

## 2014 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.

**All manuscripts submitted to the journal undergo rigorous peer review similar to that carried out by other ASM journals. Whether a submission is solicited or unsolicited, the editors of CMR do not guarantee that a manuscript will be accepted for publication unless it meets the journal's high standards.**

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The Council Policy Committee (CPC) of the American Society for Microbiology (ASM) affirms the long-standing position of the Society that microbiologists will work for the proper and beneficent application of science and will call to the attention of the public or the appropriate authorities misuses of microbiology or of information derived from microbiology. ASM members are obligated to discourage any use of microbiology contrary to the welfare of humankind, including the use of microbes as biological weapons. Bioterrorism violates the fundamental principles expressed in the Code of Ethics of the Society and is abhorrent to ASM and its members.

ASM recognizes that there are valid concerns regarding the publication of information in scientific journals that could be put to inappropriate use as described in the CPC resolution

mentioned above. Members of the ASM Journals Board will evaluate the rare manuscript that might raise such issues during the review process. Supply of materials should be in accordance with laws and regulations governing the shipment, transfer, possession, and use of biological materials and must be for legitimate, bona fide research needs. Links to, and information regarding, these laws and regulations can be found at <http://www.asm.org/> under the Policy tab. We ask that authors pay particular attention to the NSAR Select Agents and Toxins list on the CDC website <http://www.selectagents.gov/index.html> and the U.S. Government Policy for Oversight of Life Sciences Dual Use Research of Concern (March 2012; <http://www.phe.gov/s3/dualuse/Documents/us-policy-durc-032812.pdf>).

### Ethical Guidelines

ASM requirements for submitted manuscripts are consistent with the Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals, as last updated by the International Committee of Medical Journal Editors in August 2013 (<http://www.icmje.org/>).

Authors are expected to adhere to the highest ethical standards. The following sections of these Instructions include detailed information about ASM's ethical standards. Failure to comply with the policies described in these Instructions may result in a letter of reprimand, a suspension of publishing privileges in ASM journals, and/or notification of the authors' institutions. Authors employed by companies whose policies do not permit them to comply with ASM policies may be sanctioned as individuals and/or ASM may refuse to consider manuscripts having authors from such companies. The ASM Journals Board wishes to clarify the following in particular.

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Instructions to Authors are updated throughout the year. The current version is available at <http://journalitas.asm.org/t/49539>.

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- A serial, periodical, or book
- A conference report or symposium proceedings
- A technical bulletin or company white paper
- A public website
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- Posting of a limited amount of original data on a personal/university/corporate website or websites of small collaborative groups working on a problem
- Deposit of unpublished sequence data in a public database
- Preliminary disclosures of research findings as meeting posters, webcast as meeting presentations, or published in abstract form as adjuncts to a meeting, e.g., part of a program
- Posting of theses and dissertations on a personal/university-hosted website

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The editorial style of ASM journals conforms to the *ASM Style Manual for Journals* (American Society for Microbiology, 2014, in-house document) and *How To Write and Publish a Scientific Paper*, 7th ed. (Greenwood, Santa Barbara, CA, 2011), as interpreted and modified by the editorial board and the ASM Journals Department.

The editors and the Journals Department reserve the privilege of editing manuscripts, whether invited or not, to conform with the stylistic conventions set forth in the aforesaid publi-

cations and in these Instructions. Any deviations from this style must be approved by the Journals Department.

## SUBMISSION, REVIEW, AND PUBLICATION PROCESSES

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Before submitting a manuscript, please review the following information.

eJP online manuscript submission and peer review system:

- Provide a cover letter including a statement which confirms that the article has not been submitted for publication or review elsewhere
- Provide names and contact information for at least three potential reviewers with appropriate expertise who can adequately review the manuscript
- Provide a conflict-of-interest statement, disclosing any financial interests or support from institutions or companies mentioned in the manuscript (include this statement in the cover letter, in the submission form, and in the Acknowledgments section of the manuscript)

Manuscript (the listed elements should be included in the following order):

- A title page including the title of the article, a list of the authors, a list of the authors’ affiliations, and an e-mail address for the corresponding author.
- A table of contents with page numbers for each section
- A summary of the manuscript, which will serve as the article abstract and will appear before the Introduction and in the journal’s table of contents
- An Introduction section
- The main body of the manuscript (the main text, the tables, and the references must be double-spaced, and line numbers must be included in the text portion of the manuscript)
- A References section, with all references formatted in ASM style (see “[References](#)” below); all references must be cited in the text
- Author biographies
- Figure legends (on initial submission, each legend

should be placed in the text file *and* be incorporated into the image file beneath the figure to assist review)

- Tables
- Figures and author photographs, with each image on a separate page labeled with the figure number and with the legend; no line numbers should appear on pages with figures, and digital images must have been tested with Rapid Inspector (<http://rapidinspector.cadmus.com/RapidInspector/zmw/index.jsp>) and meet formatting specifications for the journal

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**To facilitate the review, copies of in-press and submitted manuscripts that are important for judgment of the present manuscript should be included as supplemental material not for publication.**

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The corresponding author is notified by the editor in chief of his/her decision to accept, reject, or require modification. When modification is requested, the corresponding author must either submit the modified version within 2 months or withdraw the manuscript. A point-by-point response to the reviews must be uploaded as a separate file (identified as such), and a compare copy of the manuscript (without figures)

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The title page must include the title, the running title (not to exceed 54 characters and spaces), the name of each author, all authors’ affiliations at the time the work was performed, and a footnote indicating the present address of any author no longer at the institution where the work was performed. Place a number sign (#) after the name of the author to whom inquiries regarding the paper should be directed (see “Correspondent Footnote,” below). [Please review this sample](#)

[title page for guidance](#). A table of contents showing the major headings and subheadings of the text should follow the title page. Headings and subheadings have the following format:

**LEVEL 1 HEAD** (flush left, all caps, boldface)

**Level 2 Head** (flush left, initial caps, boldface)

**Level 3 head.** (boldface paragraph lead-in, sentence capitalization)

**(i) Level 4 head.** (boldface subparagraph lead-in, sentence capitalization)

*(a) Level 5 head.* (lightface italic sub-subparagraph lead-in, sentence capitalization)

The summary, which will be included in the issue table of contents and must be no longer than 200 words, should be placed at the beginning of the electronic file (before the Introduction) with the heading “SUMMARY.”

Type every portion of the manuscript double-spaced (a minimum of 6 mm between lines), including figure legends, table footnotes, and References, and number all pages in sequence, including the author biographies, figure legends, and tables. Place the last two items after the References section. Manuscript pages should have continuous line numbers; manuscripts without line numbers may be editorially rejected by the editor, with a suggestion of resubmission after line numbers are added. The font size should be no smaller than 12 points. It is recommended that the following sets of characters be easily distinguishable in the manuscript: the numeral zero (0) and the letter “oh” (O); the numeral one (1), the letter “el” (l), and the letter “eye” (I); and a multiplication sign (×) and the letter “ex” (x). Do not create symbols as graphics or use special fonts that are external to your word processing program; use the “insert symbol” function. Set the page size to 8.5 by 11 inches (ca. 21.6 by 28 cm). Italicize any words that should appear in italics, and indicate paragraph lead-ins in boldface type.

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Authors who are unsure of proper English usage should have their manuscripts checked by someone proficient in the English language or engage a professional language editing service for help.

## References

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- Journal articles (both print and online)
- Books (both print and online)
- Book chapters (book title is required)
- Patents



- Theses and dissertations
- Published conference proceedings
- Meeting abstracts (from published abstract books or journal supplements)
- Letters (to the editor)
- Company publications
- In-press journal articles, books, and book chapters (publication title is required)

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Follow the styles shown in the examples below for print references.

1. Caserta E, Haemig HAH, Manias DA, Tomsic J, Grundy FJ, Henkin TM, Dunny GM. 2012. *In vivo* and *in vitro* analyses of regulation of the pheromone-responsive *prgQ* promoter by the PrgX pheromone receptor protein. *J. Bacteriol.* **194**:3386–3394.
2. Falagas ME, Kasiakou SK. 2006. Use of international units when dosing colistin will help decrease confusion related to various formulations of the drug around the world. *Antimicrob. Agents Chemother.* **50**:2274–2275. (Letter.) {“Letter” or “Letter to the editor” is allowed but not required at the end of such an entry.}
3. Cox CS, Brown BR, Smith JC. *J. Gen. Genet.*, in press.\* {Article title is optional; journal title is mandatory.}
4. da Costa MS, Nobre MF, Rainey FA. 2001. Genus I. *Thermus* Brock and Freeze 1969, 295, <sup>AL</sup> emend. Nobre, Trüper and da Costa 1996b, 605, p 404–414. In Boone DR, Castenholz RW, Garrity GM (ed), *Bergey’s manual of systematic bacteriology*, 2nd ed, vol 1. Springer, New York, NY.
5. 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.}
6. Forman MS, Valsamakis A. 2011. Specimen collection, transport, and processing: virology, p 1276–1288. In Versalovic J, Carroll KC, Jorgensen JH, Funke G, Landry ML, Warnock DW (ed), *Manual of clinical microbiology*, 10th ed, vol 2. ASM Press, Washington, DC.
7. Fitzgerald G, Shaw D. In Waters AE (ed), *Clinical microbiology*, in press. EFH Publishing Co, Boston, MA.\* {Chapter title is optional.}
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9. Carlson E. 2013. Selective penicillin-binding protein imaging probes reveal substructure in bacterial cell division, p 59. Final Program 113th Gen. Meet. Am. Soc. Microbiol. American Society for Microbiology, Washington, DC. {Abstract title is optional.}
10. Rotimi VO, Salako NO, Mohaddas EM, Philip LP. 2005. Abstr. 45th Intersci. Conf. Antimicrob. Agents Chemother., abstr D-1658. {Abstract title is optional.}
11. Green PN, Hood D, Dow CS. 1984. Taxonomic status of some methylotrophic bacteria, p 251–254. In Crawford RL, Hanson RS (ed), *Microbial growth on C<sub>1</sub> compounds*. Proceedings of the 4th International Symposium. American Society for Microbiology, Washington, DC.
12. O’Malley DR. 1998. Ph.D. thesis. University of California, Los Angeles, CA. {Title is optional.}
13. Odell JC. April 1970. Process for batch culturing. US patent 484,363,770. {Include the name of the patented item/process if possible; the patent number is mandatory.}
14. Elder BL, Sharp SE. 2003. Cumitech 39, Competency assessment in the clinical laboratory. Coordinating ed, Sharp SE. ASM Press, Washington, DC.

\*A reference to an in-press ASM publication should state the control number (e.g., CMR00123-14) if it is a journal article or the name of the publication if it is a book.

Online-only references must provide essentially the same information that print references do. For online journal articles, posting or revision dates may replace the year of publication; a DOI (preferred) or URL is required for articles with nontraditional page numbers or electronic article identifiers.

1. Bina XR, Taylor DL, Vikram A, Ante VM, Bina JE. 2013. *Vibrio cholerae* ToxR downregulates virulence factor production in response to cyclo(Phe-Pro). *mBio* **4**(5):e00366-13. doi:10.1128/mBio.00366-13.
2. Winnick S, Lucas DO, Hartman AL, Toll D. 2005. How do you improve compliance? *Pediatrics* **115**:e718–e724. doi:10.1542/peds.2004-1133.
3. Dionne MS, Schneider DS. 2002. Screening the fruitfly immune system. *Genome Biol.* **3**:reviews1010-reviews1010.2. doi:10.1186/gb-2002-3-4-reviews1010.
4. Giegé R, Springer M. 2012. Aminoacyl-tRNA synthetases in the bacterial world. *EcoSal Plus* doi:10.1128/ecosalplus.4.2.1.

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

Citations of ASM Accepts manuscripts should look like the following example.

Wang GG, Pasillas MP, Kamps MP. 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 promot-

ers 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 FX, Merianos HJ, Brunger AT, Engelman DM.** 13 February 2001. Polar residues drive association of polyleucine transmembrane helices. *Proc. Natl. Acad. Sci. U. S. A.* doi:10.1073/pnas.041593698.

**(ii) References cited in the text.** References that should be cited in the text include

- 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

These references 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 non-published 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.state.micro.edu>]).

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) Citations in summaries.** Because the summary must be able to stand apart from the article, references cited in it should be clear without recourse to the References section. Use an abbreviated form of citation, omitting the article title, as follows.

(P. S. Satheshkumar, A. S. Weisberg, and B. Moss, *J. Virol.* 87:10700–10709, 2013, doi:10.1128/JVI.01258-13)  
(J. H. Coggin, Jr., p. 93–114, *in* D. O. Fleming and D. L.

Hunt, ed., *Biological Safety. Principles and Practices*, 4th ed., 2006)

“... in a recent report by D. A. Hopwood [*mBio* 4(5): e00612-13, 2013, doi:10.1128/mBio00612-13] ...”

This style should also be used for Addenda in Proof.

**(iv) References related to supplemental material.** If references must be cited in the supplemental material, list them in a **separate** References section within the supplemental material and cite them by those numbers; do not simply include citations of numbers from the reference list of the associated article. If the same reference(s) is to be cited in both the article itself and the supplemental material, then that reference would be listed in both References sections.

## Author Biographies

Corresponding authors should submit a short biographical sketch and photo for each author for publication with the article. Biographical information should be submitted at the modification stage.

- The text limit is 150 words for each author and should include WHO you are (your name), WHERE you received your education, WHAT positions you have held and at WHICH institutions, WHERE you are now (your current institution), WHY you have this interest, and HOW LONG you have been in this area.
- The photo should be a black-and-white head shot of passport size. Photos will be reduced to approximately 1.125 inches wide by 1.375 inches high. Photos must meet the production criteria for regular figures and should be checked for production quality by using Rapid Inspector, provided at the following URL: <http://rapidinspector.cadmus.com/RapidInspector/zmw/index.jsp>.
- To submit, upload the text and photos with your modified manuscript in the submission and review system. Include the biographical text after the References section of your manuscript, in the same file. Upload the head shots in the submission system as “Bio Photo” files; **include the author’s name or enough of it for identification in each photo’s file name.**

Contact the [scientific editor](#) if you have questions about what to write. Contact the [production editor](#) if you have questions about submitting your files.

## Correspondent Footnote

The 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 will be used to notify the corresponding author of the availability of proofs and, later, of the PDF file of the published article. No more than two authors may be designated corresponding authors.

## Errata

The Erratum section provides a means of correcting errors that occurred during the writing, typing, editing, or publication



(e.g., a misspelling, a dropped word or line, or mislabeling in a figure) of a published article. Submit Errata via the eJP online manuscript submission and peer review system (see “[Submission, Review, and Publication Processes](#)”). In the Abstract section of the submission form (a required field), put “Not Applicable.” Upload the text of your Erratum as a Microsoft Word file. Please see a recent issue for correct formatting.

## Author Corrections

The Author 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 [noncritical] portion 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 Correction via the eJP online manuscript submission and peer review system (see “[Submission, Review, and Publication Processes](#)”). Select Author Correction as the manuscript type. In the Abstract section of the submission form (a required field), put “Not Applicable.” Upload the text of your Author Correction as a Microsoft Word file. Please see a recent issue for correct formatting. Signed letters of agreement must be supplied as supplemental material not for publication (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)	reduced)
cDNA (complementary DNA)	NADP <sup>+</sup> (nicotinamide adenine
RNA (ribonucleic acid)	dinucleotide phosphate,
cRNA (complementary RNA)	oxidized)
RNase (ribonuclease)	poly(A) and poly(dT), etc.
DNase (deoxyribonuclease)	(polyadenylic acid and
rRNA (ribosomal RNA)	polydeoxythymidylic acid,
mRNA (messenger RNA)	etc.)
tRNA (transfer RNA)	oligo(dT), etc. (oligodeoxy-
AMP, ADP, ATP, dAMP, ddATP,	thymidylic acid, etc.)
and GTP, etc. (for the	UV (ultraviolet)
respective 5' phosphates of	PFU (plaque-forming units)
adenosine and other	CFU (colony-forming units)
nucleosides) (add 2'-, 3'-, or	MIC (minimal inhibitory
5'- when needed for contrast)	concentration)
ATPase and dGTPase, etc.	Tris [tris(hydroxymethyl)
(adenosine triphosphatase	aminomethane]
and deoxyguanosine	DEAE (diethylaminoethyl)
triphosphatase, etc.)	EDTA (ethylenediamine-
NAD (nicotinamide adenine	tetraacetic acid)
dinucleotide)	EGTA (ethylene glycol-bis[β-
NAD <sup>+</sup> (nicotinamide adenine	aminoethyl ether]-N,N,N',N'-
dinucleotide, oxidized)	tetraacetic acid)
NADH (nicotinamide adenine	HEPES (N-2-hydroxyethyl-
dinucleotide, reduced)	piperazine-N'-2-
NADP (nicotinamide adenine	ethanesulfonic acid)
dinucleotide phosphate)	PCR (polymerase chain reaction)
NADPH (nicotinamide adenine	AIDS (acquired immuno-
dinucleotide phosphate,	deficiency 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
avg (average)	mean)
concn (concentration)	sp act (specific activity)
diam (diameter)	sp gr (specific gravity)
expt (experiment)	temp (temperature)
exptl (experimental)	tr (trace)
ht (height)	vol (volume)
mo (month)	vs (versus)
mol wt (molecular weight)	wk (week)
no. (number)	wt (weight)
prepn (preparation)	yr (year)
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  $\mu\text{g}$  or 10 min. For example, “ $\text{pmol/min}$ ” is preferable to “ $\text{nmol/10 min}$ ,” and “ $\mu\text{mol/g}$ ” is preferable to “ $\text{nmol}/\mu\text{g}$ .” It is also preferable that an unambiguous form, such as exponential notation, be used; for example, “ $\mu\text{mol g}^{-1} \text{min}^{-1}$ ” is preferable to “ $\mu\text{mol/g/min}$ .” 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 articles by Olsen (Infect. Immun. **71**:6689–6692, 2003; Infect. Immun. **82**:916–920, 2014).

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

## NOMENCLATURE

### Bacteria, Viruses, and Enzymes

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., American Society for Microbiology, 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: Prokaryotic Nomenclature Up-to-Date (<https://www.dsmz.de/bacterial-diversity/prokaryotic-nomenclature-up-to-date.html>) and List of Prokaryotic Names with Standing in Nomenclature (<http://www.bacterio.net/>). 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 summary 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 reported on the ICTV Virus Taxonomy website (<http://www.ictvonline.org/index.asp>). 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, as with 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 its supplements 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*. FlyBase (<http://flybase.org/>) is the genetic nomenclature authority for *Drosophila melanogaster*. WormBase (<http://www.wormbase.org/#01-23-6>) is the genetic nomenclature authority for *Caenorhabditis elegans*. When naming genes for *Aspergillus* species, the nomenclature guidelines posted at [http://www.aspergillus.org.uk/indexhome.htm?secure/sequence\\_info/nomenclature.htm](http://www.aspergillus.org.uk/indexhome.htm?secure/sequence_info/nomenclature.htm) should be followed, and the *Aspergillus* Genome Database (<http://www.aspgd.org/>) should be searched to ensure that any new name is not already in use. The *Saccharomyces* Genome Database (<http://www.yeastgenome.org/>) and the *Candida* Genome Database (<http://www.candidagenome.org/>) are authorities for *Saccharomyces cerevisiae* and *Candida albicans* genetic nomenclature, respectively. 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.

### Proper Use of Locus Tags as Systematic Identifiers for Genes

Locus tags are systematic, unique identifiers that are assigned to each gene in GenBank. All genes mentioned in a manuscript should be traceable to their sequences by the reader, and locus tags may be used for this purpose in manuscripts to identify uncharacterized genes. Authors should check GenBank to make sure that they are using the correct, up-to-date format for locus tags (e.g., uppercase versus lowercase letters and the presence or absence of an underscore, etc.). Locus tag formats vary between different organisms and also may be updated for a given organism, so it is important to check GenBank at the time of manuscript preparation. To comply with recommendations from the International Nucleotide Sequence Database (INSD) Collaborators and to avoid conflicts in gene identification, researchers should implement the following two fundamental guidelines as standards for utilization of locus tags in genome analysis, annotation, submission, reporting, and publication. (i) Locus tag prefixes are systematic gene identifiers for all of the replicons of a genome and as such should be associated with a single genome project submission. (ii) New genome projects must be registered with the INSD, and new locus tag prefixes must be assigned in cooperation with the INSD to ensure that they conform to the agreed-upon criteria.

## ILLUSTRATIONS AND TABLES

The ASM review journals have engaged a professional science illustrator who will work with the authors at the modification stage. This arrangement enhances the graphics and generates a uniform style throughout the journal. The authors must work

with the illustrator to ensure that the final figures meet the criteria below.

## Illustrations

**Image manipulation.** Digital images submitted for publication may be inspected by ASM production specialists for any manipulations or electronic enhancements that may be considered to be the result of scientific misconduct based on the guidelines provided below. Any images/data found to contain manipulations of concern will be referred to the editor in chief, and authors may then be requested to provide their primary data for comparison with the submitted image file. Investigation of the concerns may delay publication and may result in revocation of acceptance and/or additional action by ASM.

Linear adjustments to contrast, brightness, and/or color are generally acceptable, as long as the measures taken are necessary to view elements that are already present in the data and the adjustments are applied to the entire image and not just specific areas. Unacceptable adjustments to images include, but are not limited to, the removal or deletion, concealment, duplication (copying and pasting), addition, selective enhancement, or repositioning of elements within the image.

Nonlinear adjustments made to images, such as changes to gamma settings, should be fully disclosed in the figure legends at the time of submission. In addition, images created by compiling multiple files, including noncontiguous portions of the same image, should clearly distinguish that these multiple files are not a single image. This can be done by “tooling,” or **inserting thin lines**, between the individual images.

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

On initial submission, figures may be uploaded as individual PDF files or combined and uploaded as a single PDF file. Place each legend in the text file, as well as on the same page with the figure to assist review. At the modification stage, production-quality digital files must be provided. The legends will be copy-edited and typeset for final publication and should not be included as part of the figure itself at this stage. All graphics submitted with modified manuscripts must be bitmap, grayscale, or in the RGB (preferred) or CMYK color mode. See “**Color illustrations**” for more information. 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). Note that, due to page composition system requirements, you must verify that your PowerPoint files can be converted to PDF without any errors.

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- 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: 20.6 picas (ca. 8.7 cm)
- Maximum width for a 2-column figure: 42 picas (ca. 17.8 cm)
- Minimum width for a 2-column figure: 26 picas (11.1 cm)
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- Maximum height for an oversized figure (no running title); 57.4 picas (ca. 24.3 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 and labeling must be incorporated into the figures. On initial submission, illustrations should be provided as PDF files, with the legends in the text file and with a legend beneath each image to assist review. At the modification stage, production-quality digital figure files (without legends) must be provided. Put the figure number 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 non-proportional (monospace) font is required. All fonts other than these must be converted to paths (or outlines) in the application with which they were created.

**Color illustrations.** CMR encourages authors to submit high-quality color images with their manuscripts. There are no color charges for publication in CMR. Adherence to the following guidelines will help to minimize costs and to ensure color reproduction that is as accurate as possible.

The final online version is considered the version of record for CMR and all other ASM journals. 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). CMYK files are also accepted. Other than in color space, CMYK files must meet the same production criteria as RGB files. 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. For the print version (and reprints), ASM's print provider will automatically create CMYK versions of color illustrations from the supplied RGB versions. 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).

## 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 formats.

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 backgrounds 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 less.

(b) When applying multiple shades of gray, differentiate the gray levels by at least 20%.

(c) Never use levels of gray below 5% or above 95% as they are likely to fade out or become totally black when output.

(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.). Thus, a representation of 20,000 cpm on a figure ordinate is to be made by the number 20 accompanied by the label kcpm. 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*, 3rd ed. (RSC Publishing, Cambridge, United Kingdom, 2011); an abbreviated list is available at <http://old.iupac.org/reports/1993/homann/index.html>.

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 should be “2” and the label should be “ $10^4$  cells per ml” (not “cells per ml  $\times 10^{-4}$ ”). Likewise, an enzyme activity of 0.06 U/ml might be shown as 6 accompanied by the label  $10^{-2}$  U/ml. The preferred designation is 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 Microsoft 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.

Tables should be formatted as follows. Arrange the data so that **columns of like material read down, not across**. The

**TABLE 1** Distribution of protein and ATPase in fractions of dialyzed membranes<sup>a</sup>

Membrane	Fraction	ATPase	
		U/mg of protein	Total U
Control	Depleted membrane	0.036	2.3
	Concentrated supernatant	0.134	4.82
E1 treated	Depleted membrane	0.034	1.98
	Concentrated supernatant	0.11	4.6

<sup>a</sup> Specific activities of ATPase of nondepleted membranes from control and treated bacteria were 0.21 and 0.20, respectively.

headings should be sufficiently clear so that the meaning of the data is understandable without reference to the text. See the “[Abbreviations](#)” section 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.

## 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.