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## ABOUT THE JOURNAL

### Aims and Scope

*Cell Research* publishes original research results that are of unusual significance or broad conceptual or technical advances in all areas of life sciences, as long as the study is closely related to molecular and cell biology.

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## ARTICLE TYPE SPECIFICATIONS

ARTICLE DESCRIPTION	ABSTRACT	WORD LIMIT	TABLES/ FIGURES	REFERENCES
<p><b>Articles</b> (Please see 'Preparation of Articles' below for further details) Articles report significant original basic research that describe novel molecular and cellular processes and events and/or address the underlying biological mechanisms.</p>	Unstructured abstract	Abstract: 250 words Article: 6,000 – 8000 words excluding abstract, references, figures and tables.	Max of 10	Max of 100. Please use as recent as possible.
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<b>Research Highlights</b> (Invited only) Research Highlights discuss the main advances made by the paper as well as put the findings of the study into the proper context of the field.	A brief stand first of only one or two sentences.	1,000 words max including, references, figures and tables.	Max of 1	Max of 10
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- Cover letter
- Title page
- Abstract
- Introduction
- Results
- Discussion
- Materials and Methods
- Acknowledgements
- Author Contributions
- Conflict of Interest
- References
- Figure legends
- Tables
- Figures

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*Journal article, e-pub ahead of print:*

Liang D, Tatomer DC, Luo Z, *et al.* The output of protein-coding genes shifts to circular RNAs when the pre-mRNA processing machinery is limiting. *Mol Cell*  
<http://dx.doi.org/10.1016/j.molcel.2017.10.034> (2017)

*Journal article, in press:*

Pangala SR, Enrich-Prast A, Basso LS, *et al.* Large emissions from floodplain trees close the Amazon methane budget. *Nature* (in the press).

*Complete book:*

Atkinson, K. *et al.* (eds) Clinical Bone Marrow and Blood Stem Cell Transplantation (Cambridge Univ. Press, 2004).

*Chapter in book:*

Harley, N. H. & Vivian, L. in *Mechanisms of Disease* 4th edn, Vol. 2 (eds Sodeman, W. A. & Smith, A.) Ch. 3 (Saunders, 1974).

*Preprint:*

Starrfelt, J. & Liow, L.H. How many dinosaur species were there? Fossil bias and true richness estimated using a Poisson sampling model (TRiPS). Preprint at <http://biorxiv.org/content/early/2015/12/04/025940> (2015).

*Research dataset:*

Hao, Z., AghaKouchak, A., Nakhjiri, N. & Farahmand, A. Global Integrated Drought Monitoring and Prediction System (GIDMaPS) Data sets. figshare.  
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Dr Caron's work has been funded by the NIH. He has received compensation as a member of the scientific advisory board of Acadia Pharmaceutical and owns stock in the company. He also has consulted for Lundbeck and received compensation. Dr Rothman and Dr Jensen declare no potential conflict of interest.

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- membership in a political party or special interest group whose interests may be affected by publication of the article, or
- a deep personal or religious conviction that may have affected what the author wrote and that readers should be aware of when reading the article.

Reviewers approached for assessment of submitted articles are also requested to declare conflicts of interest that may impede on their judgment of that article. This specifically includes competing research in the same area that could be negatively affected by publication of the submitted article.

## Clinical Trials

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

When reporting experiments on human subjects, authors must indicate whether the procedures were in accordance with the ethical standards of the responsible committee on human experimentation (institutional or regional) or with the Helsinki Declaration of 1975 (as revised in 1983). Include Institutional Review Board or Animal Care and Use Committee approvals.

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

enrolment. Acceptable registries must meet the following ICMJE requirements:

- be publicly available, searchable, and open to all prospective registrants
- have a validation mechanism for registration data
- be managed by a not-for-profit organization

Examples of registries that meet these criteria include:

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

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

Randomised Controlled Trials (RCTs) must adhere to the CONSORT statement, (CONsolidated Standards Of Reporting Trials) and submissions must be accompanied by a completed CONSORT checklist (uploaded as a related manuscript file). Further information can be found at [www.consort-statement.org](http://www.consort-statement.org).

Springer Nature endorses the toolkits and guidelines produced by the Committee on Publication Ethics (COPE): <http://publicationethics.org/>

## Reporting Guidelines

Studies must adhere to the reporting guidelines as outlined by the Equator Network (<http://www.equator-network.org/>). Where appropriate the accompanying checklists need to be submitted with the manuscript to indicate where in the manuscript each item is reported. These include:

- The [CONSORT](#) guidelines for randomised trials
- The [STROBE](#) guidelines for observational studies
- The [PRISMA](#) guidelines for systematic reviews
- The [STARD](#) guidelines for diagnostic/prognostic studies
- The [ARRIVE](#) guidelines for pre-clinical animal studies

## Research Data Policy

We strongly encourage that all datasets on which the conclusions of the paper rely should be available to readers. We encourage authors to ensure that their datasets are either deposited in publicly available repositories (where available and appropriate) or presented in the main manuscript or additional supporting files whenever possible. Where one does not exist, the information must be made available to referees at submission and to readers promptly upon request. Any restrictions on material availability or other relevant information must be disclosed

in the manuscript's Methods section and should include details of how materials and information may be obtained. Please see the journals guidelines on Research Data policy [here](#). (ensure this links to the correct data policy type document for the journal e.g. 1, 2 or 3)

## Reproducibility

*Cell Research* requires authors of papers that are sent for external review to include in their manuscripts relevant details about several elements of experimental and analytical design. This initiative aims to improve the transparency of reporting and the reproducibility of published results, focusing on [elements of methodological information](#) that are frequently poorly reported. Authors being asked to resubmit a manuscript will be asked to confirm that these elements are included by filling out a [checklist](#) that will be made available to the editor and reviewers.

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If a case of plagiarism comes to light after a paper is published, the Journal will conduct a preliminary investigation, utilising the guidelines of the [Committee on Publication Ethics](#). If plagiarism is proven, the Journal will contact the author's institute and funding agencies as appropriate. The paper containing the plagiarism may also be formally retracted or subject to correction.

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## Informed Consent

Publication of identifiable images from human research participants (or a parent or legal guardian for participants under the age of 16 years) must be accompanied by a

statement attesting that the authors have obtained consent to publication of the images. If the participant is deceased, consent must be sought from the next of kin of the participant. In all such instances, all reasonable measures must be taken to protect patient anonymity. Black bars over the eyes are not acceptable means of anonymization. In certain cases, the journal may insist upon obtaining evidence of informed consent from authors. Images without appropriate consent must be removed from publication.

## Data Fabrication & Falsification

Falsification is the practice of altering research data with the intention of giving a false impression. This includes, but is not limited to, manipulating images, removing outliers or "inconvenient" results, or changing, adding or omitting data points. Fabrication is the practice of inventing data or results and recording and/or reporting them in the research record. Data falsification and fabrication call into question the integrity and credibility of data and the data record, and as such, they are among the most serious issues in scientific ethics.

Some manipulation of images is allowed to improve them for readability. Proper technical manipulation includes adjusting the contrast and/or brightness or colour balance if it is applied to the complete digital image (not parts of the image). The author should notify the Editor in the cover letter of any technical manipulation. Improper technical manipulation refers to obscuring, enhancing, deleting and/or introducing new elements into an image. See Image Integrity & Standards below for more details.

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Springer Nature takes seriously all allegations of potential misconduct. As a member of the [Committee on Publication Ethics](#) (COPE), *Cell Research* will follow the COPE guidelines outlining how to deal with cases of suspected misconduct. As part of the investigation, the journal may opt to do one or more of the following:

- suspend review or publication of a paper until the issue has been investigated and resolved;
- request additional information from the author, including original data or images or ethics committee or IRB approval;
- make inquiries of other titles believed to be affected;
- forward concerns to the author's employer or person responsible for research governance at the author's institution;
- refer the matter to other authorities or regulatory bodies (for example, the Office of Research Integrity in the US or the General Medical Council in the UK); or
- submit the case to COPE in an anonymized form for additional guidance on resolution.

Please note that, in keeping with the journal's policy of the confidentiality of peer review, if sharing of information with third parties is necessary, disclosure will be made to only those Editors who the Editor believes may have information

that is pertinent to the case, and the amount of information will be limited to the minimum required.

### Image Integrity and Standards

Images submitted with a manuscript for review should be minimally processed (for instance, to add arrows to a micrograph). Authors should retain their unprocessed data and metadata files, as editors may request them to aid in manuscript evaluation. If unprocessed data is unavailable, manuscript evaluation may be stalled until the issue is resolved.

A certain degree of image processing is acceptable for publication, but the final image must correctly represent the original data and conform to community standards. The guidelines below will aid in accurate data presentation at the image processing level:

- Authors should list all image acquisition tools and image processing software packages used. Authors should document key image-gathering settings and processing manipulations in the Methods section.
- Images gathered at different times or from different locations should not be combined into a single image, unless it is stated that the resultant image is a product of time-averaged data or a time-lapse sequence. If juxtaposing images is essential, the borders should be clearly demarcated in the figure and described in the legend.
- Touch-up tools, such as cloning and healing tools in Photoshop, or any feature that deliberately obscures manipulations, is to be avoided.
- Processing (such as changing brightness and contrast) is appropriate only when it is applied equally across the entire image and is applied equally to controls. Contrast should not be adjusted so that data disappear. Excessive manipulations, such as processing to emphasize one region in the image at the expense of others (for example, through the use of a biased choice of threshold settings), is inappropriate, as is emphasizing experimental data relative to the control.

For **gels and blots**, positive and negative controls, as well as molecular size markers, should be included on each gel and blot – either in the main figure or an expanded data supplementary figure. The display of cropped gels and blots in the main paper is encouraged if it improves the clarity and conciseness of the presentation. In such cases, the cropping must be mentioned in the figure legend.

- Vertically sliced gels that juxtapose lanes that were not contiguous in the experiment must have a clear separation or a black line delineating the boundary between the gels.
- Cropped gels in the paper must retain important bands.
- Cropped blots in the body of the paper should retain at least six band widths above and below the band.
- High-contrast gels and blots are discouraged, as overexposure may mask additional bands. Authors

should strive for exposures with grey backgrounds. Immunoblots should be surrounded by a black line to indicate the borders of the blot, if the background is faint.

- For quantitative comparisons, appropriate reagents, controls and imaging methods with linear signal ranges should be used.

**Microscopy** adjustments should be applied to the entire image. Threshold manipulation, expansion or contraction of signal ranges and the altering of high signals should be avoided. If ‘pseudo-colouring’ and nonlinear adjustment (for example ‘gamma changes’) are used, this must be disclosed. Adjustments of individual colour channels are sometimes necessary on ‘merged’ images, but this should be noted in the figure legend. We encourage inclusion of the following with the final revised version of the manuscript for publication:

- In the Methods section, specify the type of equipment (microscopes/objective lenses, cameras, detectors, filter model and batch number) and acquisition software used. Although we appreciate that there is some variation between instruments, equipment settings for critical measurements should also be listed.
- The display lookup table (LUT) and the quantitative map between the LUT and the bitmap should be provided, especially when rainbow pseudo-colour is used. It should be stated if the LUT is linear and covers the full range of the data.
- Processing software should be named and manipulations indicated (such as type of deconvolution, three-dimensional reconstructions, surface and volume rendering, ‘gamma changes’, filtering, thresholding and projection).
- Authors should state the measured resolution at which an image was acquired and any downstream processing or averaging that enhances the resolution of the image.

### Cell Line Authentication

If human cell lines are used, authors are strongly encouraged to include the following information in their manuscript:

- the source of the cell line, including when and from where it was obtained,
- whether the cell line has recently been authenticated and by what method, and
- whether the cell line has recently been tested for mycoplasma contamination.

Further information is available from [the International Cell Line Authentication Committee \(ICLAC\)](#). We recommend that authors check the [NCBI database](#) for misidentification and contamination of human cell lines.

### Sequences, Structures and “Omics”

Papers reporting protein or DNA sequences and molecular structures will not be accepted without an accession number to [Genbank](#)/[EMBL](#)/[DDBJ](#), [SWISS-PROT](#), [ProteinDataBank](#), or other publicly available database in general use in the field that gives free access to researchers from the date of publication.

Authors of papers describing structures of biological macromolecules must provide experimental data upon the request of Editor if they are not already freely accessible in a publicly available database such as [ProteinDataBank](#), [Biological Magnetic Resonance Databank](#), or [Nucleic Acid Database](#).

### Human and Other Animal Experiments

Research involving human subjects, human material, or human data must have been performed in accordance with the Declaration of Helsinki and must have been approved by an appropriate ethics committee. A statement detailing this, including the name of the ethics committee and the reference number where appropriate, must appear in all manuscripts reporting such research.

For primary research manuscripts reporting experiments on live vertebrates and/or higher invertebrates, the corresponding author must confirm that all experiments were performed in accordance with relevant guidelines and regulations. The manuscript must include in the Supplementary Information (methods) section (or, if brief, within the print/online article at an appropriate place), a statement identifying the institutional and/or licensing committee approving the experiments, including any relevant details regarding animal welfare, patient anonymity, drug side effects and informed consent. Sex and other characteristics of animals that may influence results must be described. Details of housing and husbandry must be included where they are likely to influence experimental results. *Cell Research* recommends following the [ARRIVE reporting guidelines](#) when documenting animal studies.

For experiments involving human subjects, authors must identify the committee approving the experiments, and include with their submission a statement confirming that informed consent was obtained from all subjects.

### Gene Nomenclature

Authors should use approved nomenclature for gene symbols, and use symbols rather than italicized full names (Ttn, not titin). Please consult the appropriate nomenclature databases for correct gene names and symbols. Approved human gene symbols are provided by HUGO Gene Nomenclature Committee (HGNC), [www.genenames.org](http://www.genenames.org). Approved mouse symbols are provided by The Jackson Laboratory, [www.informatics.jax.org/mgihome/nomen](http://www.informatics.jax.org/mgihome/nomen). For proposed gene names that are not already approved, please submit the gene symbols to the appropriate nomenclature committees as soon as possible, as these must be deposited and approved before publication of an article

Avoid listing multiple names of genes (or proteins)

separated by a slash, as in 'Oct4/Pou5f1', as this is ambiguous (it could mean a ratio, a complex, alternative names or different subunits). Use one name throughout and include the other at first mention: 'Oct4 (also known as Pou5f1)'

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Manuscripts sent out for peer review are evaluated by at least three independent reviewers. Authors are welcome to suggest independent reviewers to evaluate their manuscript, as well as request individuals or laboratories. All recommendations are considered, but it is at the Editor's discretion their choice of reviewers. To expedite the review process, only papers that seem most likely to meet editorial criteria are sent for external review. Papers judged by the editors to be of insufficient general interest or otherwise inappropriate are rejected promptly without external review. The editors then make a decision based on the reviewers' evaluations:

- **Accept**, with or without editorial revisions.
- **Revise**, with the author addressing concerns raised by the reviewers before a final decision is reached.
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Babichev, S. A., Ries, J. & Lvovsky, A. I. Quantum scissors: teleportation of single-mode optical states by means of a nonlocal single photon. Preprint at <http://arXiv.org/quantph/0208066> (2002).

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