DESCRIPTION

*Neuroscience Research* is an international journal for high quality articles in all branches of neuroscience, from the molecular to the behavioral levels. The journal is published in collaboration with the Japan Neuroscience Society and is open to all contributors in the world.

AUDIENCE

Neuroscientists, neurologists

IMPACT FACTOR

2018: 2.071 © Clarivate Analytics Journal Citation Reports 2019

ABSTRACTING AND INDEXING

Cambridge Scientific Abstracts  
Chemical Abstracts  
Current Contents - Life Sciences  
Embase  
PubMed/Medline  
PsycINFO  
BIOSIS Citation Index  
Reference Update  
Elsevier BIOBASE  
Scopus

EDITORIAL BOARD

*Editor-in-Chief*  
Hiroyuki Kamiguchi, RIKEN Center for Brain Science, Japan  
*Deputy Editor-in-Chief*  
Shigeru Kitazawa, Osaka University, Japan
Founding Editor
Masao Ito †, RIKEN Brain Science Institute, Japan

Advisory Board
Fred H. Gage, The Salk Institute for Biological Studies, California, USA
Okihide Hikosaka, National Eye Institute, USA
Atsushi Iriki, RIKEN Center for Biosystems Dynamics Research, Japan
Tadashi Isa, Kyoto University, Japan
Carol Ann Mason, Columbia University, USA
Mu-Ming Poo, Chinese Academy of Sciences (CAS), China
Wolfram Schultz, University of Cambridge, UK

Molecular Neuroscience
Section Editor
Toshihisa Ohtsuka, University of Yamanashi, Japan

Associate Editors
Toshiyuki Araki, National Center of Neurology & Psychiatry, Japan
Marta E. Hallak, Universidad Nacional de Córdoba, Argentina
Toshiya Manabe, The University of Tokyo, Japan
Ikue Mori, Nagoya University, Japan
Kohtaro Takei, Yokohama City University, Japan
Ayako M. Watabe, Jikei University School of Medicine, Japan
Ryohei Yasuda, Max Planck Florida Institute for Neuroscience, USA

Cellular Neuroscience
Section Editor
Haruhiko Bito, The University of Tokyo, Japan

Associate Editors
Masayuki Miura, The University of Tokyo, Japan
Kinichi Nakashima, Kyushu University, Japan
Erin M. Schuman, Max Planck Institute for Brain Research, Germany
Tatsunori Seki, Tokyo Medical University, Japan
Esther Stoeckli, University of Zurich, Switzerland
Yumiko Yoshimura, National Institute for Physiological Sciences, Japan
Michisuke Yuzaki, Keio University, Japan

Development / Repair Neuroscience
Section Editor
Mineko Kengaku, Kyoto University, Japan

Associate Editors
Gordon J. Fishell, NYU Neuroscience Institute, USA
Zhigang He, Harvard Medical School, USA
Takuji Iwasato, National Institute of Genetics, Japan
Kazunori Nakajima, Keio University, Japan
Kazunobu Sawamoto, Nagoya City University, Japan
Nobuhiko Yamamoto, Osaka University, Japan
Toshihide Yamashita, Osaka University, Japan

Sensory and Motor Systems
Section Editor
Shigeru Kitazawa, Osaka University, Japan

Associate Editors
Ichiro Fujita, Osaka University, Japan
Hiroaki Gomi, NTT Communication Science Laboratories, Japan
Maria Concetta Morrone, University of Pisa, Italy
Yukari Ohki, Kyorin University School of Medicine, Japan
Yves Rossetti, Lyon Neuroscience Research Centre, France
Reza Shadmehr, Johns Hopkins University, USA
Kaoru Takakusaki, Asahikawa Medical University, Japan
Masaki Tanaka, Hokkaido University, Japan
Cognition and Behavior

Section Editor
Masamichi Sakagami, Tamagawa University, Japan

Associate Editors
Bernard Balleine, University of New South Wales, Australia
Michael J. Frank, Brown University, USA
Masahiko Haruno, National Institute of Information and Communications Technology, Japan
Yuji Ikegaya, The University of Tokyo, Japan
Kae Nakamura, Kansai Medical University, Japan
Mathias Pessiglione, Institut du Cerveau et de la Moelle épinière, France
Geoffrey Schoenbaum, National Institute on Drug Abuse, USA
Saori Tanaka, ATR Brain Information Communication Research Laboratory Group, Japan
Ken-Ichiro Tsutsui, Tohoku University, Japan

Neurochemistry

Section Editor
Takefumi Kikusui, Azabu University, Japan

Associate Editors
Carlos F. Ibanez, National University of Singapore, Singapore
Takanori Ida, University of Miyazaki, Japan
Junichi Nabekura, National Institute for Physiological Sciences, Japan
Vijayalakshmi Ravindranath, Indian Institute of Science, India
Tomoaki Shirao, Gunma University, Japan
Chihiro Tohda, University of Toyama, Japan
Keiji Wada, National Center of Neurology & Psychiatry, Japan

Neuroscience of Disease

Section Editors
Tadafumi Kato, RIKEN Center for Brain Science, Japan
Koji Yamanaka, Nagoya University, Japan

Associate Editors
Nobutaka Hattori, Juntendo University, Japan
Akiko Hayashi-Takagi, Gunma University, Japan
Eujoon Kim, Korea Advanced Institute of Science and Technology, South Korea
Makoto Michikawa, Nagoya City University, Japan
Yoshitaka Nagai, Osaka University, Japan
Akira Sawa, Johns Hopkins University, USA
Hidehiko Takahashi, Kyoto University, Japan
Hideyuki Takeuchi, Yokohama City University, Japan
Taisuke Tomita, The University of Tokyo, Japan
Takeo Yoshikawa, RIKEN Center for Brain Science, Japan
GUIDE FOR AUTHORS

INTRODUCTION

*Neuroscience Research* publishes experimental studies of nerve cells or nervous systems, including a broad range of approaches from the molecular to the behavioral. Theoretical studies are acceptable if they are relevant for interpretation of experimental data or elucidate principles of general interest. Papers dealing with studies on humans with relevance to neurological and psychiatric disorders are welcome, but case reports are not included in the scope of this journal. Papers should present new, important observations or interpretations that can be of general interest to various areas of neuroscientists.

**Types of paper**

(a) **Research Papers** reporting original results of research within the field of neuroscience, usually 3000-5000 words, except References section. The number of words is only as a guideline.

(b) **Short Communications** reporting on research which has progressed to the stage when it is considered necessary that the results be rapidly made known to other workers in the field. Priority for rapid publication will be given to this category of paper at all stages. The maximum length is 2000 words, with a summary of maximum 100 words. Short Communications should contain no section headings, a maximum of 4 figures and a maximum of 30 references.

(c) **Technical notes** are technical reports of, as a guideline, a maximum of 2000 words.

(d) **Letters to the Editors** should be comments and clarifications on articles that have been published in Neuroscience Research, and should be limited to a maximum of 1000 words.

(e) **Review Articles** should give a survey, evaluation and critical interpretation of recent research, data and concepts in the fields covered by the journal. We discourage the submission of non-commissioned articles but welcome proposals. Please see "Presubmission inquiry" section below.

(f) **Update Articles** are brief personal commentaries, hypotheses, viewpoints and spotlight reviews. Their aim is to give an update on rapid progress in the field of neuroscience. We discourage the submission of non-commissioned articles but welcome proposals. Please see "Presubmission inquiry" section below.

(g) **Perspectives** are commissioned articles that provide novel opinions or hypotheses on important questions in neuroscience. We discourage the submission of non-commissioned articles but welcome proposals. Please see "Presubmission inquiry" section below.

**Presubmission inquiry** should be sent by email to Editor-in-Chief (editnsr@jnss.org) prior to any formal submission of Review Article, Update Article, or Perspective. Please provide the following: 1) A summary (200-300 words) of your proposed article, explaining why it is timely and important to discuss that research topic. 2) A list of up to 20 key references published recently, including your original work.

**Submission Checklist**

You can use this list to carry out a final check of your submission before you send it to the journal for review. Please check the relevant section in this Guide for Authors for more details.

**Ensure that the following items are present:**

One author has been designated as the corresponding author with contact details:

- E-mail address
- Full postal address

All necessary files have been uploaded:

- **Cover letter**
- **Highlights**
- **Graphical Abstracts** (optional)
- **Manuscript**:
  - Include a title page, an abstract, keywords, and figure captions
All figures and tables (including titles, description, footnotes):
• Ensure all figure and table citations in the text match the files provided
• Indicate clearly if color should be used for any figures in print Supplemental files (where applicable)

Further considerations
• Manuscript has been 'spell checked' and 'grammar checked'
• All references mentioned in the Reference List are cited in the text, and vice versa
• Permission has been obtained for use of copyrighted material from other sources (including the Internet)
• A competing interests statement is provided, even if the authors have no competing interests to declare
• Journal policies detailed in this guide have been reviewed
• Referee suggestions and contact details provided, based on journal requirements

For further information, visit our Support Center.

BEFORE YOU BEGIN

Ethics in Publishing
All submissions are assumed to follow the ethical guidelines of the Japan Neuroscience Society:
For information on Ethics in Publishing and Ethical guidelines for journal publication see http://www.jnss.org/en/guideline/rinri/
http://www.jnss.org/en/guideline/animal_guidelines/
and those of Elsevier:https://www.elsevier.com/publishingethics and https://www.elsevier.com/ethicalguidelines

All submissions to Neuroscience Research 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 Research.” 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 competing interests include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors must disclose any interests in two places: 1. A summary declaration of interest statement in the title page file (if double-blind) or the manuscript file (if single-blind). 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.

All manuscripts should be accompanied by a clear statement that the work has not been published elsewhere and is not under review with another journal.

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, a published lecture or academic thesis, see 'Multiple, redundant or concurrent publication' 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, your article may be checked by the originality detection service Crossref Similarity Check.

Use of inclusive language
Inclusive language acknowledges diversity, conveys respect to all people, is sensitive to differences, and promotes equal opportunities. Articles should make no assumptions about the beliefs or commitments of any reader, should contain nothing which might imply that one individual is superior to another on the grounds of race, sex, culture or any other characteristic, and should use inclusive language throughout. Authors should ensure that writing is free from bias, for instance by using 'he or she', 'his/her' instead of 'he' or 'his', and by making use of job titles that are free of stereotyping (e.g. 'chairperson' instead of 'chairman' and 'flight attendant' instead of 'stewardess').

Contributors
When there is more than one author, a clear statement should be made in the cover letter that all co-authors have agreed to the submission of the final manuscript. Each author is required to declare his or her individual contribution to the article: all authors must have materially participated in the research and/or article preparation, so roles for all authors should be described. The statement that all authors have approved the final article should be true and included in the disclosure.

Addition, deletion, or rearrangement of author names in the authorship of accepted manuscripts
Before the accepted manuscript is published in an online issue Requests to add or remove an author, or to rearrange the author names, must be sent to the Journal Manager from the corresponding author of the accepted manuscript and must include: The reason the name should be added or removed or the author names rearranged. Written confirmation (email, fax, 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.

Requests that are not sent by the corresponding author will be forwarded by the Journal Manager to the corresponding author, who must follow the procedure as described above. Note that: Journal Managers will inform the Journal Editors of any such requests. Publication of the accepted manuscript in an online issue is suspended until authorship has been agreed.

After the accepted manuscript is published in an online issue
Any requests to add, delete, or rearrange author names in an article published in an online issue will follow the same policies as noted above and result in a corrigendum.

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.

Copyright
It is a condition of publication in the Journal that authors assign copyright to the Japan Neuroscience Society and the Publisher. Requests from third parties to reproduce articles are handled by the Publisher on behalf of itself and the Japan Neuroscience Society to make the procedures simpler. In assigning copyright, authors may use their own material in other publications provided that the Journal is acknowledged as the original place of publication, and Elsevier is notified in writing and in advance.

Upon acceptance of an article, authors will be asked to complete a ‘Journal Publishing Agreement’ (see more information on this). Acceptance of the agreement will ensure the widest possible dissemination of information. 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. The original source must be indicated in the legend of the illustration in these cases.

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 2450**, 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 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 Author Services.

**Submission**
Since submission and peer-review can now be handled entirely over the web. The system automatically converts source files to a single PDF file of the article, which is used in the peer-review process. Please note that even though manuscript source files are converted to a PDF file at submission for the review process, these source files are needed for further processing after acceptance. All correspondence, including notification of the Editor's decision and requests for revision, takes place by e-mail, removing the need for a paper trail.

Before submitting, it is essential for authors to refer to the Elsevier Artwork guidelines: Click on the link Guide to Publishing with Elsevier

**Once electronic manuscripts are ready to submit, go to:**
[https://www.evise.com/profile/#/NSR/login](https://www.evise.com/profile/#/NSR/login)

Then,

Select the 'log in' link at the top of the page. Enter your user name and password to log in. (If you have not registered yet, click 'Not yet registered?'. Enter your first name, last name and e-mail address, then click 'Submit'. You will receive your user name and password by e-mail.) After entering your user name and password, click 'Author Login' Select 'Submit New Manuscript' in 'Author Main Menu'. Follow prompts online. Please note that the figures and tables should be submitted as separate items, not being included in manuscripts. At each stage of the submission process, it is possible to go back a step, save the submission to continue later or remove/change any information already entered. After all items are attached, click 'Build PDF for my approval'. The submission tool will generate a PDF file to be used for the reviewing process. You will receive an e-mail which notes that your PDF has been
built. You have to approve the PDF to complete your submission. Then you will receive confirmation of your submission, and further progress of your paper at every stage of its review period thereafter, via e-mail.

For more details on the electronic submission system, please refer to the 'Tutorial for Authors' which is available for download from https://www.elsevier.com/journals/neuroscience-research/0168-0102/guide-for-authors

Referees
To help ensure that papers are reviewed by the most suitable referees, authors must provide a list of five candidate referees (including names, addresses, fax and e-mail) who do not have conflict of interest in the research being submitted. The Editors reserve the right to choose different referees from the ones suggested.

Additional information
Associate Editors and Section Editors will pre-review manuscripts and, in consultation with the Editor-in-Chief, reserve the right to return a manuscript to the author(s) without further review.

PREPARATION

Peer review
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, in English, must be in double-spaced typing on pages of uniform size (preferably A4 or 8.5 x 11”).

Subdivision
As a rule, papers should be divided into sections headed by a caption, e.g., Introduction, Materials and Methods, Results, Discussion, References.

Introduction
State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

Materials and methods
Provide sufficient details to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If quoting directly from a previously published method, use quotation marks and also cite the source. Any modifications to existing methods should also be described.

Results
Results should be clear and concise.

Discussion
This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.
Conclusions
The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

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

Appendices
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.

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.

The total number of pages, figures and tables being submitted should also be indicated on this page.

Highlights
Highlights are mandatory for this journal as they help increase the discoverability of your article via search engines. They consist of a short collection of bullet points that capture the novel results of your research as well as new methods that were used during the study (if any). Please have a look at the examples here: example Highlights.

Highlights should be submitted in a separate editable file in the online submission system. Please use ‘Highlights’ in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point).

Abstract
A concise and factual abstract is required. The abstract should state in less than 200 words (100 words in the case of Short Communications and Technical Notes) the purpose of the research, the principal results and major conclusions and should be written as a single paragraph without section headings. 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.
Keywords
Immediately after the abstract, provide a maximum of 6-8 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, "and", "of"). They may be words or phrases that do not appear in the title. Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Abbreviations
Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

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.).

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 IUPAC: Nomenclature of Organic Chemistry for further information.

Artwork
There is no limit set on the number of illustrations, but authors should use them sparingly, making sure that each figure is relevant to the text and that the figures are presented in the order in which they are mentioned in the text. Legends for figures must be typed, also with double spacing, on separate pages.

Cover illustration: The authors may suggest the Editor-in-Chief to use a color figure for the cover of the journal, although there is no guarantee that it will be selected. The figure should have a short legend to the Editor-in-Chief, indicating to which paper the photograph belongs. It need not necessarily appear in the paper but can be related to it.

Electronic artwork
General points
• Make sure you use uniform lettering and sizing of your original artwork.
• Embed the used fonts if the application provides that option.
• Aim to use the following fonts in your illustrations: Arial, Courier, Times New Roman, Symbol, or use fonts that look similar.
• Number the illustrations according to their sequence in the text.
• Use a logical naming convention for your artwork files.
• Provide captions to illustrations separately.
• Size the illustrations close to the desired dimensions of the published version.
• Submit each illustration as a separate file.
• Ensure that color images are accessible to all, including those with impaired color vision.
A detailed guide on electronic artwork is available.

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

 Formats
If your electronic artwork is created in a Microsoft Office application (Word, PowerPoint, Excel) then please supply 'as is' in the native document format.
Regardless of the application used other than Microsoft Office, when your electronic artwork is finalized, please 'Save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):
EPS (or PDF): Vector drawings, embed all used fonts.
TIFF (or JPEG): Color or grayscale photographs (halftones), keep to a minimum of 300 dpi.
TIFF (or JPEG): Bitmapped (pure black & white pixels) line drawings, keep to a minimum of 1000 dpi.
TIFF (or JPEG): Combinations bitmapped line/half-tone (color or grayscale), keep to a minimum of 500 dpi.

Please do not:
• Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); these typically have a low number of pixels and limited set of colors;
• Supply files that are too low in resolution;
• Submit graphics that are disproportionally large for the content.

 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.

 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.

 Tables
Tables must be typed (with double spacing) on separate pages, and should be provided with a short descriptive heading and, if applicable, a legend.

Number tables consecutively in accordance with their appearance in the text. Place footnotes to tables below the table body and indicate them with superscript lowercase letters. Avoid vertical rules. Be sparing in the use of tables and ensure that the data presented in tables do not duplicate results described elsewhere in the article.

 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.

 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


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 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. Using citation 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. If you use reference management software, please ensure that you remove all field codes before submitting the electronic manuscript. More information on how to remove field codes from different reference management software.

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-research

When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice.

Reference style

Citations in the text should be by author(s) and year in chronological not alphabetical order. When papers written by three or more authors are cited in the text, the abbreviation 'et al.' should be used following the name of the leading author. Citations of two or more articles by the same author(s) in the same year should be distinguished by 'a,b,c' etc. after the year.

Examples: (Starr et al., 1991) (Kowler, 1990; Kolb, 1990)

All references cited in the text must be listed at the end of the paper in double spaced typing and arranged in alphabetical order of first author's name (Harvard system). References must be complete, including initial(s) of author(s) cited, year of publication, title of paper referred to, journal, volume, and page numbers. Journal titles should be abbreviated according to Index Medicus, List of Journals Indexed, Latest edition. For citations of books the following uniform sequence should be maintained: author(s), year of publication, editor(s), complete title of book, publisher, place of publication, and page numbers (see examples given below). All references cited in the text must be in the reference list and vice versa. Manuscripts in preparation and submitted but not accepted as well as 'personal communications' should not appear in the reference list, but can be cited at the appropriate place in the text. This journal should be abbreviated as Neurosci. Res.

Examples:


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.

**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 material**

Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file. Do not annotate any corrections on a previous version. Please switch off the 'Track Changes' option in Microsoft Office files as these will appear in the published version.

**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.

**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.

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. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to Mendeley Data. 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.

Data in Brief
You have the option of converting any or all parts of your supplementary or additional raw data into one or multiple data articles, a new kind of article that houses and describes your data. Data articles ensure that your data is actively reviewed, curated, formatted, indexed, given a DOI and publicly available to all upon publication. You are encouraged to submit your article for Data in Brief as an additional item directly alongside the revised version of your manuscript. If your research article is accepted, your data article will automatically be transferred over to Data in Brief where it will be editorially reviewed and published in the open access data journal, Data in Brief. Please note an open access fee of 600 USD is payable for publication in Data in Brief. Full details can be found on the Data in Brief website. Please use this template to write your Data in Brief.

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.

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 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 Author Services. 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.

AUTHOR ENQUIRIES
Questions arising before acceptance of the manuscript should be directed to the Editor-in-Chief.

You can track accepted articles at https://www.elsevier.com/trackarticle and set up e-mail alerts to inform you of when an article's status has changed. Also accessible from here is information on copyright, frequently asked questions and more. Contact details for questions arising after acceptance of an article, especially those relating to proofs, will be provided by the publisher.