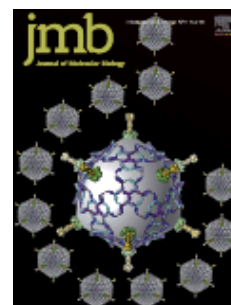




### TABLE OF CONTENTS

---

●	<b>Description</b>	<b>p.1</b>
●	<b>Audience</b>	<b>p.1</b>
●	<b>Impact Factor</b>	<b>p.1</b>
●	<b>Abstracting and Indexing</b>	<b>p.2</b>
●	<b>Editorial Board</b>	<b>p.2</b>
●	<b>Guide for Authors</b>	<b>p.5</b>



ISSN: 0022-2836

### DESCRIPTION

---

The *Journal of Molecular Biology* provides high quality, comprehensive and broad coverage in **all areas of molecular biology**. The journal publishes original scientific research papers that provide **mechanistic and functional insights** and report a significant advance to the field. The journal encourages the submission of multidisciplinary studies that use complementary experimental and computational approaches to address challenging biological questions.

Research areas include but are not limited to: Biomolecular interactions, signaling networks, systems biology Cell cycle, cell growth, cell differentiation Cell death, autophagy Cell signaling and regulation Chemical biology Computational biology, in combination with experimental studies DNA replication, repair, and recombination Development, regenerative biology, mechanistic and functional studies of stem cells Epigenetics, chromatin structure and function Gene expression Membrane processes, cell surface proteins and cell-cell interactions Methodological advances, both experimental and theoretical, including databases Microbiology, virology, and interactions with the host or environment Microbiota mechanistic and functional studies Nuclear organization Post-translational modifications, proteomics Processing and function of biologically important macromolecules and complexes Molecular basis of disease RNA processing, structure and functions of non-coding RNAs, transcription Sorting, spatiotemporal organization, trafficking Structural biology Synthetic biology Translation, protein folding, chaperones, protein degradation and quality control !!! [Important information for NIH authors !!!](#)

### AUDIENCE

---

Molecular biologists, biochemists, structural biochemists, geneticists, virologists and cell biologists.

### IMPACT FACTOR

---

2016: 4.632 © Thomson Reuters Journal Citation Reports 2017

## ABSTRACTING AND INDEXING

---

BIOSIS  
Biochemistry and Biophysics Citation Index  
Biological and Agricultural Index  
Biotechnology Citation Index  
Chemical Abstracts  
Immunology Abstracts  
MEDLINE®  
EMBASE  
FSTA (Food Science and Technology Abstracts)  
Genetics Abstracts  
Reference Update  
Research Alert  
SCISEARCH  
Science Citation Index  
Excerpta Medica  
Biological Abstracts  
Current Contents (Life Sciences, Clinical Medicine)  
Biostatistica  
Scopus  
EMBiology

## EDITORIAL BOARD

---

### ***Editor-in-Chief:***

**Peter Wright**, The Scripps Department of Molecular Biology, The Scripps Research Institute, 10550 N. Torrey Pines Road, La Jolla, CA 92037, U.S.A.

### ***Scientific Editor:***

**Miriam Bucheli**, Elsevier Inc., 50 Hampshire St, Cambridge, MA 02139, USA

**Hélène Hodak**, Elsevier Inc., 50 Hampshire St, Cambridge, MA 02139, USA

### ***Founding Editor:***

**Sir John Kendrew †**

### ***Consulting Editor:***

**Sydney Brenner**

### ***Associate Editors:***

**Sheena Radford**, University of Leeds, Leeds, UK

**Michael Sternberg**, Imperial College London, London, UK

**Michael Summers**, University of Maryland, Baltimore County (UMBC), Baltimore, Maryland, USA

**Moshe Yaniv**, Institut Pasteur, Paris, France

### ***Editorial Board Members:***

**James M. Berger**, University of California at Berkeley, Berkeley, California, USA

**Philip C. Bevilacqua**, Penn State University, University Park, Pennsylvania, USA

**James U. (Jim) Bowie**, University of California at Los Angeles (UCLA), Los Angeles, California, USA

**Johannes Buchner**, Technische Universität München, Garching, Germany

**Eric O. Freed**, National Cancer Institute (NCI), Frederick, Maryland, USA

**Judith Frydman**, Stanford University, Stanford, California, USA

**Mónika Fuxreiter**, University of Debrecen, Hungary

**Ruben L. Gonzalez**, Columbia University, New York, New York, USA

**Max Gottesman**, Columbia University, New York, New York, USA

**Patrick R. Griffin**, The Scripps Research Institute, Jupiter, Florida, USA

**Mitchell Guss**, The University of Sydney, Sydney, New South Wales, Australia

**Ian B. Holland**, Université Paris-Sud (Paris XI), Orsay, France

**Barry Honig**, Columbia University, New York, New York, USA

**Gerhard Hummer**, Max Planck Institut (MPI) für Biophysik, Frankfurt am Main, Germany

**James H. Hurley**, University of California at Berkeley, Berkeley, California, USA

**Urs Jenal**, Universität Basel, Basel, Switzerland

**John E. Johnson**, The Scripps Research Institute, La Jolla, California, USA

**Charalampos G. Kalodimos**, St. Jude Children's Research Hospital, Memphis, Tennessee, USA  
**Achillefs Kapanidis**, University of Oxford, Oxford, UK  
**Amy Keating**, Massachusetts Institute of Technology, Cambridge, Massachusetts, USA  
**Sepideh Khorasanizadeh**, Sanford-Burnham Medical Research Institute, Orlando, Florida, USA  
**Shohei Koide**, NYU Langone Medical Center, New York, New York, USA  
**Steve Kowalczykowski**, University of California, Davis, Davis, California, USA  
**Richard Kriwacki**, St. Jude Children's Research Hospital, Memphis, Tennessee, USA  
**Karolin Luger**, Colorado State University, Fort Collins, Colorado, USA  
**Anthony Maxwell**, John Innes Centre, Norwich, UK  
**Daniel L. Minor**, University of California San Francisco, San Francisco, California, USA  
**Eva Nogales**, University of California at Berkeley, Berkeley, California, USA  
**Anna Panchenko**, National Center for Biotechnology Information (NCBI), Bethesda, Maryland, USA  
**Bert Poolman**, Rijksuniversiteit Groningen, Haren, Netherlands  
**Anna M. Pyle**, Yale University, New Haven, Connecticut, USA  
**Georg E. Schulz**, Albert-Ludwigs-Universität Freiburg, Freiburg, Germany  
**James R. Sellers**, National Heart, Lung and Blood Institute (NHLBI), Bethesda, Maryland, USA  
**Louise Serpell**, University of Sussex, Brighton, UK  
**Konstantin Severinov**, Rutgers University, Piscataway, New Jersey, USA  
**Feng Shao**, National Institute of Biological Sciences, Beijing (NIBS), Beijing, China  
**Yigong Shi**, Tsinghua University, Beijing, China  
**Ichio Shimada**, University of Tokyo, Tokyo, Japan  
**Sachev Sidhu**, University of Toronto, Toronto, Ontario, Canada  
**Titia Sixma**, Nederlands Kanker Instituut (NKI), Amsterdam, Netherlands  
**Arne Skerra**, Technische Universität München, Freising-Weihenstephan, Germany  
**Thomas Smith**, The University of Texas Medical Branch at Galveston, Galveston, Texas, USA  
**Igor Stagljar**, University of Toronto, Toronto, Ontario, Canada  
**Kevin Struhl**, Harvard Medical School, Boston, Massachusetts, USA  
**Dylan J. Taatjes**, University of Colorado, Boulder, Colorado, USA  
**Daniel S. Tawfik**, Weizmann Institute of Science, Rehovot, Israel  
**Sarah A. Teichmann**, EMBL-European Bioinformatics Institute & Wellcome Trust Sanger Institute, Hinxton, Cambridge, UK  
**Ronald Wetzel**, University of Pittsburgh, Pittsburgh, Pennsylvania, USA  
**Sarah A. Woodson**, Johns Hopkins University, Baltimore, Maryland, USA  
**Nieng Yan**, Tsinghua University, Beijing, China  
**Mingjie Zhang**, Hong Kong University of Science and Technology, Kowloon, Hong Kong

**Guest Editors:**

**Mazhar Adli**, University of Virginia School of Medicine, Charlottesville, Virginia, USA  
**Emil Alexov**, Dept. of Physics and Astronomy, Clemson University, Clemson, South Carolina, USA  
**Michael Betenbaugh**, Dept. of Chemical Engineering, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA  
**Srinivasan Chandrasegaran**, Dept. of Environmental Health Sciences, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA  
**Ye-Guang Chen**, Dept. of Biological Sciences and Biotechnology, Tsinghua University, Beijing, China  
**Edward T. Chouchani**, Harvard Medical School, Boston, Massachusetts, USA  
**Ünal Coskun**, DZD-Paul Langerhans Institute, Dresden University of Technology, Dresden, Germany  
**Sarah Coulthurst**, Division of Molecular Microbiology of Life Sciences, University of Dundee, Dundee, Scotland, UK  
**Michelle Debatisse**, Institut Curie, Paris, France  
**David Draper**, Dept. of Chemistry, Johns Hopkins University, Baltimore, Maryland, USA  
**Karl Duderstadt**, Max Planck Institut (MPI) für Biochemie, Martinsried, Germany  
**Stuart J Edelman**, Dept. of Biochemistry, Université de Genève, Genève 4, Switzerland  
**Elena Ezhkova**, Mount Sinai School of Medicine, New York, USA  
**Rick Fishel**, College of Medicine, The Ohio State University, Columbus, Ohio, USA  
**Peter Fraser**, Nuclear Dynamics Programme, Babraham Institute, Cambridge, England, UK  
**Michael Gale (Jr.)**, Dept. of Immunology, University of Washington School of Medicine, Seattle, Washington, USA  
**Rachelle Gaudet**, Howard Hughes Medical Institute (HHMI), Cambridge, Massachusetts, USA  
**Dirk Görlich**, Dept. of Cellular Logistics, Max Planck Institut (MPI) für Biophysikalische Chemie, Göttingen, Germany  
**Gerald W. Hart**, Dept. of Biological Chemistry, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA  
**Stephen High**, Fac. of Life Sciences, University of Manchester, Manchester, England, UK  
**Françoise Jacob-Dubuisson**, Institut Pasteur de Lille, Center for Infection and Immunity, CNRS, INSERM, Lille, France  
**Jodie Jenkinson**, University of Toronto, Toronto, Ontario, Canada  
**Katrin Karbstein**, The Scripps Research Institute, La Jolla, California, USA

**Jonathan Karn**, Dept. Molecular Biology and Microbiology, Case Western Reserve University, Cleveland, Ohio, USA  
**Sharon Krag**, Dept. of Biochemistry, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA  
**Mark Liesa-Roig**, School of Medicine, Boston University, Boston, Massachusetts, USA  
**David Liu**, Dept. of Chemistry and Chemical Biology, Harvard University, Cambridge, Massachusetts, USA  
**Timothy Lu**, Massachusetts Institute of Technology, Dept. of Biological Engineering, Synthetic Biology Center, Cambridge, Massachusetts, USA  
**Prashant Mali**, University of California at San Diego (UCSD), San Diego, California, USA  
**Eric Martens**, Dept. of Microbiology and Immunology, University of Michigan Medical School, Ann Arbor, Michigan, USA  
**Andreas Martin**, University of California at Berkeley, Berkeley, California, USA  
**Gael McGill**, Harvard Medical School, Boston, Massachusetts, USA  
**Dejana Mokranjac**, Dept. of Physiological Chemistry, University of Munich, Munich, Germany  
**Walter Neupert**, Max Planck Institut (MPI) für Biochemie, Martinsried, Germany  
**Sean O'Donoghue**, Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO), Sydney, New South Wales, Australia  
**Lori Passmore**, Lab. of Molecular Biology (LMB), Medical Research Council (MRC), Cambridge, UK  
**Ardem Patapoutian**, Dept. of Cell Biology, The Scripps Research Institute, La Jolla, California, USA  
**Stanley Qi**, Stanford University, Stanford, California, USA  
**David Relman**, 154T, Veterans Administration Palo Alto Health Care System, Palo Alto, California, USA  
**Benoit Roux**, Inst. of Molecular Pediatric Sciences, Gordon Ctr. for Integrative Science, University of Chicago, Chicago, Illinois, USA  
**Julio Sampaio**, Max Planck Institute of Molecular Cell Biology and Genetics (MPI-CBG), Dresden, Germany  
**Karin Sauer**, Dept. of Biological Sciences, Binghamton University, Binghamton, New York, USA  
**Tamar Schlick**, Howard Hughes Medical Institute (HHMI), New York University, New York, New York, USA  
**Kai Simons**, Max Planck Institute of Molecular Cell Biology and Genetics (MPI-CBG), Dresden, Germany  
**Justin Sonnenburg**, Dept. of Microbiology and Immunology, Stanford University School of Medicine, Stanford, California, USA  
**Evi Soutoglou**, BP 10142, Institut de Génétique et de Biologie Moléculaire et Cellulaire (IGBMC), Illkirch, France  
**Christian Spahn**, Charité - Universitätsmedizin Berlin, Berlin, Germany  
**Nicola Stanley-Wall**, Division of Molecular Microbiology of Life Sciences, University of Dundee, Dundee, Scotland, UK  
**Aleksandra Trifunovic**, CECAD Research Center, Universität zu Köln, Cologne, Germany  
**Antoine van Oijen**, University of Wollongong, Wollongong, New South Wales, Australia  
**Jonathan Weissman**, University of California at San Francisco, Howard Hughes Medical Institute (HHMI), San Francisco, California, USA  
**Daniel Wilson**, Dept. of Chemistry, Universität Hamburg, Hamburg, Germany  
**Jie Xiao**, John Hopkins Medical Institute, Baltimore, Maryland, USA  
**Marat Yusupov**, Université de Strasbourg, Strasbourg, France

## GUIDE FOR AUTHORS

---

### INTRODUCTION

The *Journal of Molecular Biology* provides high quality, comprehensive and broad coverage in all areas of molecular biology. The journal publishes original scientific research papers that provide functional and mechanistic insights and report a significant advance to the field. The journal encourages the submission of multidisciplinary studies that use complementary experimental and computational approaches to address challenging biological questions.

In addition to research Communications and Articles, the journal welcomes submission of Methods Notes Databases/ Web Servers, Brevia, Perspectives and Reviews

Research areas include but are not limited to: DNA replication, repair and recombination, gene expression, epigenetics and chromatin structure and function, RNA processing, functions of non coding RNAs, transcription Structure, chemistry, processing and function of biologically important macromolecules and complexes Biomolecular interactions, systems biology Computational biology Translation, protein folding, processing and degradation Sorting, spatiotemporal organization, trafficking, signal transduction and intracellular signaling Membrane processes, cell surface proteins and cell-cell interactions Molecular basis of disease Methodological advances, both experimental and theoretical, including databases

The Journal will not, as a rule, publish papers which fall outside the areas defined above.

### **Editorial policy**

The *Journal* aims to publish novel and significant research in the general areas of molecular genetics and structural biology. Acceptance of papers for publication in the *Journal* is at the discretion of the Editors. All manuscripts are reviewed initially by the Editorial Board and only those papers that meet the scientific and editorial standards of the *Journal* will be sent for outside review. Authors should indicate a suitable Editor to whom the paper could be allocated. However, the *Journal* reserves the right to reallocate manuscripts to the most appropriate Editor.

In general, Editors will seek advice from two or more expert reviewers about the scientific content, biological significance, and clarity of presentation of papers. Authors are required to suggest the names, affiliations, and contact information for up to six individuals who could serve as referees and indicate their specific areas of scientific expertise. Suggested referees should be established scientists with expertise in the field of the paper. Members of the Editorial Board of JMB must not be suggested as referees as well as people who have a potential conflict of interest, such as recent collaborators, close colleagues at your academic institution, personal friends or family members. If a revision of the manuscript is required, authors will be provided with the comments of the reviewers and specific instructions from the Editor handling the manuscript.

Many acceptable papers require minor revision or condensation. It is in the mutual interest of both the authors and the journal that amended manuscripts are returned promptly. A paper requiring major revision will retain its original date of receipt only if it is received by the Editor within 60 days of the date of return to the author. Extensions to the 60 days limit may be granted at the discretion of the Editor. Papers requiring minor revision must be returned to the Editor within 30 days.

As soon as the paper has been reviewed, the corresponding author will receive a decision letter from the Editor. Revised manuscripts and correspondence concerning such manuscripts should be addressed to the Editor at the address indicated on the decision letter.

The *Journal of Molecular Biology* discourages authors from submitting multiple manuscripts on closely related topics. Submission of two or more related manuscripts intended for simultaneous publication will be permitted only under exceptional circumstances. Authors wishing to submit related manuscripts must obtain prior permission from the Editors.

The Board will editorially reject papers, without outside review, if in their opinion the paper falls outside the scope of papers normally published by JMB, if the paper lacks originality, or if the paper fails to meet expected technical standards. The following specific points are brought to the attention of authors:

(a) *Originality*. The Board will reject those papers that it considers to provide only slight or incremental advances over previously published material.

(b) *Methodology papers*. Papers that deal only with new methods and do not contain important new results discovered by means of these methods will be accepted only when the general applicability and interest of the method are immediately obvious and clearly documented in the manuscript. Improvements on existing methods will in general be viewed as appropriate to more specialized journals unless it can be shown that they lead to important new insights that were not accessible with current technologies.

(c) *Sequences*. Papers describing new members of a gene family will not ordinarily be accepted unless they contain results of particular importance for studies of evolution or of the function of the gene. In general, papers describing the cloning and sequencing of new genes will be acceptable only if there is experimental evidence for the function of the gene.

(d) *Structural studies*. Communications describing preliminary crystallographic data (crystallization conditions and diffraction pattern and space group) will not, in general, be accepted. Papers of this type will be considered only if, in the judgment of the Editorial Board, they contain results of exceptional interest and importance. Low-resolution structural studies will be acceptable only if they have clear biological implications and exhibit features of special interest. Papers describing structures of mutant proteins are appropriate if the mutations have been successfully designed to provide new insights into structural principles or biological function. Similar criteria apply to structures of proteins from variant species. In the particular case of unliganded antibody Fab fragments, papers would not normally be acceptable unless they provide novel structural or biological insight.

(e) *Modeled structures*. Papers describing modeled structures will in general be considered only if they provide novel and important biological insights. The reliability of the model must be clearly documented, including evidence that the expected accuracy level of the model is consistent with the application that is described. This could be based, for example, on the known success rate of the modeling procedure at specified levels of sequence identity, or the application of model validation procedures. Validation of the model through experimental tests is always desirable.

(f) *Theory and computer simulation*. Papers reporting theoretical studies should have direct applicability to experimental work in a field normally represented in papers published in JMB or should address issues of current interest to the broader biological community. As a general rule, all theory papers should deal directly with experimental data; the papers should provide predictions that are testable experimentally or provide an interpretation of experimental observations. Papers describing computer simulations are generally acceptable only if they provide new insights of high biological significance or lead to novel interpretations of experimental data. As is the case for modeled structures, evidence must be provided that the accuracy level of the method is consistent with the application that is described. This might involve, for example, control simulations on systems that have been well-characterized experimentally.

(g) *Database papers*. Papers describing biological or molecular databases will be considered if they report important new results discovered by means of that database, or if the database permits novel integration of biological information that will be of general applicability and lead to important new insights. The biological principles used in the construction of the database must be clearly documented in the paper.

(h) *Preprints*. Authors are required to disclose in their cover letter if their manuscript has been previously posted on a preprint server.

### **Sharing of reagents and data**

To allow others to build on work published in JMB, the Editors strongly encourage authors to share reagents (e.g., cloned DNAs; antibodies; bacterial, animal, or plant cells; viruses), data, algorithms, computer codes, and detailed scientific protocols with their colleagues in the scientific community. Authors are also encouraged to deposit as much of their data as possible in publicly accessible databases to facilitate the free exchange of scientific information.

### Sequence data

Papers dealing with amino acid sequences of proteins or with nucleotide sequences must carry a statement that the data have been deposited with an appropriate data bank, e.g., the European Molecular Biology Laboratory (EMBL) or GenBank Data Libraries. The data base accession number must be given at the end of the Materials and Methods section of the manuscript under the separate heading 'Accession numbers'. For example: Coordinates and structure factors have been deposited in the Protein Data Bank with accession number 2XYZ. Lengthy nucleotide sequences will be published only if, in the judgement of the Editorial Board, these results are of general interest and importance.

### Structural data

For papers describing structures of biological macromolecules, the atomic coordinates and the related experimental data (structure factor amplitudes/intensities and/or NMR restraints) must be deposited at a member site of the Worldwide Protein Data Bank (<http://www.wwpdb.org>): RCSB PDB (<http://www.pdb.org>), MSD-EBI (<http://www.ebi.ac.uk/pdbe/>), PDBj (<http://www.pdbj.org>), or BMRB (<http://www.bmrwisc.edu>). Manuscripts must carry a statement that coordinates and structure factors (or NMR restraints) have been deposited in the Protein Data Bank. The accession number(s) must be cited in the manuscript at the end of the Materials and Methods section. Authors must agree to release the atomic coordinates and experimental data immediately upon publication. Small angle scattering (Small angle X-ray and neutron scattering (SAXS and SANS)) data and structural models must be deposited at SASBDB (<https://www.sasbdb.org/>) prior to submission. The database accession numbers must be cited in the manuscript and authors must agree to release the experimental data and structural models immediately upon publication.

For papers reporting structures determined by electron microscopy, the 3D map must be deposited at either the EMBL-EBI or RCSB EMDB site (<http://www.emdatabank.org>). The fitted atomic coordinates must be deposited at a member site of the Worldwide Protein Databank (see links above). The database accession numbers must be cited in the manuscript and authors must agree to release the atomic coordinates and experimental data immediately upon publication.

It is increasingly common for coordinates to be deposited in the Protein Data Bank without an associated publication. Before submission to JMB, authors are expected to search the Protein Data Bank for related structures using one or more alignment programs and report the outcome. Prior deposition of related coordinates, without an associated publication, does not necessarily preclude publication in JMB. The primary criteria for publication of a structure in JMB are that it provides novel structural insights or important new functional and biological insights that are likely to be of general interest.

You can enrich your online articles by providing 3D molecular models (optional) in PDB, PSE or MOL/MOL2 format, which will be visualized using the interactive viewer embedded within the article. Using the viewer, it will be possible to zoom into the model, rotate and pan the model, and change display settings. Submitted models will also be available for downloading from your online article on ScienceDirect. Each molecular model will have to be uploaded to the online submission system separately, via the "3D molecular models" submission category. For more information see: [www.elsevier.com/3DMolecularModels](http://www.elsevier.com/3DMolecularModels).

### NMR assignments

NMR assignment data must be deposited in the BioMagResBank (BMRB; <http://www.bmrwisc.edu>). The accession number(s) must be cited in the manuscript at the end of the Materials and Methods section. Tables listing resonance assignments will not be published in the *Journal* but may be deposited as Supplemental data that will be actively linked to the online version of the paper. Supplemental data must be included with the manuscript submitted for review (see below for full instructions)

### Cell lines

In keeping with NIH guidelines, the Journal considers it to be good practice for cultured cell lines to be authenticated. A description of the methods used to authenticate cells should be included in the Materials and Methods section. Authors are expected to check that cell lines used in their experiments are free from mycoplasma infections.

### Types of paper

The *Journal of Molecular Biology* will publish full **Articles, Communications, Reviews, Perspectives, Brevia, Methods Notes, Databases/ Web Servers.**



**Articles** are not limited in length but the editors recommend that in most cases they should be no longer than 15 printed pages with no more than 10 figures and 4 tables. Note that 1 printed page is roughly equivalent to 2.5 pages in a Word document using double spacing and Arial Font 11.

**Communications** are brief papers that make a specific well-documented point. In general, a Communication should include no more than four figures and tables. The text will be continuous, with technical and methodological detail printed in the legend to the tables and figures.

**Reviews** are scholarly and balanced accounts of progress in fields of interest to the general reader. Reviews should be no longer than 12 printed pages and with no more than 12 figures and tables. Authorship is normally by invitation: an Editor should be consulted in advance by anyone wishing to submit an unsolicited Review.

**Perspectives** are brief reviews that present a sharply focused view of a rapidly advancing area of research. Authorship is normally by invitation: the Editor-in-Chief or Scientific Editor should be consulted in advance by anyone wishing to submit an unsolicited Perspective.

**Brevia** are brief notes that report a specific well-documented result. Brevia are limited to a single page, including references and captions, and contain only one figure or table. Details of methods must be provided as Supplemental Material.

**Methods Notes** report novel methods of immediate and general interest and applicability. Methods Notes are limited to 5 pages, including references and captions, with a maximum of 3 displayed items (figures or tables). Additional details required to implement the new method must be provided as Supplemental Material. Preliminary enquiries about the suitability of a submission to this section are encouraged.

**Databases** and **web servers** are descriptions of new or updated databases and web servers of broad interest to the general readership of the journal. The database/server must be freely available to the academic community. The journal has set some limits on the length of the database/server articles. The journal requires that database/server articles should have less than 5000 words including title, abstract, legends, acknowledgements and references, a maximum of 3 displayed items (figures or tables) that in total will occupy less than one and a half (1 1/2) printed pages, and less than 50 references. Additional details required to implement the new method must be provided as Supplemental Material. Normally, the title of the paper will start with the database/server name. If the requirement to start with a name is not appropriate, please consult with the journal. On submission, the authors must in their covering letter identify any previous publications reporting this (or a closely-related) database/server and explain why this paper presents a substantial advance. Related databases/servers must be reported and referenced in the article. Preliminary enquiries about the suitability of a submission to this section are encouraged.

### **Contact details for submission**

Please submit your manuscript for the Journal of Molecular Biology via the web site at <http://ees.elsevier.com/jmb>. If you are unable to provide an electronic version of your paper, please contact the Editorial Office prior to submission (email: [jmb@elsevier.com](mailto:jmb@elsevier.com)). All correspondence regarding manuscripts should be sent to [jmb@elsevier.com](mailto:jmb@elsevier.com).

At the time of submission, authors will be asked to choose one of the following subject areas to which their manuscript is best suited.

DNA replication, repair and recombination, gene expression, epigenetics and chromatin structure and function, RNA processing, functions of non coding RNAs, transcription Structure, chemistry, processing and function of biologically important macromolecules and complexes Biomolecular interactions, systems biology Computational biology Translation, protein folding, processing and degradation Sorting, spatiotemporal organization, trafficking, signal transduction and intracellular signalling Membrane processes, cell surface proteins and cell-cell interactions Methodological advances, both experimental and theoretical, including databases

Authors are encouraged to recommend an associate editor and one or more board members to handle their paper.



Authors are asked to suggest 6 expert referees. Where appropriate, authors should suggest 2 to 3 referees who are expert in the methodology as well as 2 to 3 referees who are expert on the biological system. Authors should avoid suggesting as referees people who, within the past 3 years, they have had a collaborative relationship, have mentored, or have been mentored by.

In rare instances, authors may also request that conflicted individuals be excluded from the review process. However, the editors reserve the right to choose as referees individuals who in their opinion are best qualified to review the paper.

A PDF file comprising all text and figures is acceptable for initial submission. When submitting a revised manuscript, separate electronic files are required. Each manuscript is to be accompanied by an electronic cover letter outlining the basic findings of the paper and their significance. PDFs of all related manuscripts under consideration for publication must also be included with the submitted manuscript.

## **BEFORE YOU BEGIN**

### ***Ethics in publishing***

Please see our information pages on [Ethics in publishing](#) and [Ethical guidelines for journal publication](#).

### ***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. If there are no conflicts of interest then please state this: 'Conflicts of interest: none'. [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, your article may be checked by the originality detection service [CrossCheck](#).

### ***Authorship***

All authors should have made substantial contributions to all of the following: (1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data, (2) drafting the article or revising it critically for important intellectual content, (3) final approval of the version to be submitted.

### ***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***

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**

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.

#### *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 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.

#### **Open access**

- Articles are freely available to both subscribers and the wider public with permitted reuse.
- An 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 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 open access publication fee for this journal is **USD 2200**, excluding taxes. Learn more about Elsevier's pricing policy: <http://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.

#### *Elsevier Publishing Campus*

The Elsevier Publishing Campus ([www.publishingcampus.com](http://www.publishingcampus.com)) is an online platform offering free lectures, interactive training and professional advice to support you in publishing your research. The College of Skills training offers modules on how to prepare, write and structure your article and explains how editors will look at your paper when it is submitted for publication. Use these resources, and more, to ensure that your submission will be the best that you can make it.

#### *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.

### **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 submitted as a word processing file, with one inch margins and double spaced lines.

#### **Subdivision**

The conventions used in current issues of the *Journal* for headings, references etc. should be used in preparing manuscripts. **Articles, Methods Notes and Databases/ Web Servers are divided into sections in the following order: Introduction; Results; Discussion; Materials and Methods.** Other section headings (e.g., Theory, Results and Discussion) may be used if this improves the clarity of presentation. Communications should not be divided into sections but should include topic headings where appropriate.

### **Essential title page information**

•**Title.** The title should convey the concept and the importance of the paper to non-specialist readers. Titles may occupy no more than three lines of type. Each line should contain no more than 50 characters, including spaces. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.

•**Author names and affiliations.** Where the family name may be ambiguous (e.g., a double name), please indicate this clearly. 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. **Ensure that telephone and fax numbers (with country and area code) are provided in addition to the e-mail address and the complete postal address.**

•**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.

All pages should be numbered serially.

### **Abstract**

The abstract must be concise (limit of 250 words) and factual. It should convey the concept and the importance of the paper to non-specialist readers. The abstract should state briefly the background of the question, the principal results and conclude on a clear description of the conceptual advance and significance of the work. Detailed descriptions of the study or of the findings should not be included in the abstract. An abstract is required for all papers; the abstract for Brevia should be limited to 100 words whereas the abstract of Methods Notes, Databases and Servers should be limited to 150 words.

An abstract is often presented separately from the article, so must be able to stand alone. 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**

A Graphical abstract is required for this journal and should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership online. Authors must provide images that clearly represent the work described in the article. A Graphical abstract should as much as possible provide a visual indication of the context of the results depicted and should contain simple labels. Specifications: the maximum size of the image should be 200 x 500 pixels with a minimum resolution of 300 dpi, using Arial font with a size of 10-16 points; Preferred file types: TIFF, EPS, PDF or MS Office files. Preparation Guidelines: a Graphical Abstract should be one image and should not contain multiple panels; visualize one process or make one point clear; for ease of browsing, images should have a clear start and end, preferably 'reading' from top to bottom or left to right. No additional text, outline or synopsis should be included. Any text or label must be part of the image file. Graphical abstracts should be submitted as a separate file in the online submission system. Graphical Abstracts can be uploaded in EES by selecting "Graphical Abstract" from the drop-down list when uploading files.

The graphical abstract will be displayed in online search result lists, the Contents List and the online article, but will not appear in the article PDF file or print.

### **Highlights**

Highlights are required for this journal. Specifications: include 3 to 5 bullet points (max. 85 characters per bullet point including spaces); only the core results of the paper should be covered. The first bullet point should state the background or context of the question. One to three bullet points should describe the principal results. The last bullet point should conclude on a clear description of the conceptual advance and significance of the work. Highlights should be submitted as a separate file in EES by selecting 'Highlights' from the drop-down list when uploading files. Highlights will be displayed in online search result lists, the contents List and in the online article, but will not appear in the article PDF file or print.

## Keywords

Authors should supply five keywords after the Abstract. Keywords should not be words from the title.

## Abbreviations

Define non-standard abbreviations in a footnote to be placed on the first page of the article. 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.

## Introduction

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

## 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.

## Materials and methods

Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

## Accession numbers

Accession numbers must be cited immediately following the Materials and Methods section. Accession numbers are unique identifiers in bioinformatics allocated to nucleotide and protein sequences to allow tracking of different versions of that sequence record and the associated sequence in a data repository [e.g., databases at the National Center for Biotechnical Information (NCBI) at the National Library of Medicine ('GenBank') and the Worldwide Protein Data Bank]. There are different types of accession numbers in use based on the type of sequence cited, each of which uses a different coding. Authors should explicitly mention the *type of accession number together with the actual number*, bearing in mind that an error in a letter or number can result in a dead link in the online version of the article. Please use the following format: accession number type ID: xxxx (e.g., MMDB ID: 12345; PDB ID: 1TUP). Note that in the final version of the *electronic copy*, accession numbers will be linked to the appropriate database, enabling readers to go directly to that source from the article.

For each and every accession number cited in an article, authors should type the accession number in **bold, underlined** text. Letters in the accession number should always be capitalised.

**Example 1:** "GenBank accession nos. **AI631510**, **AI631511**, **AI632198** , and **BF223228** , a B-cell tumor from a chronic lymphatic leukemia (GenBank accession no. **BE675048** , and a T-cell lymphoma (GenBank accession no. **AA361117** )".

## Glossary

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

## Footnotes

Footnotes should be used sparingly. Designate them throughout the article, using an asterisk (\*). Many wordprocessors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article. Do not include footnotes in the Reference list.

## Artwork

*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.
- Size the illustrations close to the desired dimensions of the published version.
- Provide captions next to each illustration.

A detailed guide on electronic artwork is available on our website:

<http://www.elsevier.com/artworkinstructions>.

**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 disproportionately large for the content.

*Composite figures.* In general, no more than four sections should appear in a single figure. If more than four sections are required, it is better to create several separate figures. Label individual sections in composite figures clearly with lower case letters, using (a), (b), (c).

*Stereo pairs.* Stereo pairs should be in divergent (wall-eye) view and should be supplied at the same size as they are to appear in the *Journal*. Before submitting figures, authors should check carefully that stereo figures are correct and give the proper stereo image.

#### **Color artwork**

Please make sure that artwork files are in an acceptable format (TIFF, EPS 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 on the Web (e.g., ScienceDirect and other sites) in addition to color reproduction in print. For further information on the preparation of electronic artwork, please see <http://www.elsevier.com/artworkinstructions>.

#### *Figure captions*

Ensure that each illustration has a caption. Supply captions next to each 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**

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**

##### *Citation in text*

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). 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 and a copy of the title page of the relevant article must be submitted.



### *Web references*

As a minimum, the full URL should be given. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Reference to material which is available on the Internet but has not been published elsewhere should be made in the text only and should not 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 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](#). 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/journal-of-molecular-biology>

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*

References should be listed at the end of the manuscript. They should be listed in the order in which they appear in the text, tables, and figure legends and numbered sequentially. When cited in the text, reference numbers should be superscripted. Only papers that have been published or accepted should be cited in the reference list. The title of the article, the volume number, and first and last pages should be cited. Journal titles should be abbreviated, e.g.,

1. Sanger, F. & Coulson, A. R. (1975). A rapid method for determining sequences in DNA by the primed synthesis with DNA polymerase. *J. Mol. Biol.* 94, 441-448.

2. Goto, Y., Calciano, L. J. & Fink, A. F. (1990). Acid-induced folding of proteins. *Proc. Natl. Acad. Sci. USA* 87, 573-577. Articles in books should include the title of the article, the name of the book, editor(s), edition number, first and last page numbers, the name and the location of the publisher, e.g.,

3. Hanks, S. K. & Hunter, T. (1995). The eukaryotic protein kinase superfamily. In *The Protein Kinase FactsBook: Protein-Serine Kinases* (Hardie, G. & Hanks, S., eds), pp. 747, Academic Press, London.

[4] M. Oguro, S. Imahiro, S. Saito, T. Nakashizuka, Mortality data for Japanese oak wilt disease and surrounding forest compositions, Mendeley Data, v1, 2015. <http://dx.doi.org/10.17632/xwj98nb39r.1>.

### **Journal abbreviations source**

SI units and the system of abbreviations and symbols formulated by the IUPAC-IUB Combined Commission on Biochemical Nomenclature should be followed. When non-SI units are used, their equivalent SI units should be given. Genetic names should be described according to the appropriate conventions. Genus and species names should be written in full at first use and in italics (e.g., *Escherichia coli*, *Caenorhabditis elegans*).

### **Supplemental data**

The acceptance of supplemental material is at the Editor's discretion. Supplemental information must be submitted with the manuscript for review by the editor and referees. Manuscripts must be complete and stand-alone. Supplemental material should complement the printed paper and may include figures and figure legends, tables, supporting data, sequence alignments, primers, derivation

of equations, and videos. The availability of supplemental information will be indicated in the printed paper and the supplemental data will be directly linked to the online version of the paper. Reference to the supplemental information may be made at appropriate places in the text.

With the exception of videos, the supplemental information must be submitted electronically in the form of a single PDF file. Very large tabulations of supporting data may be submitted as Microsoft Excel files.

To ensure that the majority of potential users are able to access, view and playback the data, Elsevier recommends the submission of material in the specified 'preferred' formats.

## Audio

**1 Format Extension Details** MP3 MP3 MPEG-1 or MPEG-2 format required; highest possible quality required; audio bit rate at least 128 kbps

## Video

**1 Format Extension Details** MP4 MP4 Preferred video format; H.264+AAC, max target 720p MPG MPG Acceptable video format; MPEG-1 or MPEG-2 format required; highest possible quality required Apple QuickTime MOV Acceptable video format Microsoft Audio/ Video Interlaced AVI Acceptable video format Compuserve GIF GIF Expected to be non-photographic animation-based data

## 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. Before submitting your article, you can deposit the relevant datasets to *Mendeley Data*. 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](#).

### *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 500 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](#).

## **ARTICLE ENRICHMENTS**

### **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.

### **Antibody data**

Antibody Data is the reference application linking to information about the antibodies mentioned in the article, based on the [NIF Antibody Registry](#). Authors are encouraged to include relevant antibody identifiers in their articles (e.g. Antibody Registry: AB\_878537 or RRID: AB\_878537) if appropriate. [More information](#).

### **3D molecular models**

You can enrich your online articles by providing 3D molecular models (optional) in PDB, PSE or MOL/MOL2 format, which will be visualized using the interactive viewer embedded within the article. Using the viewer, it will be possible to zoom into the model, rotate and pan the model, and change display settings. Submitted models will also be available for downloading from your online article on ScienceDirect. Each molecular model will have to be uploaded to the online submission system separately, via the '3D molecular models' submission category. [More information](#).

### **Interactive plots**

This journal enables you to show an Interactive Plot with your article by simply submitting a data file. [Full instructions](#).

### **Interactive Network Viewer**

This journal enables you to enrich your online article by including interactive network diagrams created with the latest version of Cytoscape. Each network should be exported from Cytoscape as a ZIP file containing a pair of network (.cyjs) and visual style (.json) files, which is most easily done using the green "SD" button. The recommended maximum file size of a dataset is 150 MB or less.

Once the article is accepted, your ZIP datasets will appear as supplementary material on ScienceDirect and will be visualized inside the Cytoscape application which is displayed alongside your article. Readers will then be able to interactively explore your networks while reading the article. Please note that you must use the latest available version of Cytoscape. [More information](#).

### *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
- 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](http://service.elsevier.com).

### **Additional information**

#### **Suggestions for cover illustrations.**

Cover illustrations should illustrate a key point raised by the paper and be immediately recognizable. The authors are encouraged to propose original covers that represent their work in a symbolic and creative manner. Please consult the journal's [Cover Gallery](#) for recent examples.

The specifications required for the cover are: W 213 mm x H 286 mm. The resolution should be 300 dpi minimum in JPEG or GIF formats.

A short descriptive legend should be supplied including any authorship references. The legend should be no longer than a couple of sentences and usually supplies information about the general topic rather than detailed information about the figure. If your cover is selected as the most appealing among other suggested covers we receive, it could be chosen as the cover of the same issue as your manuscript or one of the following issues.

#### **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 [Webshop](#). Corresponding authors who have published their article 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 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](#).

