DESCRIPTION

Neuroscience publishes papers describing the results of original research on any aspect of the scientific study of the nervous system. Any paper, however short, will be considered for publication provided that it reports significant, new and carefully confirmed findings with full experimental details.

AUDIENCE

Neuroscientists from all disciplines.

IMPACT FACTOR

2016: 3.277 © Clarivate Analytics Journal Citation Reports 2017

ABSTRACTING AND INDEXING

Current Contents/BIOMED Database
Elsevier BIOBASE
Chemical Abstracts
EMBASE
MEDLINE®
BIOSIS
PASCAL/CNRS
Current Contents/Life Sciences
Current Contents/Science Citation Index
Current Contents/SciSearch Database
Scopus
Current Contents/ASCA
EDITORIAL BOARD

Chief Editor
J. Lerma, Instituto de Neurociencias, Consejo Superior de Investigaciones Científicas, Universidad Miguel Hernández de Elche (UMH), 03550, San Juan de Alicante, Spain

Associate Editor
J.N. Sanes, Dept. of Neuroscience, Brown University, 185 Meeting Street, Providence, Rhode Island, 02912-9089, USA

Board of Section Editors
A. Araqüe, University of Minnesota, Minneapolis, Minnesota, USA
Key Words: Synaptic physiology, glial cell biology, neurotransmitter receptors, signaling mechanisms.

A. Becker, University of Bonn, Bonn, Germany
Key Words: Translational neuroscience, epilepsy research, neuroimmunology, molecular pharmacology, neuropathology.

Y. Bozzi, Università di Trento, Trento, Italy
Key Words: Neurodevelopmental disorders, autism, epilepsy, gene expression, neurotransmitter receptors, signaling mechanisms, plasticity.

S. Canals, Universidad Miguel Hernández (UMH), San Juan de Alicante, Spain
Key Words: Neuroimaging, functional connectivity, synaptic plasticity, electrophysiology, learning and memory, drug addiction.

K.E. Cullen, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA
Key Words: Systems Neuroscience, Neural Engineering, motor control, vestibular system, sensory systems

J. Fudge, University of Rochester Medical Center, Rochester, New York, USA
Key Words: Systems neuroscience, functional neuroanatomy, emotional processing, mood and anxiety disorders.

E. Gould, Princeton University, Princeton, New Jersey, USA
Key Words: Systems and Circuits, Human Neuroscience, structural plasticity, hormones, obesity and exercise in cognition.

M. Heckmann, Universität Würzburg, Würzburg, Germany
Key Words: Synaptic transmission, receptor channels and active zones

A. Kania, Institut de recherches cliniques de Montreal (IRCM), Montréal, Canada
Key Words: Molecular mechanisms of neural fate specification, axon guidance, neuronal migration and connectivity.

R. Kuner, Ruprecht-Karls-Universität Heidelberg, Heidelberg, Germany
Key Words: Sensory mechanisms, Pain, Development of peripheral and central nervous system.

R. Romo, Universidad Nacional Autónoma de México (UNAM), Mexico City, Mexico
Key Words: Neurobiology of perception, memory and decision making.

P.C. Salinas, University College London Hospitals, London, UK
Key Words: Molecular mechanisms controlling the synapse formation and synaptic, Wnt signalling, synapse degeneration in neurodegenerative diseases.

S.R. Sesack, University of Pittsburgh, Pittsburgh, Pennsylvania, USA
Key Words: Tract-tracing and circuit analysis, cellular and subcellular localization of proteins involved in neurotransmission, ultrastructural measures of plasticity in response to drugs and environmental manipulations, physiological pharmacology.

M. Takada, Kyoto University, Aichi, Japan
Key Words: Behavioral and Cognitive Neuroscience, Primate research, Cortical processing.

D. Vivien, University Caen-Normandie, Caen, France
Key Words: Stroke, Proteases, Thrombosis, Fibrinolysis, Neuroprotection, Imaging.

Editorial Board
L. Acsády, Institute of Experimental Medicine, Budapest, Hungary

T. Arendt, Universität Leipzig, Leipzig, Germany

E. Aronica, Academic Medical Centre (AMC), Amsterdam, Netherlands

M. Barrot, Centre National de la Recherche Scientifique (CNRS), Strasbourg, France

M.D. Bevan, Northwestern University, Chicago, Illinois, USA

E. Bezard, Université de Bordeaux, Bordeaux, France

S. Bookheimer, UCLA Health System, Los Angeles, California, USA

P. Castillo, Albert Einstein College of Medicine, Bronx, New York, USA

L. Chelazzi, Università degli Studi di Verona, Verona, Italy

D. Choquet, Université Bordeaux

B. Christie, University of Victoria, Victoria, British Columbia, Canada
C.L. Stuckey, Medical College of Wisconsin, Milwaukee, Wisconsin, USA
T.C. Südhof, Howard Hughes Medical Institute (HHMI), University of Texas, Dallas, Texas, USA
M. Tanaka, Hokkaido University, Sapporo, Japan
J.M. Tepper, Rutgers University, Newark, New Jersey, USA
A. Todd, University of Glasgow, Glasgow, Scotland, UK
R.W. Tsien, New York University, New York, New York, USA
X.-J. Wang, New York University Shanghai
N. Wenderoth, ETH Zürich, Zurich, Switzerland
T. Wichmann, Emory University, Atlanta, Georgia, USA
D.S. Zahm, St. Louis University, St Louis, Missouri, USA
R.E. Zigmond, Case Western Reserve University, Cleveland, Ohio, USA

IBRO Reports Editor-in-Chief
Y.S. Chan, The University of Hong Kong, Hong Kong, China
GUIDE FOR AUTHORS

INTRODUCTION

*Neuroscience* publishes the results of original research on any aspect of the scientific study of the nervous system. Papers most suitable for publication are those that report new observations that directly contribute to our understanding of how the nervous system works. Any paper, however short, will be considered for publication provided that it reports significant, new and carefully confirmed findings with full experimental details. The Editor-in-Chief, the Associate Editor, and the Section Editors will initially evaluate all submissions. Articles not estimated to represent strong candidates for publication will be returned to the authors without detailed review within 3-5 days. Otherwise, manuscripts will be sent to reviewers for rapid assessment.

*Neuroscience* does not have page or figure restrictions, and authors are encouraged to write complete papers that contain all the data necessary to present their findings persuasively.

Editorial Organisation

The Chief and Associate Editors seek advice from Section Editors representing all major areas of research: Behavioral and Cognitive Neuroscience, Cellular and Molecular Neuroscience, Developmental Neuroscience, Disease-Oriented Neuroscience, Systems Neuroscience, Pain and Sensory Neuroscience, Theory and Innovative Approaches in Neuroscience.

Each paper is typically evaluated by at least two Editors or ad hoc reviewers. Papers are accepted by the Chief and Associate Editors in consultation with an appropriate Section Editor.

The Neuroscience Peer Review Consortium

*Neuroscience* is a member of the Neuroscience Peer Review Consortium (NPRC). The NPRC has been formed to reduce the time expended and, in particular, the duplication of effort by, and associated burden on reviewers involved in the peer review of original neuroscience research papers. It is an alliance of neuroscience journals that have agreed to accept manuscript reviews from other Consortium journals. By reducing the number of times that a manuscript is reviewed, the Consortium will reduce the load on reviewers and Editors, and speed the publication of research results.

If a manuscript has been rejected by another journal in the Consortium, authors can submit the manuscript to *Neuroscience* and indicate that the referees' reports from the first journal be made available to the Editors of *Neuroscience*.

It is the authors' decision as to whether or not to indicate that a set of referee's reports should be forwarded from the first journal to *Neuroscience*. If an author does not wish for this to happen, the manuscript can be submitted to *Neuroscience* without reference to the previous submission. No information will be exchanged between journals except at the request of authors. However, if the original referees' reports suggested that the paper is of high quality, but not suitable for the first journal, then it will often be to an author's advantage to indicate that referees' reports should be made available.

Authors should revise the original submission in accordance with the first journal's set of referee reports, reformat the paper to *Neuroscience*’s specification and submit the paper to *Neuroscience* with a covering letter describing the changes that have been made, and informing the Editors that the authors will ask for the referee's reports to be forwarded from the first Consortium journal. The authors then must contact the first journal, and ask that reviews be forwarded, indicating they have submitted to *Neuroscience*, and providing the new manuscript ID number.

The Editors of *Neuroscience* will use forwarded referees' reports at their discretion. The Editors may use the reports directly to make a decision, or they may request further reviews if they feel such are necessary.

Visit [http://nprc.incf.org](http://nprc.incf.org) for a list of Consortium journals, as well as further information on the scheme.
**Types of Papers**

(a) **Research papers.** These are full-length papers describing original research. There are no specific page limits although authors are encouraged to be as concise as possible and to use as few, high quality illustrations as necessary to adequately document their findings. Former rapid reports that describe outstanding new discoveries fall under this category and should follow the same layout as research papers. All papers are handled rapidly.

(b) **Reviews.** These are short articles (3,000 to 10,000 words in length), not exhaustive reviews, that are intended to either draw attention to developments in a specific area of research, to bring together observations that seem to point the field in a new direction, to give the author's personal views on a controversial topic, or to direct soundly based criticism at some widely held dogma or widely used technique in neuroscience. Reviews may also provide an historical perspective on an area of neuroscience research. Authors should make their Review understandable to a broad spectrum of neuroscientists. Potential authors are invited to submit a letter of interest to the Associate Editor indicating the topic of a potential Review. Proposals for reviews or commentaries should also contain an outline of the contents, including an abstract (<200 words), a list of 10 relevant articles including 5 from the proposer's own research, and a brief statement on why now is a good time to review the topic in question. Reviews will not be accepted for editorial processing unless pre-approved for submission.

(c) **Neuroscience Forefront Reviews.** These are invited reviews from a select list of scientists who have introduced new concepts, models, or methods in neurobiology. Forefront Reviews enable the authors to express their own opinions in a rigorous way. There is no page limit and the author/authors may choose the focus of the review as long as it remains scientifically sound. The reviews will be promoted through IBRO's websites and publications, and will be highly visible in the scientific community. Interest by a prominent scientist to contribute a Forefront Review should be sent to Jerome Sanes, Associate Editor, at jnsanes-neuroscience@brown.edu.

(d) **Special Issues.** These are published as separate volumes with prominent neuroscientists as guest editors. Special Issues are devoted to specific topics, preferably "emergent topics" that open new fields in neurobiological research. The Special Issues are used actively in the promotion of *Neuroscience.*

A Special Issue is not a loose collection of topically related articles but a concerted attempt to provide an overview of the status of an emerging field. Cross references between the articles are strongly encouraged.

A Special Issue should normally contain 20-25 articles, corresponding to 200-300 printed pages in total. The articles may include original data. At least one of the articles (typically signed by the guest editors) should provide a general discussion of the implications of the recent advances in the field, and should attempt to identify the directions and challenges of future research.

Manuscripts are subjected to the review process according to the same high standards of quality as regular issues of Neuroscience. The Guest Editor(s) identify reviewers and take responsibility for the further editorial handling of the manuscripts, supported by the San Diego office. As for regular papers, the final decision on each article is taken by the Chief Editor.

Suggestions for special issues should be sent to Juan Lerma, Editor-in-Chief, at jlerma@umh.es. They should contain an outline of the contents, including an abstract (<200 words), a list of articles with preliminary titles and contributors, and a brief statement on why.

(e) **Perspectives.** These are invited commentaries (typically <1,000 words) on current developments and trends in neuroscience research or public activities. A Perspective could highlight one or more recently published article, in any journal, that appears to set a new standard for a field within neuroscience or could recognize national or international events that influence the neuroscience community. Typically, the Chief or Associate Editor will identify authors to contribute a Perspective. However, potential authors are invited to submit a letter of interest to the Chief or Associate Editor indicating the topic of a potential Perspective.
(f) **Letters to the Editor.** We welcome readers to submit formal comments on the content of articles published in *Neuroscience*. Such comments should provide constructive scientific remarks. Readers may submit these comments as a Letter to the Editor, which should be concise, no more than 500 words, and we will transmit them to the author(s) of the commented-upon paper for their optional reply.

The main Editors of *Neuroscience* will consider the significance of these articles, and whether to proceed with soliciting the opinions of the authors of the commented-upon paper. We expect Letters to the Editor to fall within the spirit of constructive scientific discourse and supported, as needed by References, which should appear in the format used in Neuroscience. Authors should not include unpublished data in a Letter to the Editor. Submitting authors assume full responsibility for the accuracy of their content. Letters to the Editor will appear in the print and on-line version of *Neuroscience*, and as such will be fully citable in bibliographic services, for example PubMed.

(g) **Commentaries.** These are invited commentaries (typically <500 words) on a paper published in the same *Neuroscience* issue, which deserves further comment to call the attention of readers not primarily interested on the paper's topic. Commentaries could include one figure summarizing the main findings.

**BEFORE YOU BEGIN**

**Ethics in Publishing**

For information on Ethics in Publishing and Ethical guidelines for journal publication see http://www.elsevier.com/publishingethics and http://www.elsevier.com/ethicalguidelines

All submissions to *Neuroscience* must contain experiments that conform to the ethical standards printed below. To confirm their agreement with this, authors are required to include the following statement in their cover letter indicating their agreement with these standards: "I have read and have abided by the statement of ethical standards for manuscripts submitted to Neuroscience." A list of ethical standards is not required in the cover letter.

**Policy and ethics**

The authors declare that all experiments on human subjects were conducted in accordance with the Declaration of Helsinki http://www.wma.net/en/30publications/10policies/b3/index.html and that all procedures were carried out with the adequate understanding and written consent of the subjects.

The authors also certify that formal approval to conduct the experiments described has been obtained from the human subjects review board of their institution and could be provided upon request.

If the studies deal with animal experiments, the authors certify that they were carried out in accordance with the National Institute of Health Guide for the Care and Use of Laboratory Animals (NIH Publications No. 80-23) revised 1996 or the UK Animals (Scientific Procedures) Act 1986 and associated guidelines, or the European Communities Council Directive of 24 November 1986 (86/609/EEC).

The authors also certify that formal approval to conduct the experiments described has been obtained from the animal subjects review board of their institution and could be provided upon request.

The authors further attest that all efforts were made to minimize the number of animals used and their suffering.

If the ethical standard governing the reported research is different from those guidelines indicated above, the authors must provide information in the submission cover letter about which guidelines and oversight procedures were followed.

The Editors reserve the right to return manuscripts in which there is any question as to the appropriate and ethical use of human or animal subjects.

**Declaration of interest**

All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential conflicts of interest include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/
registrations, and grants or other funding. Authors must disclose any interests immediately after the Acknowledgements section; additional information may be required (click on More information). If there are no interests to declare then please state this: 'Declarations of interest: none'. This summary statement will be ultimately published if the article is accepted. 2. Detailed disclosures as part of a separate Declaration of Interest form, which forms part of the journal's official records. It is important for potential interests to be declared in both places and that the information matches. More information.

Submission declaration and verification

Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis or as an electronic preprint, see 'Multiple, redundant or concurrent publication' section of our ethics policy for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, the senior Editors check the originality all submissions using the text similarity detection service CrossCheck.

Changes to authorship

Authors are expected to consider carefully the list and order of authors before submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only before the manuscript has been accepted and only if approved by the journal Editor. To request such a change, the Editor must receive the following from the corresponding author: (a) the reason for the change in author list and (b) written confirmation (e-mail, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed.

Only in exceptional circumstances will the Editor consider the addition, deletion or rearrangement of authors after the manuscript has been accepted. While the Editor considers the request, publication of the manuscript will be suspended. If the manuscript has already been published in an online issue, any requests approved by the Editor will result in a corrigendum.

Article transfer service

This journal is part of our Article Transfer Service. This means that if the Editor feels your article is more suitable in one of our other participating journals, then you may be asked to consider transferring the article to one of those. If you agree, your article will be transferred automatically on your behalf with no need to reformat. Please note that your article will be reviewed again by the new journal. More information.

Copyright

Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see more information on this). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations. If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has preprinted forms for use by authors in these cases.

For open access articles: Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' (more information). Permitted third party reuse of open access articles is determined by the author's choice of user license.

Author rights

Author rights

As an author you (or your employer or institution) have certain rights to reuse your work. More information.
Elsevier supports responsible sharing
Find out how you can share your research published in Elsevier journals.

**Role of the funding source**
You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement then this should be stated.

**Funding body agreements and policies**
Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder's open access policies. Some funding bodies will reimburse the author for the gold open access publication fee. Details of existing agreements are available online.

**Open access**
This journal offers authors a choice in publishing their research:

**Subscription**
- Articles are made available to subscribers as well as developing countries and patient groups through our universal access programs.
- No open access publication fee payable by authors.
- The Author is entitled to post the accepted manuscript in their institution's repository and make this public after an embargo period (known as green Open Access). The published journal article cannot be shared publicly, for example on ResearchGate or Academia.edu, to ensure the sustainability of peer-reviewed research in journal publications. The embargo period for this journal can be found below.

**Gold open access**
- Articles are freely available to both subscribers and the wider public with permitted reuse.
- A gold open access publication fee is payable by authors or on their behalf, e.g. by their research funder or institution.

Regardless of how you choose to publish your article, the journal will apply the same peer review criteria and acceptance standards.

For gold open access articles, permitted third party (re)use is defined by the following Creative Commons user licenses:

**Creative Commons Attribution (CC BY)**
Lets others distribute and copy the article, create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), include in a collective work (such as an anthology), text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honor or reputation.

**Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)**
For non-commercial purposes, lets others distribute and copy the article, and to include in a collective work (such as an anthology), as long as they credit the author(s) and provided they do not alter or modify the article.

The gold open access publication fee for this journal is **USD 2400**, excluding taxes. Learn more about Elsevier's pricing policy: [https://www.elsevier.com/openaccesspricing](https://www.elsevier.com/openaccesspricing).

**Green open access**
Authors can share their research in a variety of different ways and Elsevier has a number of green open access options available. We recommend authors see our green open access page for further information. Authors can also self-archive their manuscripts immediately and enable public access from their institution's repository after an embargo period. This is the version that has been accepted for publication and which typically includes author-incorporated changes suggested during submission, peer review and in editor-author communications. Embargo period: For subscription articles, an appropriate amount of time is needed for journals to deliver value to subscribing customers before an article becomes freely available to the public. This is the embargo period and it begins from the date the article is formally published online in its final and fully citable form. Find out more.

This journal has an embargo period of 12 months.
Language (usage and editing services)
Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the English Language Editing service available from Elsevier's WebShop.

Submission
Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word, LaTeX) are required to typeset your article for final publication. All correspondence, including notification of the Editor's decision and requests for revision, is sent by e-mail.

Submission address
Please submit your article via http://ees.elsevier.com/nsc.

Authors are strongly encouraged to use this Web-based submission system. However, for those who are unable to submit via the Web, please contact neuroscience@journal-office.com or Neuroscience Editorial Office, 525 B Street, Suite 1800, San Diego, CA 92101, USA; FAX: 619-699-6859.

Referees
It is in your best interest to suggest some suitable reviewers and we strongly request that you do so. Suggested reviewers should not have co-authored a publication in the past 4 years or have an active collaboration with submitting authors. You may suggest up to 6 reviewers. Note that the editor retains the sole right to decide whether or not the suggested reviewers are used.

Additional information
All manuscripts are subject to any modifications required by the Editorial Office to conform to Journal policy.

Cover illustrations
Cover illustrations

Authors are encouraged to submit visually and scientifically interesting figure(s) representative of their data, though not necessarily as they appear in the manuscript, for potential cover illustrations (see specific instructions for submission of cover art under PREPARATION / Color Artwork below). The use of illustrations for journal covers is at the discretion of the Editors; only those related to articles accepted for publication will be considered. At the end of each year, all published covers will automatically be considered in a competition for the year's best cover illustration, and will be judged on their aesthetic value and scientific interest. Submitted cover images not created by the author group must include the reprint permission and source. The author(s) of the winning image will receive USD 500 from Elsevier.

IBRO Reports
Please note that because Neuroscience is highly selective, we offer some authors who are not accepted in Neuroscience the option to have their papers considered by our sister journal, IBRO Reports.

The primary goal of this process is to shorten the time to publication, reduce the burden upon reviewers and increase the opportunity for the author to be offered a venue for publication. This transfer entails the editor of IBRO Reports having direct electronic access to your review. This will not alter the confidentiality of the process.

PREPARATION

Peer review
This journal operates a single blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. More information on types of peer review.
Use of word processing software

It is important that the file be saved in the native format of the word processor used. The text should be in single-column format. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. In particular, do not use the word processor's options to justify text or to hyphenate words. However, do use bold face, italics, subscripts, superscripts etc. When preparing tables, if you are using a table grid, use only one grid for each individual table and not a grid for each row. If no grid is used, use tabs, not spaces, to align columns. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier). Note that source files of figures, tables and text graphics will be required whether or not you embed your figures in the text. See also the section on Electronic artwork.

To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.

Article structure

Manuscripts should be written in English in a concise and understandable style. Technical jargon or "laboratory slang" should not be used. It is the responsibility of the corresponding author to ensure that the manuscript is written in a style that is grammatically correct and free of spelling or other typographical errors.

All manuscripts must be typewritten with 1.5 line-spacing throughout and with margins at least 2.5 cm wide. Pages should be numbered in succession, the title page being no. 1.

The Editorial Office reserves the right to revise the wording of manuscripts accepted for publication in the journal.

Each submission should be accompanied by a cover letter, briefly explaining the conceptual advance provided by the findings and their significance to a broad readership.

Subdivision

Divide your article into sections according to the headings listed below. Main sections (Introduction, Experimental Procedures, Results, etc.) and sub-section headings should appear on their own separate line. Use the section and sub-section names for internal cross-referencing: do not just refer to "the text. Neuroscience does not use numerical designations for sections or sub-sections.

Research papers should be organized in the following four main sections: Introduction, Experimental Procedures, Results, Discussion

Reviews and Forefront Reviews should have an introductory section, followed by several information presentation sections and then end with a conclusion section. Section headings should be used to organize the presentation of information.

Introduction

This should provide the scientific rationale for the research that is reported. No results should be reported but it should finish with a succinct description of the main finding and conclusion. The heading "Introduction" should be used.

Experimental procedures

Procedures used in the research should be described in sufficient detail to permit the replication of the work by others. Previously published procedures should be referenced and briefly summarized. The source of all materials, including animals and human tissue, must be provided. The location of each supplier should be detailed on first use in the text. The author(s) also agree(s) to make freely available to colleagues in academic research any clones of cells, nucleic acids, antibodies, etc. that were used in the research reported and that are not available from commercial suppliers. Authors must clearly describe all manipulations made to digital data that were collected as images, and images which have been scanned and printed for publication.

Results

This section presents findings without discussion of their significance. Subsections should be used in order to present results in an organized fashion.
Discussion
This section presents the authors' interpretations of their findings and an assessment of their significance in relation to previous work. Avoid repetition of material presented in the Results section. The Results and Discussion sections may not be combined. We recommend that the final paragraph of the Discussion provides a synopsis of the main results and interpretation without a separate heading. We no longer have a separate Conclusions section.

Glossary
Please supply, as a separate list, the definitions of field-specific terms used in your article.

Appendices
Material appearing in Appendices should augment the main manuscript narrative, by providing details otherwise not readily amenable to include in the main narrative. Examples of material that could appear in an Appendix include, but are not limited to: mathematical derivations; results of genetic screens; and lengthy reports of neuroimaging results. If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc. Appendices should not be used to extend the main narrative similar to the Supplementary Information sections permitted by other journals. Any data essential to support conclusions should be included in figures, tables, and within the main manuscript narrative.

Essential title page information
- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
- **Author names and affiliations.** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lower-case superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.
- **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.
- **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

Abstract
A concise and factual abstract is required. The abstract should state briefly in a single paragraph (in <250 words) the purpose of the research and the principal results obtained. The abstract should conclude with a final statement summarizing the major conclusions in such a way that the implications of the work to the field would be clear to a general neuroscience reader. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

Graphical abstract
Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online article. The graphical abstract should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. You can view Example Graphical Abstracts on our information site. Authors can make use of Elsevier's Illustration Services to ensure the best presentation of their images and in accordance with all technical requirements.
**Highlights**

Highlights are mandatory for this journal. They consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 125 characters, including spaces, per bullet point). These could be used for dissemination of article findings in social networks. See [http://www.elsevier.com/highlights](http://www.elsevier.com/highlights) for examples.

**Keywords**

Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes. Please avoid using words already appearing in the article's title as keywords.

**Abbreviations**

The excessive use of abbreviations in the text is strongly discouraged. In order to aid communication between scientists of different disciplines, authors should only use abbreviations sparingly and should always define the abbreviation when first used in the text by placing it in parentheses after the full term, e.g. acetylcholinesterase (AChE). The abbreviations should then be used consistently thereafter and appear at least twice in the text. A comprehensive list of the abbreviations used should be put on a separate page that follows the title page.

**Acknowledgements**

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.). It is the corresponding author's responsibility to insure that individuals who are acknowledged for assistance or for providing comments on the manuscript are agreeable to being acknowledged in this way. At the end, briefly indicate how each author contributed to the work.

**Formatting of funding sources**

List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzz]; and the United States Institutes of Peace [grant number aaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, please include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

**Units**

Follow internationally accepted rules and conventions: use the international system of units (SI). If other units are mentioned, please give their equivalent in SI.

**Nomenclature and units**

Follow internationally accepted rules and conventions: use the international system of units (SI). If other quantities are mentioned, give their equivalent in SI. You are urged to consult IUGS: Nomenclature for geological time scales/rock names: [http://www.iugs.org/](http://www.iugs.org/) for further information.

Symbols for physical units should be restricted to the Systems Internationale (S.I.) Units. Drug names should be the official or approved names; trade names or common names may be given in brackets where the drug is first mentioned. The manufacturer's name must be given. The doses of the drugs should be given as unit weight/unit body weight, e.g. mmol/kg or mg/kg.

**Artwork**
**Electronic artwork**

- Figures should be the smallest size that will convey the essential scientific information. Three standard widths are used for figures: 1 column, 82 mm; 1.5 column, 120 mm; and 2 column, 174 mm. The maximum height is 235 mm. Please keep these widths in mind at the time of composing figures. Different panels should be labeled with capital letters, and the same font (Helvetica or Arial) should be used for any text; ensure that the font size will be readily readable in a published article, never using a font smaller than 7 point. Please avoid excessive spacing between histogram bars and between figure panels. All figure components must appear within a single page; thus, no bigger than a 174 mm width and a 235 mm height.
  - Number the illustrations according to their sequence in the text.
  - Use a logical naming convention for your artwork files.
  - Figure captions for illustrations should be supplied separately.
  - Produce images near to the desired size of the printed version.
  - Submit each figure as a separate file.

A detailed guide on electronic artwork is available on the Elsevier website at the following URL: [http://www.elsevier.com/artworkinstructions](http://www.elsevier.com/artworkinstructions)

**You are urged to visit this site; some excerpts from the detailed information are given here.**

**Formats**

Regardless of the application used, when your electronic artwork is finalised for publication, the Production Team prefers to have files in one of two formats: EPS or TIFF.

- **EPS**: Use EPS format for figures that contain quantitative only plots and/or physiological traces or for figures that contain a mixture of quantitative plots and/or traces and color or grayscale photographs. The photographs should have an initial minimal resolution of 500 dpi before conversion to EPS format. Use TIFF format for color or grayscale photographs (halftones), always with a minimum resolution of 300 dpi.
  
  Other formats are acceptable, such as DOC, XLS or PPT, but are not preferred since the resolution may not suffice for production.
  - Do not supply embedded graphics in your wordprocessor (spreadsheet, presentation) document;
  - Do not supply files that are optimised for screen use (like GIF, BMP, PICT, WPG); the resolution is too low for print.

We encourage color artwork, which will appear in the on-line version at no additional charge, regardless of whether or not these illustrations are reproduced in color in the printed version. **For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article. Please indicate your preference for color: in print or online only.**

Further information on the preparation of electronic artwork.

**Color artwork**

Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF), or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) regardless of whether or not these illustrations are reproduced in color in the printed version. **For color reproduction in print, you will receive information regarding the costs from Elsevier after receipt of your accepted article. Please indicate your preference for color: in print or online only.** Further information on the preparation of electronic artwork.

**Cover art**

Illustrations to be considered for the cover should be related to the authors' submitted article and be representative of their data, but need not necessarily be as they appear in the manuscript. Cover art should be formatted to occupy the entire 8.5 X 11 inch cover and should be submitted in digital format (TIFF, Photoshop, JPEG or Powerpoint) with a resolution of at least 300 dpi. Please also include a descriptive text with your cover art submission. The files should be uploaded to a specified FTP site. Please contact the Editorial Office at neuroscience@journal-office.com for instructions.

**Figure captions**

Ensure that each illustration has a caption. Supply captions separately, not attached to the figure. A caption should comprise a brief title (**not** on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.
Text graphics
Text graphics may be embedded in the text at the appropriate position. See further under Electronic artwork.

Tables
Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

References
The reference list should be included at the end of the main text. A paper which has been accepted for publication but which has not appeared may be cited in the reference list with the abbreviated name of the journal followed by the words “in press”. See Reference Style below.

Citation in text
Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Personal Communications may be used only when written authorization from the communicator is submitted with the original manuscript; they may be mentioned only in the text and in the following form: (G.H. Orwell, Department of Psychiatry, University of Washington, personal communication). Unpublished or submitted experiments by one of the authors may be mentioned only in the text, not in the References. Initials, as well as surnames, must be given for authors whose unpublished experiments are quoted: (M.L. King, unpublished observations).

Web references
As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

Data references
This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

Reference to arXiv
As with unpublished results and personal communications, references to arXiv documents are not recommended in the reference list. Please make every effort to obtain the full reference of the published version of an arXiv document. If a reference to an arXiv document must be included in the references list it should follow the standard reference style of the journal and should include a substitution of the volume and page numbers with 'arXiv:YYMM.NNNN' or 'arXiv:archive/YYMMNNN' for articles submitted to arXiv before April 2007.

References in a special issue
Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

Reference management software
Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support Citation Style Language styles, such as Mendeley and Zotero, as well as EndNote. Authors should not fully rely on these services to have the most updated reference style used by Neuroscience; a new, correct, style may have to be created. Using the word processor plug-ins from these products, authors only need to select
the appropriate journal template when preparing their article, after which citations and bibliographies will be automatically formatted in the journal's style. If no template is yet available for this journal, please follow the format of the sample references and citations as shown in this Guide.

Users of Mendeley Desktop can easily install the reference style for this journal by clicking the following link:
http://open.mendeley.com/use-citation-style/neuroscience
When preparing your manuscript, you will then be able to select this style using the Mendeley plugins for Microsoft Word or LibreOffice.

Reference style
In the text, references should be quoted as the name of the first author and year in chronological order. Multiple authors are indicated by "et al.", except when there are only two authors, in which case both names are written. For example, The pattern of the pathology instead represents a synaptically connected network of neurons (Braak and Braak, 1991; Morris, 1997). This hypothesis was recently proposed by Nagy et al. (1997).

The reference list should be on a separate page at the end of the manuscript, in alphabetical order and arranged as follows: authors' names and initials, year, title of the article, abbreviated title of the journal, volume, first and last page numbers. Articles having more than eight (8) authors should use "et al." after listing the first eight authors. Journal titles should be abbreviated according to the rules adopted in the fourth edition of the World List of Scientific Periodicals (Butterworths, 1965). Note that first and last pages are given in full. For example, Nagy ZA, Esiri MM, Cato A-M, Smith AD (1997) Cell cycle markers in the hippocampus in Alzheimer's disease. Acta Neuropath 94:6-15.

References to books should include the authors' names and initials, year, title of book, volume, publisher, place of publication and page numbers. Where relevant, the title of a paper within a book, and the editor's name(s) should be given. For example, Morris JH (1997) Alzheimer’s disease. In: The neuropathology of dementia, vol. 2 (Esiri MM, Morris JH, eds), pp 70-121. Cambridge: Cambridge University Press.

Journal abbreviations source
Journal names should be abbreviated according to the List of Title Word Abbreviations.

Video
Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include links to these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the file in one of our recommended file formats with a preferred maximum size of 150 MB per file, 1 GB in total. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect. Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages. Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

AudioSlides
The journal encourages authors to create an AudioSlides presentation with their published article. AudioSlides are brief, webinar-style presentations that are shown next to the online article on ScienceDirect. This gives authors the opportunity to summarize their research in their own words and to help readers understand what the paper is about. More information and examples are available. Authors of this journal will automatically receive an invitation e-mail to create an AudioSlides presentation after acceptance of their paper.

Data visualization
Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions here to find out about available data visualization options and how to include them with your article.
**Supplementary data**

Neuroscience discourages the use of electronic supplementary material unless strictly necessary to enhance your scientific research. Neuroscience accepts electronic supplementary sound clips, videos, and other formats that cannot be embedded in standard PDF files. Appendices providing supplementary information to the main article are also acceptable. Supplementary files supplied will be published online alongside the electronic version of your article in Elsevier Web products, including ScienceDirect: [www.sciencedirect.com](http://www.sciencedirect.com). In order to ensure that your submitted material is directly usable, please provide the data in one of our recommended file formats. Authors should submit the material in electronic format together with the article and supply a concise and descriptive caption for each file. For more detailed instructions please visit our artwork instruction pages at [www.elsevier.com/artworkinstructions](http://www.elsevier.com/artworkinstructions).

*For Neuroscience, authors are allowed to post supplementary material for review, but for publication supplementary material will be restricted to formats that cannot be published in the standard form of a PDF, such as sound clips and movies.*

**Research data**

This journal encourages and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal also encourages you to share your software, code, models, algorithms, protocols, methods and other useful materials related to the project.

Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. If you are sharing data in one of these ways, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the [research data page](http://www.elsevier.com/artworkinstructions).

**Data linking**

If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that gives them a better understanding of the research described.

There are different ways to link your datasets to your article. When available, you can directly link your dataset to your article by providing the relevant information in the submission system. For more information, visit the [database linking page](http://www.elsevier.com/artworkinstructions).

For supported data repositories a repository banner will automatically appear next to your published article on ScienceDirect.

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).

**Mendeley Data**

This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. Before submitting your article, you can deposit the relevant datasets to [Mendeley Data](http://www.elsevier.com/artworkinstructions). Please include the DOI of the deposited dataset(s) in your main manuscript file. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the [Mendeley Data for journals page](http://www.elsevier.com/artworkinstructions).

**Data statement**

To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the [Data Statement page](http://www.elsevier.com/artworkinstructions).
Submission checklist
It is hoped that this list will be useful during the final checking of an article prior to sending it to the journal's Editor for review. Please consult this Guide for Authors for further details of any item.

Ensure that the following items are present:
One Author designated as corresponding Author:
• E-mail address
• Full postal address
• Telephone and fax numbers
All necessary files have been uploaded
• Keywords
• All figure captions
• All tables (including title, description, footnotes)
Further considerations
• Manuscript has been "spellchecked" and "grammar-checked"
• References are in the correct format for this journal
• All references mentioned in the Reference list are cited in the text, and vice versa
• Cover letter includes your agreement to the ethical standards: "I have read and have abided by the statement of ethical standards for manuscripts submitted to Neuroscience," as well as the other statement that all authors have approved the final article.
• Permission has been obtained for use of copyrighted material from other sources (including the Web)
• Color figures are clearly marked as being intended for color reproduction on the Web (free of charge) and in print or to be reproduced in color on the Web (free of charge) and in black-and-white in print
• If only color on the Web is required, black and white versions of the figures are also supplied for printing purposes
For any further information please visit our customer support site at service.elsevier.com.

See also the IBRO Website http://www.ibro.org

AFTER ACCEPTANCE

Online proof correction
Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors.
If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.
We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

Offprints
The corresponding author will, at no cost, receive 25 free paper offprints, or alternatively a customized Share Link providing 50 days free access to the final published version of the article on ScienceDirect. The Share Link can be used for sharing the article via any communication channel, including email and social media. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Both corresponding and co-authors may order offprints at any time via Elsevier's Websshop. Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.
See also the IBRO Website www.ibro.org

AUTHOR INQUIRIES
Visit the Elsevier Support Center to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch.
You can also check the status of your submitted article or find out when your accepted article will be published.