reference to the text. See the "Abbreviations" section (above) of these Instructions for those that should be used in tables. Explanatory footnotes are acceptable, but more-extensive table "legends" are not. Footnotes should not include detailed descriptions of the experiment. Tables must include enough information to warrant table format; those with fewer than six pieces of data will be incorporated into the text by the copy editor. Table 1 is an example of a well-constructed table.

TABLE 1. Correlation between detection of V-Z viral antibody by neutralization and by EIA and IAHA<sup>a</sup>

Antibody	No. of samples with V-Z virus-neutralizing antibody		Correlation (%)
	Positive <sup>b</sup>	Negative	
EIA			
Positive	50	4	94
Negative	3	64	
IAHA			
Positive <sup>c</sup>	37	0	87
Negative	16	68	

<sup>a</sup> Sera from individuals without evidence of a current V-Z virus infection.

<sup>b</sup> Titer of >1:4.

<sup>c</sup> Titer of >1:8.

## Presentation of Nucleic Acid Sequences

Long nucleic acid sequences must be presented as figures in the following format to conserve space. Print the sequence in lines of approximately 100 to 120 nucleotides in a nonproportional (monospace) font that is easily legible when published with a line length of 6 inches (ca. 15.2 cm). If possible, lines of nucleic acid sequence should be further subdivided into blocks of 10 or 20 nucleotides by spaces within the sequence or by marks above it. Uppercase and lowercase letters may be used to designate the exon-intron structure or transcribed regions, etc., if the lowercase letters remain legible at a 6-inch (ca. 15.2-cm) line length. Number the sequence line by line; place numerals, representing the first base of each line, to the left of the lines. Minimize spacing between lines of sequence, leaving room only for annotation of the sequence. Annotation may include boldface, underlining, brackets, and boxes, etc. Encoded amino acid sequences may be presented, if necessary, immediately above or below the first nucleotide of each codon, by using the single-letter amino acid symbols. Comparisons of multiple nucleic acid sequences should conform as nearly as possible to the same format.