

Information for authors

About the journal

Acta Pharmacologica Sinica (APS), published monthly in English, is the official journal of the Chinese Pharmacological Society and Shanghai Institute of Materia Medica, Chinese Academy of Sciences.

APS is listed in BIOSIS, CA, CSA Medical Biotechnology, CSA Bioengineering, CSA Neuroscience, Current Contents/Life Sciences, Excerpta Medica, FSTA, Global Health, IndexCopernicus, Index Medicus/MEDLINE, Kagaku Gijutsu Bunken Sokuho (Japan), VINITI (Russia), Research Alert, Science Citation Index, SciSearch, Scopus, Tropical Diseases Bulletin, etc.

APS encourages submissions from all areas of pharmacology and the life sciences. Topics of particular interest include, but are not limited to, neuropharmacology, cardiovascular and pulmonary pharmacology, gastrointestinal and hepatic pharmacology, renal and endocrine pharmacology, inflammation and immunopharmacology, molecular and cellular pharmacology, chemotherapy, clinical pharmacology, drug discovery, pharmaceuticals and pharmacokinetics.

Article types specifications

The content types accepted by APS are Editorial, Research highlight, Perspective, Review article, Article, Brief Communication, and Correspondence.

Editorial

Editorial articles are written by the editor(s) of APS or by the guest editor(s) of thematic special features based on the contents of the current issue or topical subjects that fall within the scope of APS.

Research highlight

Research highlight section of APS provides a forum in which relevant scientific news as reported in recently published articles can be communicated to its readers.

Perspective

Perspective presents personal, forward-looking, or speculative reviews of a scientific topic. This is a commission-only section.

Review article

Review articles survey recent developments in a topical area of pharmacological research. Review articles have a word limit of 8000 words excluding references. A number of Review articles will be solicited by the editors; however, we also welcome timely, unsolicited Review articles based primarily on authors' own research work.

Article

Articles on all aspects of pharmacology and related areas, both experimental and clinical, are welcome. Studies should be of

high scientific quality and interest to the diverse readership of APS. The chemical structure of new compounds (or a citation to the published structure) must be given. Studies lacking mechanistic insight are not encouraged.

Brief communication

These are studies that fall short of the criteria for articles (eg preliminary experiments limited by sample size or duration, or novel hypotheses). Apart from including an abstract, there is no obligation to divide the text into sections.

Correspondence

Correspondence articles present preliminary reports of unusual urgency, significance and interest. They should contain no more than 1000 words of text, one display item (figure or table) and a maximum of 10 references. Correspondence articles do not contain an abstract.

Preparation of manuscripts

Manuscripts should be prepared in accordance with the "Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals", as presented at <http://www.ICMJE.org>.

All papers should be written in concise English but should contain sufficient detail to illustrate how the results were obtained. Manuscripts should be double-spaced with wide margins.

Cover letter

The uploaded covering letter must state that the material has not been submitted for publication elsewhere while under consideration for APS. Identify the name, full postal address, and e-mail address of the corresponding author.

Article sections

In general, manuscripts should be divided into the following sections: Title page, Abstract, Keywords, Introduction, Material and methods, Results, Discussion, Acknowledgements, Author contribution, References, Tables, Figures, and Supplementary information.

Title page

The title page carries the title, the authors, the authors' affiliations, and footnotes.

The title must be informative, specific, and brief (<120 characters, including spaces). Words should be chosen carefully for retrieval purposes. All nonfunctional words should be deleted, such as "studies on", "observations of", and "roles of", etc.

Authors should have participated sufficiently in the work to take public responsibility for the content. Authorship should be based

on all of the following conditions: 1) substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; 2) involvement in drafting the article or revising it critically for important intellectual content; and 3) final approval of the version to be published. Any changes in authorship must be approved by all authors. Capitalize the first letter in the surname and the given name, and include a hyphen between the syllables of Chinese names. For example: Jin-an Li, Ji-nan Ou-Yang, Noboru Yanaihara, Theo Anthonie Van Der Hoeven, Kenneth Patrick Du Bois, Paul Vincent Harper Jr, and John Davison Rockefeller III.

The affiliation is the institute or laboratory where the work was done.

Footnotes may include 1) the corresponding author's name and e-mail address, and 2) present address.

Abstract

The Abstract should be in non-structured form (<350 words). Concisely describe the content and scope of the writing. Highlight the major points covered. Emphasize the new and important aspects of the study. The abstract should briefly state: the objective (the purpose of the research), design, subjects, interventions, the main outcomes or measures (how the problem was studied), results (the principal findings), and conclusion (what the findings mean). Provide logical connections between them.

Keywords

A list of 3–6 keywords should be given below the Abstract, each separated by a semicolon (;). Use terms recommended by the US National Library of Medicine's Medical Subject Headings (MeSH) browser list at <http://www.ncbi.nlm.gov/mesh>. For example: brain ischemia (not cerebral ischemia), cardiomegaly (not heart hypertrophy), neoplasm (not cancer), immunohistochemistry (not immunocytochemistry).

If a suitable MeSH term is not available, a more general term suitable for indexing may be used. Do not use unqualified and unhelpful terms such as "organic compounds" and "animal experiments."

Introduction

This should give a short, clear account of the background and reasons for undertaking the study. It should not be a review of the literature. The Introduction summarizes the rationale for the study and gives a concise background. Use references to provide the most salient background rather than an exhaustive review. The last sentence should concisely state your purpose for carrying out the study (not methods, results, or conclusion).

Materials and methods

This section should contain sufficient detail so that all experimental procedures can be repeated by others in conjunction with cited references. This section may be divided into sub-headings to assist the reader. Names of products and manufacturers should be included only if alternative sources are deemed unsatisfactory, giving both the company name, city,

and country. Generic names of drugs should be used. Avoid code designations, for example, calcimycin (not A-23187), enalaprilat (not MK-422). If necessary, the brand, trade or commercial name of a drug can be included in parentheses on first mention. Scientific species nomenclature should be used at all times, providing the genus, species (in italics) and authority for all microorganisms, plants and animals. The first letter of the drug name should be lower-case for INN or generic names (eg, ranitidine and captopril), but capitalized for proprietary names (eg, Zantac and Capoten). Manufacturers (not distributors or senders) and specifications should be given for main drugs, chemicals, and instruments.

Novel experimental procedures should be described in detail, but published procedures should be referred to by literature citation of the original article and published modifications. Use of standard abbreviations and SI units of measurement (according to the *Système International d'Unités*) is encouraged. Measurements that are not currently converted to SI units in biomedical applications are blood and oxygen pressures, enzyme activity, H^+ concentration, temperature, and volume. Abbreviations, if used, should be defined on their first appearance in the text.

Identify the drug administration schedule, for example, dose (base or salt) and route of administration. The routes of administration may be abbreviated: intraarterial (ia), intracerebroventricular (icv), intragastric gavage (ig), intramuscular (im), intraperitoneal (ip), intravenous (iv), *per os* (po), subcutaneous (sc).

Statistical methods should be described when they are used to verify the results. Choose suitable techniques for the statistical treatments; for example, *t*-test (group or paired comparisons), chi-squared test, Ridit, probit, logit, regression (linear, curvilinear, or stepwise), correlation, analysis of variance (ANOVA), analysis of covariance, etc.

Only homogeneous data can be averaged. Standard deviations are preferred to standard errors. Give the number of observations and subjects (*n*). Losses in observations, such as drop-outs from the study should be reported.

Values such as ED_{50} , LD_{50} , IC_{50} should have their 95% confidence limits calculated and compared by weighted probit analysis (Bliss and Finney).

The word "significantly" should be replaced by its synonyms (if it indicates extent) or the *P* value (if it indicates statistical significance).

Physical quantities are printed in italic type, for example, dp/dt (not dP/dT). A subscript that represents a symbol for a physical quantity is printed in italic type, for example, X_p (*p*: pressure) and $T_{1/2}$. A solidus (/) should not be followed by a multiplication sign or a division sign unless parentheses are inserted to avoid any ambiguity. In complicated cases, negative powers or parentheses should be used, for example, $mol \cdot L^{-1} \cdot s^{-1}$, not $mol/L/s$. Multiple prefix (eg, μg) should not be used.

SI units must be used. For example: 25.4 mm (not 1 inch), g/L. When an Arabic number precedes an SI unit, the unit symbol should be used rather than the full name of the

unit, for example, 1 s (one second), 2 min (two minutes), 3 h (three hours), 4 d (four days), d 4 (the fourth day). The symbol ‰ (“per mill” or per thousand) should be avoided. Abbreviations such as ppm and ppb should not be used. No unit is required for relative molecular mass (M_r).

Dosage is expressed as per kg (even in mice). Concentration in solution is expressed as per L or per mL. Values for rpm should be converted into gravity ($\times g$). Absorbance (A) values are preferred to optical density (OD) values.

Symbols are not pluralized (eg, 9 kg, not kgs) and are not followed by a period (eg, min, not min.). Indicate the numerical value as the ratio of the quantity to the unit (eg, $\lambda/\text{nm}=589$). This is particularly useful in graphs and in the headings of columns in tables.

Use 12.4 mm (not 0.0124 m), 5 μmol (not 5×10^{-6} mol), 3–8 g, 3%–8%, 3 m \times 8 m \times 2 m, (8 \pm 3) g, (8 \pm 3) $\text{nmol}\cdot\text{L}^{-1}\cdot\text{g}^{-1}$ (protein).

Do not include more digits than are justified by the accuracy of the determinations. For example: a dog weighs 9 kg (not 9000 g, which implies an accuracy of 1 g). In a sample, the effective digits are determined by the variation within the sample, that is, one-third of the standard deviation. For example: 8.6 \pm 2.9 kg (not 8619 \pm 2930 g, nor 9 \pm 3 kg). The sign for multiplication of numbers is a cross (\times) or a raised dot (\cdot). Leave a space between the numerical value and the unit symbol, eg, 37 °C. Calendar dates may be written in two forms: 2016-06-05 or 5th June, 2016.

For isotopically labelled compounds, use a square bracket directly attached to the front of the name (word) or formula. Examples: [^{14}C]urea, [α - ^{32}P]ATP (not AT^{32}P), sodium [^{14}C]formate, [1- ^{14}C ,2- ^{13}C]acetaldehyde, [*carboxy*- ^{14}C]leucine, and [1- ^3H]ethanol. However, both [^{131}I]iodoalbumin and ^{131}I -albumin are correct.

The SI unit for radioactivity is becquerel (Bq): 1 Ci= 37×10^9 disintegrations per second= 37 GBq . The disintegrations per minute (dpm), not counts per minute (cpm), should be converted to Bq for presentation.

Results

The description of results should not simply reiterate data that appear in tables and figures and, likewise, the same data should not be displayed in both tables and figures. The results section should be concise and follow a logical sequence. If the paper describes a complex series of experiments, it is permissible to explain the protocol/experimental design before presenting the results. Present your results followed by (Table 1 or Figure 2). Do not write “Table 1 shows that”. Do not discuss the results or draw any conclusions in this section. This section may be divided into subheadings to assist the reader. Large datasets or other cumbersome data pertinent to the manuscript may be submitted as supplementary information.

Discussion

Do not recapitulate the results, but discuss their significance against the background of existing knowledge, and identify clearly those aspects that are novel. Emphasize any new and important findings and relate your results to other studies.

Discuss the shortcomings in your experiments. New hypotheses and recommendations may be proposed when warranted.

A review-like treatment is unacceptable. Any discussion that could be written before the study was carried out should be deleted or transposed to the Introduction section. Focus the discussion on your results. Avoid unqualified statements and digressions from the topic. Avoid claiming priority and alluding to work that has not been completed.

The final paragraph should highlight the main conclusion(s), which should be linked with the goal stated in the Introduction. Do not include the obvious statement that further work is necessary or planned. This section may be divided into subheadings to assist the reader. In your conclusion avoid indefinite or ambiguous wording, such as “possible”, “perhaps”, “maybe”, “probably”, and “likely”. If you are not sure of your conclusion, do more experiments.

Acknowledgements

These should be brief, and should include sources of financial support, material (eg, novel compounds, strains, etc) not available commercially, personal assistance, advice from colleagues and gifts. Acknowledgements should be made only to those who have made a significant contribution to the study.

Author contribution

Authors must indicate their specific contributions to the published work. Examples of designations include: XXX designed research; XXX performed research; XXX contributed new reagents or analytic tools; XXX analyzed data; XXX wrote the paper. An author may list more than one contribution, and more than one author may have contributed to the same aspect.

References

Authors are responsible for the accuracy of the references. In the text of the manuscript, references to the literature should be numbered consecutively and indicated by a superscript. Each reference should be numbered individually and listed at the end of the manuscript. Avoid using conference abstracts as references. “Unpublished data”, “classified periodicals”, and “personal communications” can not be used as references. Old references should be replaced with updated ones. The titles of journals should be abbreviated according to the style used for MEDLINE (www.ncbi.nlm.nih.gov/nlmcatalog/journals). All authors should be quoted for papers with up to six authors; for papers with six or more authors, the first six authors should be quoted, followed by *et al.* Examples are given below.

Articles in journals

1 Standard journal article: Wang XX, Li M, Xu XW, Zhao WB, Jin YM, Li LL, et al. BNIP3-mediated mitophagy attenuates hypoxic-ischemic brain damage in neonatal rats by inhibiting ferroptosis through P62-KEAP1-NRF2 pathway activation to maintain iron and redox homeostasis. *Acta Pharmacol Sin.* 2025; 46: 33-51.

2 Organization as author: International Committee of Medical Journal Editors. Uniform requirements for manuscripts

submitted to biomedical journals. *Ann Intern Med.* 1997; 126: 36–47.

3 No author given: Cancer in South Africa [editorial]. *S Afr Med J.* 1994; 84: 15.

4 Article not in English: Chachin M, Ohmura T, Hayashi N, Nishimura Y, Satoh H. Pharmacological and clinical profile of telmisartan, a selective angiotensin II type-1 receptor blocker. *Nippon Yakurigaku Zasshi.* 2004; 124: 31–9. Japanese.

5 Pagination in Roman numerals: Fisher GA, Sikic BI. Drug resistance in clinical oncology and hematology. Introduction. *Hematol Oncol Clin North Am.* 1995; 9: xi–xii.

6 Article republished with corrections: Mansharamani M, Chilton BS. The reproductive importance of P-type ATPases. *Mol Cell Endocrinol.* 2002; 188: 22–5. Corrected and republished from: *Mol Cell Endocrinol.* 2001; 183: 123–6.

7 Article published electronically ahead of the print version: He XH, Li JR, Shen SY, Xu HE. AlphaFold3 versus experimental structures: assessment of the accuracy in ligand-bound G protein-coupled receptors. *Acta Pharmacol Sin.* 2024 Dec 6. Doi: 10.1038/s41401-024-01429-y.

Books and other monographs

8 Personal author(s): Ringsven MK, Bond D. Gerontology and leadership skills for nurses. 2nd ed. Albany (NY): Delmar Publishers; 1996.

9 Editor(s)/compiler(s) as author: Norman IJ, Redfern SJ, editors. Mental health care for elderly people. New York: Churchill Livingstone; 1996.

10 Organization as author and publisher: Institute of Medicine (US). Looking at the future of the Medicaid program. Washington: The Institute; 1992.

11 Chapter in a book: Milton AS. Prostaglandins and fever. In: Sharma HS, Westman J, editors. Progress in brain research; v 115. Brain function in hot environment. Amsterdam: Elsevier; 1998. p 129–39.

12 Conference proceedings: Kimura J, Shibasaki H, editors. Recent advances in clinical neurophysiology. Proceedings of the 10th International Congress of EMG and Clinical Neurophysiology; 1995 Oct 15–19; Kyoto, Japan. Amsterdam: Elsevier; 1996.

13 Conference paper: Bengtsson S, Solheim BG. Enforcement of data protection, privacy and security in medical informatics. In: Lun KC, Degoulet P, Piemme TE, Rienhoff O, editors. MEDINFO 92. Proceedings of the 7th World Congress on Medical Informatics; 1992 Sep 6–10; Geneva, Switzerland. Amsterdam: North-Holland; 1992. p 1561–5.

14 Scientific or technical report: Issued by funding/sponsoring agency: Smith P, Golladay K. Payment for durable medical equipment billed during skilled nursing facility stays. Final report. Dallas (TX): Dept of Health and Human Services (US), Office of Evaluation and Inspections; 1994 Oct. Report No: HHSI-GOEI-69200860.

15 Dissertation: Kaplan SJ. Post-hospital home health care: the elderly's access and utilization [dissertation]. St Louis (MO): Washington Univ; 1995.

16 Patent: Larsen CE, Trip R, Johnson CR, inventors; Novoste

Corporation, assignee. Methods for procedures related to the electrophysiology of the heart. US patent 5 529 067. 1995 Jun 25.

Other published material

17 Newspaper article: Lee G. Hospitalizations tied to ozone pollution: study estimates 50 000 admissions annually. *The Washington Post* 1996 Jun 21; Sect A: 3 (col 5).

18 Legal material: Public law: Preventive Health Amendments of 1993, Pub L 103–183, 107 Stat 2226 (1993 Dec 14).

Material "in press"

19 In press: Panagiotou M, Meijer JH, Deboer T. The effects of diazepam on sleep depend on the photoperiod. *Acta Pharmacol Sin.* 2025. In press. Doi: 10.1038/s41401-024-01440-3.

Electronic material:

20 CD-ROM: Anderson SC, Poulsen KB. Anderson's electronic atlas of hematology [CD-ROM]. Philadelphia: Lippincott Williams & Wilkins; 2002.

21 Journal article on the Internet: Abood S. Quality improvement initiative in nursing homes: the ANA acts in an advisory role. *Am J Nurs* [serial on the Internet]. 2002 Jun [cited 2002 Aug 12]; 102: [about 3 p]. Available from: <http://www.nursingworld.org/AJN/2002/june/Wawatch.htm>

22 Monograph on the Internet: Foley KM, Gelband H, editors. Improving palliative care for cancer [monograph on the Internet]. Washington: National Academy Press; 2001 [cited 2002 Jul 9]. Available from: <http://www.nap.edu/books/0309074029.html>

23. Homepage/Web site: Cancer-Pain.org [homepage on the Internet]. New York: Association of Cancer Online Resources Inc; c2000-01 [updated 2002 May 16; cited 2002 Jul 9]. Available from: <http://www.cancer-pain.org/>

24 Part of a homepage/Web site: American Medical Association [homepage on the Internet]. Chicago: The Association; c1995-2002 [updated 2001 Aug 23; cited 2002 Aug 12]. AMA Office of Group Practice Liaison; [about 2 screens]. Available from: <http://www.ama-assn.org/ama/pub/category/1736.html>

25 Open database on the Internet: Who's Certified [database on the Internet]. Evanston (IL): The American Board of Medical Specialists. c2000 - [cited 2001 Mar 8]. Available from: <http://www.abms.org/newsearch.asp>

26 Closed database on the Internet: Jablonski S. Online Multiple Congenital Anomaly/Mental Retardation (MCA/MR) Syndromes [database on the Internet]. Bethesda (MD): National Library of Medicine (US). c1999 [updated 2001 Nov 20; cited 2002 Aug 12]. Available from: <http://www.nlm.nih.gov/mesh/jablonski/syndrome-title.html>

27 Part of a database on the Internet: Mesh Browser [database on the Internet]. Bethesda (MD): National Library of Medicine (US); 2002 - [cited 2003 Jun 10]. Meta-analysis; unique ID: D015201; [about 3 p]. Available from: <https://meshb.nlm.nih.gov/search>. Files updated weekly.

For more information, please see the guidance of NLM (<https://www.ncbi.nlm.nih.gov/books/NBK7256/>).

Tables

These should be labeled sequentially as Table 1, Table 2, *etc.* Tables should not duplicate the content of the text or the figures. They should consist of at least two columns; columns should always have headings. Tables may have a brief footnote that identifies all abbreviations used. Authors should ensure that the data in the tables are consistent with those cited in the relevant places in the text, totals add up correctly, and percentages have been calculated correctly. Tables should be supplied as separate electronic files (as Word or Excel file formats).

Figures

These should be labeled sequentially as Figure 1, Figure 2, *etc.* Each figure should be self-explanatory (intelligible without reference to the text). Avoid repetitions of data in the text and figures.

Legends for figures should be typed or printed out using double spacing, starting on a separate page. Briefly explain the symbols, arrows, numbers, or letters in the illustrations. Identify the method of staining and magnification of the photomicrographs (*eg*, H&E stain, $\times 900$).

If exponents of 10 are used, it should be clear what number is to be multiplied. For instance, under the heading of " $10^4 \times \text{Cells}$ " a value of 8 designates 80000 cells, and under the heading of " $10^3 \times \text{Concentration/mol} \cdot \text{L}^{-1}$ " the value of 1.5 designates $0.0015 \text{ mol} \cdot \text{L}^{-1}$ or $1.5 \text{ mmol} \cdot \text{L}^{-1}$.

When relative percentages are used, the absolute data should be indicated (particularly for the control values). Indicate the number and character of observations and subjects. Indicate what the *n* was, *eg*, $n=9$ cells from 9 rats.

Identify statistical significance by superscripts in front of the probabilities (*P*):

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$ vs A;
$P < 0.05$, ## $P < 0.01$, ### $P < 0.001$ vs B;
§ $P < 0.05$, §§ $P < 0.01$, §§§ $P < 0.001$ vs C; *etc.*

Digital image enhancement is acceptable practice, although it can result in the presentation of unrepresentative data as well as in the loss of meaningful signals. During manipulation of images a positive relationship between the original data and the resulting electronic image must be maintained. If a figure has been subjected to significant electronic manipulation, the specific nature of the enhancements must be noted in the figure legend or in the "Materials and methods" section. The editors reserve the right to request original versions of figures from the authors of a paper under consideration.

If possible, the figures should be submitted as the size they will appear when published so that no reduction is necessary. Figures should be either single-column format (published width, 8.8 cm; maximum submitted width, 11 cm) or double-column format (published width, 17.5 cm; maximum submitted width, 22 cm). For all figures, the maximum height must be less than 22 cm (including Figure legends).

The requirements of the figure formats, color encoding, and resolution.

	Line Art	Monochrome	Color
Format		TIFF/PSD/JPG	
Color encoding	Gray	CMYK	CMYK
Resolution(dpi)	>1000	>600	>300

The Arial lower case font should be used for all figure text, and the size should be 7-10 points, minimum size 6 points). Composite figures should be preassembled, with each figure part (*e.g.*, a, b, c) lettered in 12-point lower case Arial bold font type in the upper left corner.

Supplementary information

Any manuscripts under review or accepted for publication elsewhere should accompany the submission if they are relevant to its scientific assessment. Authors should also provide upon submission any kind of supplementary material that will aid the review process.

Supplementary information is peer-reviewed material directly relevant to the conclusion of an article that cannot be included in the printed version owing to space or format constraints. It is posted on the APS's website and linked to the article when the article is published and may consist of data files, graphics, movies or extensive tables.

The printed article must be complete and self-explanatory without the supplementary information. Supplementary information enhances a reader's understanding of the paper but is not essential to that understanding.

Supplementary information must be supplied to the editorial office in its final form for peer review. On acceptance the final version of the peer reviewed supplementary information should be submitted with the accepted paper.

To ensure that the contents of the supplementary information files can be viewed by the editor(s), reviewers and readers, please also submit a "read-me" file containing brief instructions on how to use the file.

The supplementary information may not be altered, nor new supplementary information added, after the paper has been accepted for publication.

Please supply the supplementary information via the electronic manuscript submission and tracking system, in an acceptable file format (see below).

Authors should:

- Include a text summary (no more than 50 words) to describe the contents of each file.
- Identify the types of files (file formats) submitted.
- Include the text "Supplementary information is available at the website of Acta Pharmacologica Sinica" at the end of the article and before the references.

Accepted file formats:

- Quick Time files (.mov)
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- HTML files (.html)

- MPEG movie files (.mpg)
- JPEG image files (.jpg)
- Sound files (.wav)
- Plain ASCII text (.txt)
- Acrobat files (.pdf)
- MS Word documents (.doc)
- Postscript files (.ps)
- MS Excel spreadsheet documents (.xls)
- PowerPoint (.ppt)

We cannot accept TeX and LaTeX.

File sizes must be as small as possible, so that they can be downloaded quickly. Images should not exceed 640×480 pixels (9×6.8 inches at 72 pixels per inch) but we would recommend 480×360 pixels as the maximum frame size for movies. We would also recommend a frame rate of 15 frames per second. If applicable to the presentation of the supplementary information, use a 256-color palette. Please consider the use of lower specification for all of these points if the supplementary information can still be represented clearly. Our recommended maximum data rate is 150 kB/s.

The number of files should be limited to eight, and the total file size should not exceed 8 MB. Individual files should not exceed 1 MB. Please seek advice from the editorial office before sending files larger than our maximum size to avoid delays in publication.

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First, a manuscript will be considered for publication on the understanding that all named authors have agreed to its submission and that if accepted it will not be later published in the same or similar form in any language without the consent of the publishers.

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Post-acceptance

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Proofs

Once the manuscript has been accepted, the corresponding author will receive PDF proofs and are responsible for proofreading and checking the entire article. Authors should correct only typesetting errors, no major alteration of the text will be accepted. Page proofs must be returned within 48 h to avoid delays in publication along with the reprint order if required.

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Editorial policies

APS is committed to upholding the integrity of the scientific record. As a member of the Committee on Publication Ethics (COPE), *APS* abides by COPE's principles on how to deal with potential acts of misconduct, which includes formal investigation of all perceived transgressions.

Duplicate & redundant publication

Papers must be original and not published or submitted for publication elsewhere. This rule also applies to non-English language publications.

Duplicate publications are not accepted. Manuscripts are considered with the understanding that they have not been published previously in print or electronic format and are not under consideration by another publication or electronic medium. Copies of possibly duplicative materials that have been previously published or are being considered elsewhere must be provided at the time of manuscript submission.

Redundant publication (also described as "salami publishing") is when one study is split into several parts and submitted to two or more journals. It also includes findings that have previously been published elsewhere without proper cross-referencing, permission or justification. "Self-plagiarism" is considered a form of redundant publication as it concerns recycling or borrowing content from previous work without citation.

APS allows and encourages prior publication on recognized community preprint servers for review by other scientists before formal submission to a journal. The details of the preprint server concerned and any accession numbers should be included in the cover letter accompanying manuscript submission. This policy does not extend to preprints available to the media or that are otherwise publicized outside the scientific community before or during the submission and consideration process.

Conflict of interest

In the interests of transparency and to help reviewers assess any potential bias, APS requires authors of original research papers to declare any competing commercial interests in relation to the submitted work. Reviewers are also asked to indicate any potential conflict they might have in reviewing a particular paper.

Clinical trials

As defined by the International Committee of Medical Journal Editors (ICMJE), a clinical trial is any research project that prospectively assigns human subjects to intervention and comparison groups to study the cause-and-effect relationship between a medical intervention and a health outcome. A medical intervention is any intervention used to modify a health outcome and includes but is not limited to drugs, surgical procedures, devices, behavioural treatments, and process-of-care changes. A trial must have at least one prospectively assigned concurrent control or comparison group in order to trigger the requirement for registration. Nonrandomized trials are not exempt from the registration requirement if they meet the above criteria.

All clinical trials must be registered in a public registry prior to submission. APS follows the trials registration policy of the ICMJE (www.icmje.org) and considers only trials that have been appropriately registered before submission, regardless of when the trial closed to enrolment.

Examples of registries that meet these criteria include:

- the registry sponsored by the United States National Library of Medicine (www.clinicaltrials.gov);
- the International Standard Randomized Controlled Trial Number Registry (www.controlled-trials.com);
- the Cochrane Renal Group Registry (www.cochrane-renal.org);
- and the European Clinical Trials Database (<https://eudract.ema.europa.eu/>).

The trial registry number must be included in the manuscript and provided on submission.

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Human and other animal experiments

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