

Cell Death & Disease



About the Journal	1	Costs	8
Article Type Specifications	2	Editorial Policies	9
Preparation of Articles	3	Further Information	14
How to Submit	7	Submission Checklist	15
Post-Acceptance	8	Do's and Don'ts	16

[ABOUT THE JOURNAL](#)

Aims and Scope

Cell Death & Disease is a journal devoted to the biology of cell death, survival, stemness and differentiation in the pathogenesis of human diseases or relevant animal models. The journal aims to publish papers that present novel observations in the field of cell death, though with pathophysiological or medical implications.

Particular emphasis will be given to clinical, translational and applied research through its five sections:

- Experimental Medicine
- Cancer
- Immunity
- Internal Medicine
- Neuroscience

To this end, in conjunction with its sister journals *Cell & Differentiation* and *Cell Death Discovery*, *Cell Death & Disease* provides a unified forum for scientists as well as clinicians and members of the pharmaceutical and biotechnology industry. It is committed to the rapid publication of high quality original papers that relate to these subjects, together with topical, usually solicited, reviews, meeting reports, editorial correspondence and occasional commentaries on controversial and scientifically informative issues.

Cell Death & Disease is an open access online journal, published on behalf of the CDD Press by Springer Nature Ltd.

Cell, Death & Disease is fully committed to ensuring the accuracy of the scientific record. See [Editorial Policies](#).

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ARTICLE TYPE SPECIFICATIONS

ARTICLE DESCRIPTION	ABSTRACT	WORD LIMIT	TABLES/ FIGURES	REFERENCES
<p>Article</p> <p>An Article is a substantial, in-depth, novel research study of interest to the readership of the journal. The structure an Article should follow is detailed below.</p>	Unstructured abstract, max. 300 words	3,500 words maximum excluding abstract, materials & methods, references, figures and tables	Max of 6-8	Max of 80
<p>Review Article</p> <p>A Review Article is an authoritative, balanced survey of recent developments in a research field. Review Articles are regularly commissioned; however, pre-submission enquiries are also welcome. Please contact the editorial office</p>	Unstructured abstract, max. 300 words	main body of text (excluding abstract, tables/figures, and references) not to exceed 5,000 words	Minimum of 4	Max of 150
<p>Perspective</p> <p>Perspectives are shorter than reviews and provide an opinion-driven perspective on a particular research topic or field of interest to the CDDis readership. Authors should present a (provocative) view that can be supported by data and literature with the goal of sparking debate and stimulating future research avenues.</p>	Unstructured abstract, max. 300 words	main body of text (tables/figures, and references) not to exceed 2,500 words	Max of 2	Max of 100
<p>Editorial</p>	No abstract	1,200 words max excluding abstract, references, figures and tables.	Max of 1	Max of 15
<p>Comment</p>	No abstract	1,200 words max excluding abstract, references, figures and tables.	Max of 1	Max of 15
<p>Meeting Report</p>	No abstract	1,200 words excluding references, figures and tables.	Max of 1	0

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- All pages and lines are to be numbered.
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- Units: Use metric units (SI units) as fully as possible. Preferably give measurements of energy in kiloJoules or MegaJoules with kilocalories in parentheses (1 kcal = 4.186kJ). Use % throughout.
- Abbreviations: On first using an abbreviation place it in parentheses after the full item. Very common abbreviations such as FFA, RNA, need not be defined. Note these abbreviations: gram g; litre l; milligram mg; kilogram kg; kilojoule kJ; megajoule MJ; weight wt; seconds s; minutes min; hours h. Do not add 's' for plural units. Terms used less than four times should not be abbreviated.

Please note that articles must contain the following components. Please see below for further details.

Original Article

- Cover letter
- Title page (excluding acknowledgements)
- Abstract
- Introduction
- Results
- Discussion
- Materials (or Subjects) and methods
- References
- Acknowledgements
- Conflict of Interest Statement
- Author Contribution Statement
- Ethics Statement
- Funding Statement
- Data Availability Statement
- Figure legends
- Tables
- Figures
- Original full length western blots

Review Article

- Cover letter
- Title Page (excluding acknowledgements)
- Abstract
- Bullet Points
- Main Text
- References
- Acknowledgements
- Conflict of Interest Statement
- Author Contribution Statement
- Ethics Statement
- Funding Statement
- Data Availability Statement
- Figure legends
- Tables
- Figures

Supporting Documents

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Manuscript

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Introduction: The Introduction should assume that the reader is knowledgeable in the field and should therefore be as brief as possible but can include a short historical review where desirable.

Results

The Results section should briefly present the experimental data in text, tables or figures. Tables and figures should not be described extensively in the text.

Discussion

The Discussion should focus on the interpretation and the significance of the findings with concise objective comments that describe their relation to other work in the area. It should not repeat information in the results. The final paragraph should highlight the main conclusion(s), and provide some indication of the direction future research should take.

Materials/Subjects and Methods: This section should contain sufficient detail, so that all experimental procedures can be reproduced. Methods, that have been published in detail elsewhere do not have to be repeated, but must be fully referenced. Authors should provide the name of the manufacturer and their location for any specifically named medical equipment and instruments, and all drugs should be identified by their pharmaceutical names, and by their trade name if relevant.

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All authors should be listed for papers with up to six authors; for papers with more than six authors, the first six only should be listed, followed by *et al.* Abbreviations for titles of medical periodicals should conform to those used in the latest edition of Index Medicus. The first and last page numbers for each reference should be provided. Abstracts and letters must be identified as such. Papers in press may be included in the list of references.

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Examples:

Journal article:

Nguyen D, Soygur B, Peng S, Malki S, Hu G & Laird DJ. Apoptosis in the fetal testis eliminates developmentally defective germ cell clones. *Nat Cell Biol* **22**, 1423-1435 (2020)

Journal article, e-pub ahead of print:

Basar, MA, Beck DB & Werner A. Deubiquitylases in developmental ubiquitin signaling and congenital diseases. *Cell Death Differ* (2020).

<https://doi.org/10.1038/s41418-020-00697-5>

Complete book:

Atkinson K, Champlin R, Ritz J, Fibbe W, Ljungman P, Brenner MK (eds). *Clinical Bone Marrow and Blood Stem Cell Transplantation*. 3rd edn. (Cambridge University Press, Cambridge, 2004).

Chapter in book:

Coccia PF. Hematopoietic cell transplantation for osteopetrosis. In: Blume KG, Forman SJ, Appelbaum FR (eds). *Thomas' Hematopoietic Cell Transplantation*. 3rd edn. (Blackwell Publishing Ltd, Malden, 2004) 1443–1454.

Abstract:

Syrjala KL, Abrams JR, Storer B, Heiman JR. Prospective risk factors for five-year sexuality late effects in men and women after haematopoietic cell transplantation. Abstracts of the 32nd Annual Meeting of the European Group for Blood and Marrow Transplantation. *Bone Marrow Transplant* **37**, O107 (2006)

Website

Kassambara A. rstatix: pipe-friendly framework for basic statistical tests. 2020. <https://rpkgs.datanovia.com/rstatix/>.

Preprint

Babichev SA, Ries J & Lvovsky AI. Quantum scissors: teleportation of single-mode optical states by means of a nonlocal single photon. Preprint at <http://arXiv.org/quant-ph/0208066> (2002).

Acknowledgements

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For more detailed information, please refer to the section on 'Human and Other Animal Experiments' under 'Editorial Policies' on page 12.

If your study did not require ethical approval, please state this.

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- (2) A marked-up version of the manuscript that highlights changes made in response to the reviewers' comments in order to aid the Editors and reviewers.
- (3) A 'clean' (non-highlighted) version of the manuscript.

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- An Editor is assigned to the manuscript and decides whether to send the manuscript out to review. If the decision is not to send the manuscript for review, the Editor contacts the author with the decision.
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Papers must be original and not published or submitted for publication elsewhere. This rule also applies to non-English language publications.

Redundant publication (also described as "salami publishing") is when one study is split into several parts and submitted to two or more journals. It also includes findings that have previously been published elsewhere without proper cross-referencing, permission or justification. "Self-plagiarism" is considered a form of redundant publication as it concerns recycling or borrowing content from previous work without citation.

Springer Nature allows and encourages prior publication on recognized community preprint servers for review by other scientists before formal submission to a journal. The details of the preprint server concerned and any accession numbers should be included in the cover letter accompanying manuscript submission. This policy does not extend to preprints available to the media or that are otherwise publicized outside the scientific community before or during the submission and consideration process.

Conflict of Interest

Financial relationships are the most easily identifiable conflicts of interest and the most likely to undermine the credibility of the journal, the authors, and science itself. However, conflicts can occur for other reasons, such as personal relationships, academic competition, and intellectual passion.

In the interests of transparency and to help readers form their own judgments of potential bias, authors must declare whether or not there are any competing financial interests in relation to the work described. This information must be included in their cover letter and on the title page of their manuscript. In cases where the authors declare a competing financial interest, a statement to that effect is published as part of the article. If no such conflict exists, the statement will simply read that the authors have nothing to disclose. For the purposes of this statement, competing interests are defined as those of a financial nature that, through their potential influence on behavior or content, or from perception of such potential influences, could undermine the objectivity, integrity or perceived value of a publication. They can include any of the following:

- Funding: Research support (including salaries, equipment, supplies, reimbursement for attending symposia, and other expenses) by organizations that may gain or lose financially through this publication. The role of the funding body in the design of the study, collection and analysis of data and decision to publish should be stated.
- Employment: Recent (while engaged in the research project), present or anticipated employment by any organization that may gain or lose financially through this publication. This includes positions on an advisory board, board of directors, or other type of management relationship.
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- Patents: Holding, or currently applying for, patents, relating to the content of a manuscript; receiving reimbursement, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript.

It is difficult to specify a threshold at which a financial interest becomes significant, but note that many US universities require faculty members to disclose interests exceeding \$10,000 or 5% equity in a company. Any such figure is arbitrary, so we offer as one possible practical alternative guideline: "Declare all interests that could embarrass you were they to become publicly known after your work was published." We do not consider diversified mutual funds or investment trusts to constitute a competing financial interest.

The statement must contain an explicit and unambiguous statement describing any potential conflict of interest, or lack thereof, for any of the authors as it relates to the subject of the report. Examples include "Dr. Smith receives compensation as a consultant for XYZ Company," "Dr. Jones and Dr. Smith have financial holdings in ABC Company," or "Dr. Jones owns a patent on the diagnostic device described in this report." These statements acknowledging or denying conflicts of interest must be included in the manuscript under the heading Conflict of Interest. The Conflict of Interest disclosure appears in the cover letter, in the manuscript submission process and before the References section in the manuscript.

Following the Conflict of Interest heading, there must be a listing for each author, detailing the professional services relevant to the submission. Neither the precise amount received from each entity nor the aggregate income from these sources needs to be provided. Professional services include any activities for which the individual is, has been, or will be compensated with cash, royalties, fees, stock or stock options in exchange for work performed, advice or counsel provided, or for other services related to the author's professional knowledge and skills. This would include, but not necessarily be limited to, the identification of organizations from which the author received contracts or in which he or she holds an equity stake if professional services were provided in conjunction with the transaction.

Examples of declarations are:

- *Conflict of interest.*
The authors declare no conflict of interest.
- *Conflict of interest.*
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.

Non-financial interests that authors may like to disclose include:

- a close relationship with, or a strong antipathy to, a person whose interests may be affected by publication of the article,
- an academic link or rivalry with someone whose interests may be affected by publication of the article,
- 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) 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);
2. the International Standard Randomized Controlled Trial Number Registry (www.controlled-trials.com);
3. the Cochrane Renal Group Registry (<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.

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

Research Data Policy

Cell Death & Disease adheres to Springer Nature's Data Policy [Type 3](#). This means that a submission to the Journal implies that the materials described in the manuscript, including all relevant raw data, will be freely available to any researcher wishing to use them for non-commercial purposes, without breaching participant confidentiality. It also means that a Data Availability Statement (see here for more details) is required by the journal. Please see the journal's guidelines on Research Data policy [here](#).

Reproducibility

Cell Death & Disease requires authors of original research 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.

Original Data

To improve transparency and reproducibility, *Cell Death & Disease* encourages authors to submit their original data as part of their submission. For articles that contain western blots and/or images derived from flow cytometry, confocal microscopy or cell/ tissue morphology studies, including immunohistochemistry and immunocytochemistry, authors are encouraged to provide their original uncropped and unprocessed images as part of their submission.

Plagiarism

Plagiarism is when an author attempts to pass off someone else's work as his or her own. Duplicate publication, sometimes called self-plagiarism, occurs when an author reuses substantial parts of his or her own published work without providing the appropriate references. Minor plagiarism without dishonest intent is relatively frequent, for example, when an author reuses parts of an introduction from an earlier paper.

Springer Nature is a member of Similarity Check (formerly CrossCheck), a multi-publisher initiative used to screen published and submitted content for originality. *Cell Death & Disease* uses Similarity Check to detect instances of overlapping and similar text in submitted manuscripts. To find out more about CrossCheck visit <https://www.crossref.org/services/similarity-check/>

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.

Misconduct

Springer Nature takes seriously all allegations of potential misconduct. As a member of the [Committee on Publication Ethics \(COPE\)](#), *Cell Death & Disease* 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

To support image integrity standards, *Cell Death & Disease* performs random forensic image analyses on submitted articles. As part of this, authors may be asked to provide their original data files.

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 gray 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/DBJ, 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 of 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 Death & Disease* 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, mouse symbols are provided by The Jackson Laboratory, www.informatics.jax.org/mgihome/nomen, and other model organism databases ([Flybase](#), [Wormbase](#), [Yeast database](#)). 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.

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The Editor may seek advice about submitted papers not only from technical reviewers but also on any aspect of a paper that raises concerns. These may include, for example, ethical issues or issues of data or materials access. Occasionally, concerns may also relate to the implications to society of publishing a paper, including threats to security. In such circumstances, advice will usually be sought simultaneously with the technical peer-review process. As in all publishing decisions, the ultimate decision whether to publish is the responsibility of the editor.

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Editors, authors and reviewers are required to keep confidential all details of the editorial and peer review process on submitted manuscripts. Unless otherwise declared as a part of open peer review, the peer review process is confidential and conducted anonymously. All details about submitted manuscripts are kept confidential and no comments are issued to outside parties or organizations about manuscripts under consideration or if they are rejected. Editors are restricted to making public comments on a published article's content and their evaluation.

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We deplore any attempt by authors to confront reviewers or try to determine their identities. Reviewers should be aware that it is our policy to keep their names confidential and that we do our utmost to ensure this confidentiality. We cannot, however, guarantee to maintain this confidentiality in the face of a successful legal action to disclose identity.

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Reviewer selection is critical to the publication process, and we base our choice on many factors, based on expertise, reputation, and specific recommendations. A reviewer may decline the invitation to evaluate a manuscript where there is a perceived conflict of interest (financial or otherwise).

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We do not wish to hinder communication between scientists. We ask you to communicate with other researchers as much as you wish, whether on a recognized community preprint server, by discussion at scientific meetings or by online collaborative sites such as wikis, but we do not encourage premature publication by discussion with the press (beyond a formal presentation, if at a conference).

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- For subscription journals, the published PDF must not be posted on a preprint server or any other website. However, authors are encouraged to obtain a free ShareIt link of their paper, which can be posted online and allows read-only access. ShareIt links can be obtained by submitting the published article DOI at <http://authors.springernature.com/share>
- Preprints may be cited in the reference list as below:
- 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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- **Retraction.** Notification of **invalid results**. Where a paper is retracted, a statement will be published that includes a full justification for the retraction. The original article will be marked as retracted, but remain available to readers.
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In cases where co-authors disagree about a correction/retraction, the editors will take advice from independent peer-reviewers and impose the appropriate correction, noting the dissenting author(s) in the text of the published version.

Authorship Corrections

Any changes to the author list after submission, such as a change in the order of the authors or the deletion or addition of authors, must be approved by all authors and a [Change of Authorship form](#) is required. Journal editors are not in a position to investigate or adjudicate authorship disputes before or after publication.

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For inquiries related to submission requirements, please contact the [editorial office](#). For inquiries related to advertising, subscriptions, permissions, papers in production or publishing a supplement, please contact the [publisher's office](#).

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Refer to section on 'Preparation of Manuscripts' (page 3) for further details

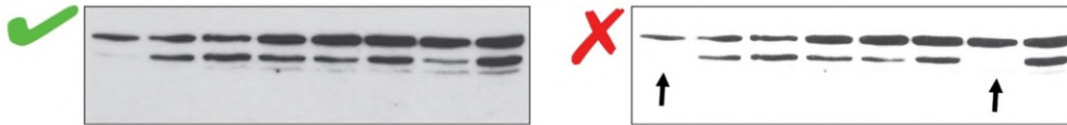
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Cover letter <ul style="list-style-type: none"> - Declaration not submitted elsewhere - Concise description of major findings 	Rebuttal letter <ul style="list-style-type: none"> - Point-by-point response to the reviewers - If you disagree with the reviewers, please provide evidence 	
Article file <ul style="list-style-type: none"> - Uploaded as a Word file - Title page - Abstract (unstructured) - Main text - References <p>Please also include:</p> <ul style="list-style-type: none"> - Conflict of Interest statement - Ethics statement 	'Marked up' article file <ul style="list-style-type: none"> - Uploaded as a Word file - Title page - Abstract (unstructured) - Main text - References <p>Please also include:</p> <ul style="list-style-type: none"> - Conflict of Interest statement - Ethics statement <hr/> 'Clean' article file <ul style="list-style-type: none"> - As above but 'clean' - Uploaded as 'Related Manuscript File' 	'Clean' Article file <ul style="list-style-type: none"> - Uploaded as a Word file - Title page - Abstract (unstructured) - Main text - References (correctly formatted) <p>Please also include:</p> <ul style="list-style-type: none"> - Conflict of Interest statement - Ethics statement - Author Contribution statement - Funding statement - Data Availability Statement - Acknowledgements
Figure legends <ul style="list-style-type: none"> - Included in main article file - Where appropriate, declare N - Define error bars - Define scale bars 	Figure legends <ul style="list-style-type: none"> - Included in main article file - Where appropriate, declare N - Define error bars - Define scale bars 	Figure legends <ul style="list-style-type: none"> - Included in main article file - Where appropriate, declare N - Define error bars - Define scale bars
Figures <ul style="list-style-type: none"> - Uploaded as individual TIFF or PNG files - Where appropriate, include molecular weight markers - Where appropriate, include scalebars 	Figures <ul style="list-style-type: none"> - Uploaded as individual TIFF or PNG files - Where appropriate, include molecular weight markers - Where appropriate, include scalebars 	Figures <ul style="list-style-type: none"> - Uploaded as individual TIFF or PNG files - Where appropriate, include molecular weight markers - Where appropriate, include scalebars
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Original western blots <ul style="list-style-type: none"> - Uploaded as 'Supplemental Material' 	Original western blots <ul style="list-style-type: none"> - Uploaded as 'Supplemental Material' 	Original western blots <ul style="list-style-type: none"> - Uploaded as 'Supplemental Material'
	Reproducibility Checklist <ul style="list-style-type: none"> - Uploaded as 'Related Manuscript File' 	Reproducibility Checklist <ul style="list-style-type: none"> - Uploaded as 'Related Manuscript File'

Do's & Don'ts

1. Images

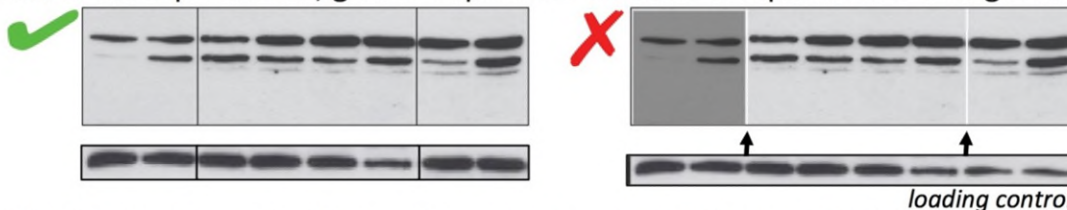
1. DO NOT use **excessive contrast**, removing the background or part of the image



2. DO NOT adjust the **brightness or contrast** only in specific areas of the image. If necessary, apply the same appropriate adjustments to the ENTIRE image.



3. INDICATE **splicing of lanes** and PROVIDE the **full scan as supplementary data**. Images from different experiments, gels or exposures CANNOT be spliced into a single image.



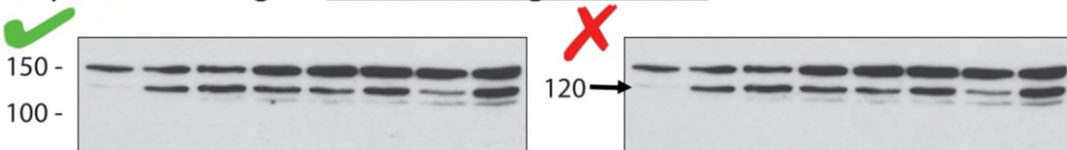
4. DO NOT **overcrop** gels. Mark unknown or cross reactive bands with an asterisk.



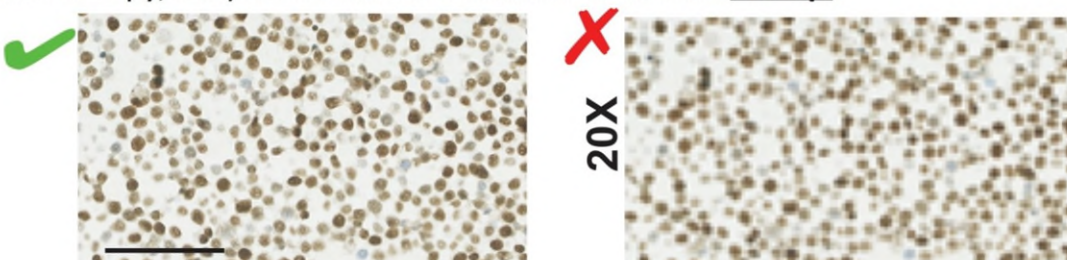
5. DO NOT **remove any part** of the image, including spots and background.



6. Always INCLUDE original **molecular weight markers**.



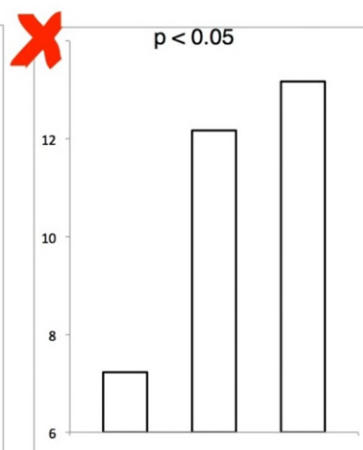
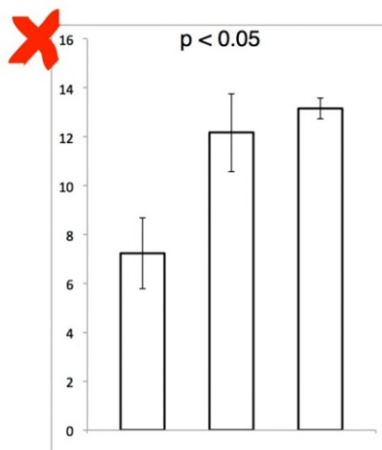
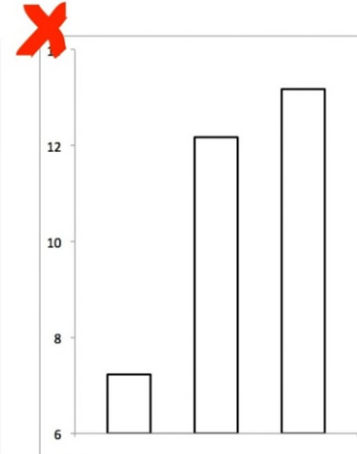
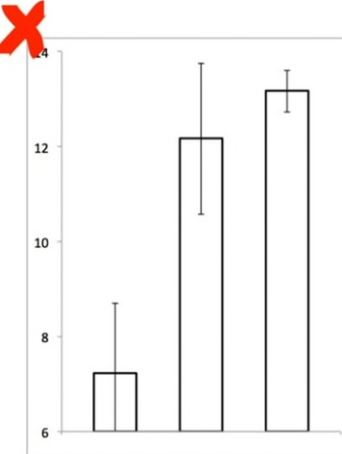
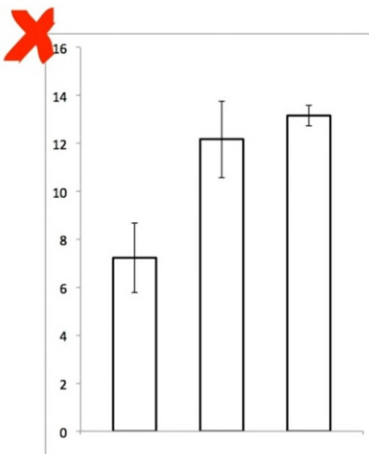
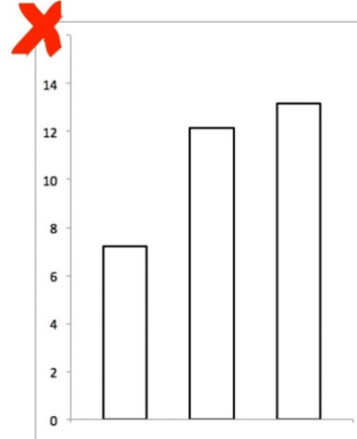
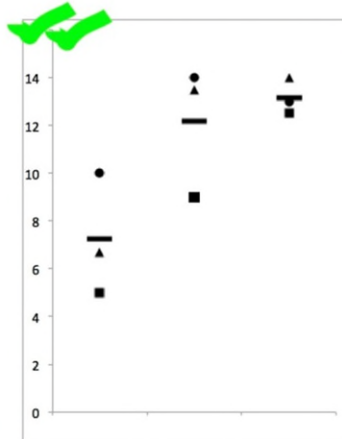
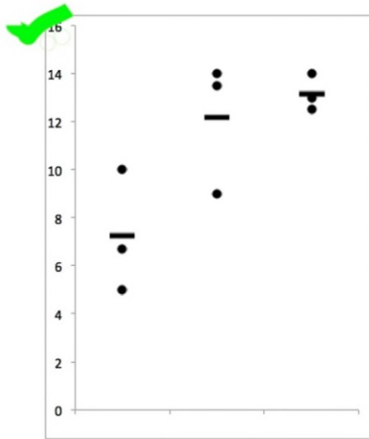
7. All microscopy MUST INCLUDE an appropriate **scale bar**. All digital images (gels, microscopy, etc.) MUST have a resolution of at least **300 dpi**.



Do's & Don'ts

2. Graphs

Show independent data points, rather than using bar graphs. Show means of replicates as a single point, not each replicate. Don't show error bars or p-values when $N < 10$. If error bars are shown, describe them in the legend. Start axes from zero (except for log axes). Use different symbols for sets of independent biological repeated experiments. Include spread-sheet data in supplementary materials.



In the LEGEND:

Indicate N; define size bars
If they are shown, describe error bars: SEM/SD/CI/other. Where $N < 10$, plot data points, no need include error bars. If p is shown, indicate test.

In the SUPPLEMENT:

Authors' contribution
Panel authorship
KEEP ORIGINAL RECORDS/IMAGES FOR minimum 10 YEARS