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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 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 signalling Membrane processes, cell surface proteins and cell-cell interactions Molecular basis of disease Methodological advances, both experimental and theoretical, including databases

AUDIENCE

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

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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.

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.

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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.

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.

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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 should normally be no longer than 15 printed pages with no more than 10 figures and four tables.

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 paper is 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. The title of the paper should start with the database/server name. 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.

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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

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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

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PREPARATION

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: <http://www.elsevier.com/guidepublication>). 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

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