

# METHODS IN CELL SCIENCE

## Instructions for Authors

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### AIMS AND SCOPE

The Aims and Scope of *Methods in Cell Science* is four-fold. In most scientific journals, it is necessary to condense descriptions of materials and procedures to the point where it is difficult for readers to successfully duplicate the methods without prior experience with the method or consulting the authors. Therefore, one unique aim of *Methods in Cell Science* is to provide the forum where the methodology of articles, originally published with abbreviated methods, may now be published containing all the necessary details, new modifications or variations, thus permitting absolute replication of methods. A second aim of *Methods in Cell Science* is to provide the forum for publishing the most up-to-date, original methods developed during the course of cell science research involving vertebrates, invertebrates, plants or single-celled prokaryotic or eukaryotic organisms. The research relevant to this journal is ordinarily conducted using *in vitro* systems rather than the whole animal or plant, an exception being research in which the animal or plant itself must be viewed microscopically. Papers are also accepted which describe the design or construction of equipment, media, or quality control procedures that are ancillary to cellular research. This journal covers methods in the complete spectrum of cell science. A third aim of *Methods in Cell Science* is to publish Special Issues which devote an entire issue to methodology involved in a specialized areas of cellular research. Lastly, both mini-reviews and full-length reviews provide the fourth aim of *Methods in Cell Science*. These will cover various aspects of developments in methodological approaches, equipment, media or quality control procedures related to cellular research.

Special Issues devote an entire issue to methodology involved in a specialized area of cellular research. Both mini-reviews and full-length reviews appear, covering various aspects of developments in methodological approaches, equipment, media or quality control procedures related to cellular research.

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For the purpose of reviewing, articles for publication should be submitted as hard-copy printout (3-fold) and on diskette to the Editor-in-Chief.

## AREA DESCRIPTORS

Authors are requested to select one of the following sections of the journal into which their paper would most appropriately fit: Biotechnology; Cell, tissue and organ culture; Cellular and molecular toxicology; Cell biology; Cellular pathology; Developmental biology; Growth, differentiation or senescence; Genetics; Immunology; Infectious diseases; Neurobiology; Plant biology; Virology.

This indication at the top of the first page of your manuscript is also important for the whole reviewing process.

## MANUSCRIPT PRESENTATION

The journal's language is English. British English or American English spelling and terminology may be used, but either one should be followed consistently throughout the article. Manuscripts should be printed or typewritten on A4 or US Letter bond paper, one side only, leaving adequate margins (3–5 cm) on all sides to allow reviewers' remarks. Number the pages (including the references, tables and figure legends) consecutively in the upper right-hand corner preceded by the senior author's surname. If you are not competent in the English language, please have your paper reviewed and corrected by someone who is. Papers that do not meet English language standards will be returned.

As a guide for acceptance style please consult: Council of Biology Editors Style Manual (6th edition, 1987) available from the American Institute of Biological Sciences, 9650 Rockville Pike, Bethesda, MD 20814, USA.

Please double-space all material, including notes and references. Quotations of more than 40 words should be set off clearly, either by indenting the left-hand margin or by using a smaller typeface. Use double quotation marks for direct quotations and single quotation marks for quotations within quotations and for words or phrases used in a special sense.

The manuscript should be arranged in the following order:

### Title page (first page)

- area descriptor (see above).
- title (brief, but informative).
- a subtitle may be used to supplement and thereby shorten an excessively long main title.
- author's full names (if more than one, use '&' before the last name).
- affiliation(s): List the Name of Institute, University, Department, City, Country. If there is more than one affiliation, use superscript numbers directly after the name, to refer to each.
- full address for correspondence, including telephone and fax number and e-mail address. This information will be printed at the full end of the manuscript, after the references.

### Abstract

Please provide one brief and informative paragraph which succinctly outlines the major contents of the manuscript. This should not exceed 200 words. The abstract should not contain any undefined abbreviations or unspecified references.

### Key Words

Maximum of 5, suitable for indexing. Here remember one wants the paper to be found, therefore the key words should be chosen wisely and carefully.

### Abbreviations

Abbreviations which are not familiar and/or commonly used and their explanations should be collected in a list in alphabetical order. Abbreviations which are not mentioned in the list should be explained when they first appear.

### The main text

The body of the manuscript should be divided into the following, numbered major sections: 1. Introduction; 2. Materials; 3. Procedures; 4. Results and Discussion; 5. Notes on Suppliers.

In preparing the main text, attention should be paid to the following:

- New paragraphs should be indicated only by clear indentation of the first line.
- Where the authors feel is the ideal location of figures and tables should be indicated on a separate line, within square brackets: e.g. [Table 1 approx. here].
- The use of footnotes should be avoided. However, if essential, they be typed on the appropriate page, but clearly separated from the text with a line above them.

### 1. Introduction

Briefly describe the reason for writing the paper, and note the chief advantages of the method (protocol) described over any other similar techniques which may be available. Cite references, where appropriate, especially those containing background or supplementary material useful to the reader.

### 2. Materials

List all of the items required to carry out the method (protocol). Describe each item providing a catalogue number where available (if this list is extensive, subdivide it into categories such as equipment, glassware, chemicals, etc.) and the name of the manufacturer followed by a superscript reference number. List the suppliers in numerical order of the reference number along with the suppliers' full address. This listing of suppliers should follow after the Discussion, under the heading: 5. Notes on Suppliers.

### 3. Procedures

Use present tense imperative mood. Provide detailed directions so that the reader can duplicate the method exactly and obtain the same results. Be exhaustive and leave out no details of procedure no matter how insignificant they may seem. This description should be one similar to that which would occur if the reader were working alongside the researcher. Be certain to include any health and safety precautions to be observed.

### 4. Results and discussion

Include an account of what can be expected from the method (protocol), its role in specific or potential applications and any special precautions that should be followed either in duplicating the work or interpreting the results. Again: be exhaustive in detail and honest with respect to whether one can reasonably expect the method to achieve results the first time is tried. Reiterate and expand on any potential hazards for personnel. Additionally, authors must discuss the reproducibility of the method. No manuscript will be published without this information.

### 5. Notes on suppliers

List of the suppliers in numerical order (see above under No. 2).

## After the main text (each on a new page)

Acknowledgements (including grant support, etc.)

References

Tables (each table on a separate sheet)

Figure legends (all on one sheet)

## References

- List the works cited in the text; use alphabetical listing of the references numbered sequentially, with the text citation carrying the number assigned, in square brackets (e.g. [2, 5, 12]).
- Follow *Index Medicus* journal title abbreviations and provide inclusive pages of work cited.
- Articles in preparation or articles submitted for publication and unpublished observations should only be mentioned in the article text. Citations of personal communications should be avoided unless absolutely necessary. When used, such citations should appear in the text only, e.g. (E.D. Smith, Personal communication).
- Important: Follow the format (arrangements, punctuation) according to the Uniform requirements for manuscripts submitted to biomedical journals (the so-called Vancouver style), of which some examples are shown below).

### Standard journal article

References to articles in periodicals should include the author's name; year of publication; article title; abbreviated title of periodical; volume number (issue number where appropriate); first and last page numbers, in the order given in the example below.

Schaeffer WJ (1991). Terminology associated with cell, tissue and organ culture, molecular biology and molecular genetics. *In Vitro Cell Dev Biol* 26: 970–101.

*Book*

References to books should include the author's name; year of publication; title; page numbers where appropriate; publisher; place of publication, in the order given in the example below.

Masters JRW, ed (1991). Human cancer in primary culture. Dordrecht/Boston/London: Kluwer Academic Publishers (Developments in Oncology; vol. 64).

*Chapter in a book*

References to articles in an edited collection should include the author's name; year of publication; article title; editor's name; title of collection; first and last page numbers; publisher; place of publication, in the order given in the example below.

Ancosta D, Mitchell DB, Sorensen EMB, et al. (1987). The metabolism and toxicity of xenobiotics in primary culture system of postnatal rat hepatocytes. In: Rauckman EJ, Padilla GM, eds. The isolated hepatocyte: use in toxicology and xenobiotic transformations. New York: Academic Press: 189–214.

**Tables**

- Tables should be numbered with Arabic numerals, followed by the title.
- Each table must be mentioned in the text (do not abbreviate and use Tab. for Table).
- Each table should be typed on a separate sheet.

*Format of the tables*

- Only horizontal rules should be indicated. Vertical rules will not be printed.
- Do not use CAPS in the tables.
- In tables, footnotes are preferable to long explanatory material in either the heading or body of the table. Such explanatory footnotes should be numbered with superscript letters only and should be placed immediately below the table.
- Tables may be edited by the publisher to permit more compact typesetting.

**Figures***General*

- Figures and tables should be placed at the end of the manuscript following the Reference section. Each figure and table should be accompanied by an explanatory legend. The figure legends should be grouped and placed on a separate page.
- Each figure should be mentioned in the text (do not abbreviate and use Fig. for Figure).
- Figures as well as legends should be numbered with Arabic numerals.
- On the reverse side of each figure, the name of the (first) author and the figure number should be written in pencil; the top of the figure should be clearly indicated. Figures which need to be placed in landscape style should be avoided if possible.
- Where multi-part figures are used, each part should be clearly identified in the figure as well as the legend, only with lower case letters.
- The approximate position of figures and tables should be indicated in the margin of the manuscript.
- Figure sizes: on full width: 166 mm; within one column: width 80 mm.
- Figures are not returned to the author unless specifically requested.

*Submission of electronic figures*

In addition to hard-copy printouts of figures, authors are encouraged to supply the electronic versions of figures in either Encapsulated PostScript (EPS) or TIFF format. Many other formats, e.g., Microsoft Postscript, PiCT (Macintosh) and WMF (Windows), cannot be used and the hard copy will be scanned instead.

Figures should be saved in separate files *without* their captions, which should be included with the text of the article. Files should be named according to DOS conventions, e.g., 'figure1.eps'. For vector graphics, EPS is the preferred format. Lines should not be thinner than 0.25pts and in-fill patterns and screens should have a density of at least 10%. Font-related problems can be avoided by using standard fonts such as Times Roman and Helvetica. For bitmapped graphics, TIFF is the preferred format but EPS is also acceptable. The following resolutions are optimal: black-and-white line figures – 600–1200 dpi; line figures with some grey or coloured lines – 600 dpi; photographs – 300 dpi; screen dumps – leave as is. Higher resolutions will not improve output quality but will only increase file size, which may cause problems with printing; lower resolutions may compromise output quality. Please try to provide artwork that approximately fits within the typeset area of the journal. Especially screened originals, i.e. Originals with grey areas, may suffer badly from reduction by more than 10–15%.

## AVOIDING PROBLEMS WITH EPS GRAPHICS

Please always check whether the figures print correctly to a PostScript printer in a reasonable amount of time. If they do not, simplify your figures or use a different graphics program.

If EPS export does not produce acceptable output, try to create an EPS file with the printer driver (see below). This option is unavailable with the Microsoft driver for Windows NT, so if you run Windows NT, get the Adobe driver from the Adobe site ([www.adobe.com](http://www.adobe.com)).

If EPS export is not an option, e.g., because you rely on OLE and cannot create separate files for your graphics, it may help us if you simply provide a PostScript dump of the entire document.

### HOW TO SET UP FOR EPS AND POSTSCRIPT DUMPS UNDER WINDOWS

Create a printer entry specifically for this purpose: install the printer 'Apple Laserwriter Plus' and specify 'FILE' as printer port. Each time you send something to the 'printer' you will be asked for a filename. This file will be the EPS file or PostScript dump that we can use.

The EPS export option can be found under the PostScript tab. EPS export should be used only for single-page documents. For printing a document of several pages, select 'Optimise for portability' instead. The option 'Download header with each job' should be checked.

#### *Submission of hard-copy figures*

If no electronic versions of figures are available, submit only high-quality artwork that can be reproduced as is, i.e., without any part having to be redrawn or re-typeset. The letter size of any text in the figures must be large enough to allow for reduction. Photographs should be in black-and-white on glossy paper. Check carefully the magnification factor in the legends, because figures are often reduced; preference is given to bar scales. If a figure contains colour, make absolutely clear whether it should be printed in black-and-white or in colour. Figures that are to be printed in black-and-white should not be submitted in colour. Authors will be charged for reproducing figures in colour.

#### **Symbols and Units**

SI units should be used, e.g.: mg, g, kg, km, m, cm, mm, ppm, cpm  $\mu\text{Ci}$  (microCurie), l (litre), ml, s (second), min (minute), hour, mol  $\text{l}^{-1}$  (the minus index form is always to be used in tables).

#### **Nomenclature and conventions**

Chemical Abstracts and its indexes (Chemical Abstract Service, Ohio State University, Columbus) and The Merck Index (Merck & Co., Inc., Rahway, NJ) are the recognized authorities to be used for the names of chemical compounds.

Usage of terminology relating to cell and tissue culture will be guided by the publication of the Society for In Vitro Biology (formerly Tissue Culture Association) Terminology Committee publication: See example reference Schaeffer above.

In describing genes, the convention to be followed is: Wild-type genes are capitalized and italicized (CDC42). Recessive mutants are lower case and italicized (*cdc42*). Mutants may also have allele designations (*cdc42-Its*). Proteins are not italicized and only the first letter is capitalized. Protein symbols are usually followed by a 'p' to indicate protein (Cdc42p). To be absolutely clear, the genotype could be listed as 'the CDC42 gene' and the gene product, where known, could be listed as 'the Cdc42 protein'. To avoid confusion, proteins (usually mammalian) without number designations do not have a 'p' following. For example, the Ras protein is not written as Rasp.

References to cell cultures must carry the necessary documentation as to the source of the cells used, their species, the sex, strain, race, and age of donor, and whether they are a continuous or finite cell line or strain. If the cell culture has been described previously, that reference must be cited.

#### **Appendices**

Supplementary material should be collected in an Appendix and placed before the Notes and Reference sections.

#### **Notes**

Please use footnotes rather than endnotes. Notes should be indicated by consecutive superscript numbers in the text. A source reference note should be indicated by means of an asterisk after the title. This note should be placed at the bottom of the first page.

### **Acknowledgements**

Acknowledgements of people, grants, funds, etc. should be placed in a separate section before the References.

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Proofs will be sent to the corresponding author. One corrected proof, together with the original, edited manuscript, should be returned to the Publisher within three days of receipt by mail (airmail overseas).

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