

## GUIDE FOR AUTHORS

<b>About the Journal</b> .....	<b>1</b>	<b>Post-Acceptance</b> .....	<b>8</b>
<b>Article Type Specifications</b> .....	<b>2</b>	<b>Costs</b> .....	<b>10</b>
<b>Preparation of Articles</b> .....	<b>2</b>	<b>Editorial Policies</b> .....	<b>10</b>
<b>How to Submit</b> .....	<b>7</b>	<b>Further Information</b> .....	<b>17</b>

## ABOUT THE JOURNAL

### Aims and Scope

*Modern Pathology* is an international journal owned by The United States & Canadian Academy of Pathology (USCAP). *Modern Pathology* aims to provide an authoritative platform for publishing the highest quality clinical and translational research studies in pathology.

Original manuscripts are the main focus of *Modern Pathology*. Our scientific communication is enriched by high impact editorials, reviews, and practice guidelines that relate to all aspects of precision diagnostics in human pathology. As such, *Modern Pathology's* scope encompasses advances in the molecular diagnostics and genomic classifications of disease as well as discoveries in immune-oncology, computational science and applied bioinformatics, and digital pathology.

### Journal Details

#### Editor-in-Chief

George J. Netto, MD  
University of Alabama at Birmingham  
Email: [journals@uscap.org](mailto:journals@uscap.org)

### Senior Associate Editors

Pedram Argani, MD

Larissa V. Furtado, MD

Rhonda K. Yantiss, MD

### Managing Editor

Catherine M Ketcham, PhD

[Send an e-mail to the journal](#)

### Submission of manuscripts

Please visit the [online submission site](#) to submit a manuscript to the journal.

Hear about the [benefits of submitting to MPATH](#) from our Editors and previous authors:

## ARTICLE TYPE SPECIFICATIONS

Article Description	ABSTRACT	WORD LIMIT	TABLES/FIGURES	REFERENCES
<b>Article:</b> Research Articles must describe in detail a significant advance in human diagnostic pathology.	Unstructured abstract, max 300 words.	Main body of text (excluding abstract, legends, references) not to exceed 7,000 words	Maximum of 8 tables/figures.	No more than 100 references.
<b>Review:</b> Review Articles require prior approval by the Editor. Review articles must be of general interest to pathologists and contain original, in-depth analysis of the chosen topic.	Unstructured abstract, max 300 words.	Main body of text (excluding abstract, legends, references) not to exceed 5,000 words	Maximum of 5 tables/figures.	No more than 150 references.
<b>Editorial:</b> Editorials are by invitation only. Interested authors should contact the Editorial Office.	No abstract required.	Word count should not exceed 1000.	Maximum of 2 tables/figures.	Maximum of 10 references.
<b>Correspondence:</b> Correspondence articles are short Letters to the Editor responding to a specific article published in <i>Modern Pathology</i> . Correspondence articles are subject to critical review and editorial policy.	No abstract required.	Word count should not exceed 1000.	Maximum of 2 tables/figures.	Maximum of 10 references.

## PREPARATION OF ARTICLES

### Preparation of manuscripts

You may submit only ONE article/manuscript file with ALL of the material from the title page through the figure legends. Do not submit any of these elements as separate files. Do not number the subsections. Do not embed any tables or figures. Do not include any supplemental material in the manuscript file. The only acceptable file format is Word. Submissions should be double-spaced throughout with ample margins. All pages should be sequentially numbered. Use American English, not British English. Papers not conforming to journal style may be returned without review.

**House Style:** Authors should adhere to the following formatting guidelines

- Text should be double spaced with a wide margin.
- All pages and lines are to be numbered.
- Do not make rules thinner than 1pt (0.36mm).
- Use a coarse hatching pattern rather than shading for tints in graphs.
- Color should be distinct when being used as an identifying tool.
- commas should be used to separate thousands.
- At first mention of a manufacturer, the town (and state if USA) and country should be provided.
- Statistical methods: For normally distributed data, mean (SD) is the preferred summary statistic. Relative risks should be expressed as odds ratios with 95% confidence interval. To compare two methods for measuring a variable the method of Bland & Altman (1986, *Lancet* 1, 307–310) should be used; for this, calculation of P only is not appropriate.
- 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.

*Modern Pathology* discourages the use of non-standard abbreviations. Abbreviations/Acronyms are defined in both the abstract and body of the text as follows: vascular permeability factor (VPF); transforming growth factor- $\beta$  (TGF- $\beta$ ). They are used in the abstract only if they appear twice in addition to first mention; and in the body of the text only if they appear three times in addition to first mention.

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

- Cover letter (including a Conflict of interest statement)
- Title page (excluding acknowledgements)
- Abstract
- Introduction
- Materials (or Subjects) and Methods
- Results
- Discussion
- Tables / Figures
- Figure legends
- References
- Supplementary Information (if applicable)
- Acknowledgements
- Ethics Approval / Consent to Participate
- Author Contribution Statement
- Funding Statement
- Data Availability Statement

**Cover letter:** In the cover letter, provide full contact information for corresponding author, verify that each author approves of the submitted version of the manuscript, state that the manuscript is not under consideration elsewhere, and declare any business relationships that might lead to a conflict of interest. Optional: Provide information about related submissions or publications; explain why your research is a good fit for the journal and what it adds to the field, and add anything else that the editors may find useful.

Manuscripts should be organized according to the following style:

**Title page.** The title page should contain:

- Title of the paper - brief, informative, of 150 characters or less and should not make a statement or conclusion
- Full names of all the authors and their affiliations, together with the name, full postal address, telephone number and e-mail address of the corresponding author. If authors regard it as essential to indicate that two or more co-authors are equal in status, they may be identified by an asterisk symbol with the caption 'These authors contributed equally to this work' immediately under the address list.  
**Group Authorship/Collaborations** - Please note that if in the list of authors you wish to include additional authors/collaborators/ groups/consortiums that aren't part of the core list of authors as 'on behalf of', 'for the' or 'representing the' you need to ensure you list the authors correctly within the paper to ensure these are there deposited correctly in PubMed.
  - Groups where there is an 'on behalf of', or 'representing the', or 'for the' will appear in the HTML/PDF as follows: Author A, Author B, Author C and Author D on behalf of...The list of individual members should then appear in the Acknowledgements section and not under Notes or Appendix
  - A Group name who is an author in its own right should have the list of authors as usual and then all the individual authors of the group listed in their own section at the end of the article, NOT in Acknowledgement/Appendix or Notes
- Competing Interests statement (see the section below on Editorial Policy). Authors should disclose the sources of any support for the work received in the form of grants and/or equipment and drugs.

As part of our efforts to improve transparency in authorship, we now request that all authors identified as 'corresponding author' create and link their Open Researcher and Contributor Identifier (ORCID) with their account on the Manuscript Tracking System (MTS) prior to acceptance. For more information please visit <http://www.springernature.com/orcid>

**Abstract.** Present the abstract on a separate page in the article document. The abstract describes in about 300 words exactly what was done, the results obtained, and the conclusions drawn. Do not divide the abstract into sub- sections.

**Introduction.** Articles start with introductory material that describes the hypothesis, and this section has no heading.

**Materials and Methods.** This section should contain sufficient detail such that the experiments can be reproduced. Authors can reference more full descriptions in other publications, but should still try to describe them adequately in the main body of the text.

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

**Discussion.** This section should focus on interpretation and significance of the findings, with comments on the relation to other work in the field, conclusions, and further research directions.

**Tables.** Each table must be uploaded as a separate file. The acceptable file types are Word and Excel. PLEASE DO NOT embed the tables in the manuscript or combine multiple tables as one file. Tables should be labeled sequentially as Table 1, Table 2, etc., and cited in the text. Tables should not duplicate the content of the text. They should consist of at least two columns; columns should always have headings. We prefer that titles and legends are included with the tables, but they may be presented with the figure legends.

**Figures.** Figures should be referred to specifically in the text of the paper in numerical order, but should not be embedded within the text. Please note that this journal accepts only tiff and jpeg file formats for artwork unless the Managing Editor is contacted in advance and grants permission to use other file types. The file size of each submitted figure should not exceed 10 MB per figure; the aggregate file size for all figures submitted must not exceed a total of 80 MB. Figure files must be uploaded as individual files and then included in the merged file, ensuring that figures with multiple panels are uploaded as one file (e.g. Fig. 1A, 1B uploaded as Fig. 1).

**Artwork Guidelines: Figures in Print**

While general instructions from Springer Nature on how to prepare figures is available at <http://www.nature.com/aj/artworkguidelines.pdf>, please note that the Managing Editor of this journal can only accept jpeg and tiff figure files, unless prior arrangements are made.

**Minimum Resolutions**

Halftone images	300 dpi (dots per inch)
Color images	300 dpi saved as CMYK
Images containing text	400 dpi
width=100>Line art	1000 dpi

**Sizes:**

Figure Width – single image	86 mm (Should be able to fit into a single column of the printed journal)
Figure Width – multi-part image	178 mm (Should be able to fit into a double column of the printed journal)
Text Size	8 point (Should be readable after reduction – avoid large type or thick lines)
Line Width	Between 0.5 and 1 point

Up to four (4) pages of scientifically necessary color will be provided for free at the discretion of the Editor-in- Chief. Manuscripts will be charged \$627.00 per color figure beyond the four free figures.

**Figure legends.** Include the numbered figure legends at the end of the manuscript. They should be brief and specific. Use scale markers. Define any abbreviations used in the figures. DO NOT provide supplementary figure legends in this section. They will be discarded by the typesetter and will not appear online with your supplemental material.

**References.** Only papers directly related to the article should be cited. Exhaustive lists should be avoided. References should follow the Vancouver format. In the text they should appear as numbers starting at one and at the end of the paper they should be listed (double-spaced) in numerical order corresponding to the order of citation in the text. Where a reference is to appear next to a number in the text, for example following an equation, chemical formula or biological acronym, citations should be written as (ref. X) and not as superscript. Example “detectable levels of endogenous Bcl-2 (ref. 3), as confirmed by western blot”

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.

Personal communications can be allocated a number and included in the list of references in the usual way or simply referred to in the text; the authors may choose which method to use. In either case authors must obtain permission from the individual concerned to quote his/her unpublished work.

References are numbered in the order of citation within the text, and are listed in numeric order on separate pages at the end of the article. Citations in the main text should appear as Arabic numerals in parentheses or as superscript. The reference style is a modified Vancouver format as shown below. Use the journal abbreviations found on Pub Med or in Web of Science. List only the first six authors and add "et al" if there are seven or more authors. **Do not depend on EndNote or other reference management software to provide the correct reference template. You will have to adjust the EndNote *Modern Pathology* template to reflect the proper number of authors, remove the issue numbers and to use the correct journal abbreviations. It is the authors' responsibility to ensure that the references are properly formatted.**

#### Examples of References:

- *Journal Article:*  
Matsushita K, Wu Y, Pratt RE, Dzau VJ. Deletion of angiotensin II type 2 receptor accelerates adipogenesis in murine mesenchymal stem cells via Wnt10b/beta-catenin signaling. *Lab Invest* **96**, 909–917(2016)
- *Journal Article, e-pub ahead of print:*  
Matsushita K, Wu Y, Pratt RE, Dzau VJ. Deletion of angiotensin II type 2 receptor accelerates adipogenesis in murine mesenchymal stem cells via Wnt10b/beta-catenin signaling. *Lab Invest* (2016). <https://doi.org/10.1038/labinvest201666>
- *Book:*  
Verveer PJ. *Advanced Fluorescence Microscopy*. New York: Humana Press, 2015.
- *Chapter in Edited Book:*  
Williamson SR, Eble JN and Chang L. Molecular Pathology of Kidney Tumors. In: Chang L and Eble JN, editors. *Molecular Surgical Pathology*. 1st ed. New York, NY: Springer-Verlag, 2013. p. 171– 212.
- *Website:*  
National Research Council (US)Committee Guide for the Care and Use of Laboratory Animals, [Internet], 8th edn. National Academies Press: Washington (DC), 2011, [cited 23 October 2015]. Available from <https://grants.nih.gov/grants/olaw/Guide-for-the-Care-and-use-of-laboratory-animals.pdf>.
- *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).
- *Abstract:*  
Huang X, Chen H, Ding Q, Robinson M, Bassett R & Tang G et al. Clinicopathological Features of HER2 Positive Classic Invasive Lobular Carcinoma. United States & Canadian Academy of Pathology 109th Annual Meeting Abstracts. *Mod Pathol* **33**, 188 (2020)

**Supplementary information.** Supplementary information is material directly relevant to the conclusion of an article that cannot be included in the printed version owing to space or format constraints. It is posted on the journal's web site and linked to the article when the article is published and may consist of data files, graphics, movies or extensive tables. The printed article must be complete and self-explanatory without the supplementary information. Supplementary information enhances a reader's understanding of the paper but is not essential to that understanding.

Include the text 'Supplementary information is available at *Modern Pathology's* website' at the end of the article and before the references.

#### Supplying supplementary information files

**Authors should ensure that supplementary information is supplied in its final format because it is neither copy- edited nor typeset and will appear online EXACTLY as originally submitted. The supplementary information cannot be altered, nor can new supplementary**

information be added, after the paper has been accepted for publication. Present the information with the convenience of the reader in mind. Carefully choose the layout of the material limit the number of files. For example, all supplemental figures and legends might best be presented as one PDF.

Accepted supplementary information file formats:

- Quick Time files (.mov)
- MPEG movie files (.mpg)
- JPEG image files (.jpg)
- TIFF image files (.tif)
- Sound files (.wav)
- MS Word documents (.doc)
- MS Excel spreadsheet documents (.xls)
- PowerPoint (.ppt)
- Adobe pdf (.pdf)

File sizes must be as small as possible, so that they can be downloaded quickly. We would recommend 480 x 360 pixels as the maximum frame size for movies. We would also recommend a frame rate of 15 frames per second. If applicable to the presentation of the supplementary information, use a 256 color palette. Please consider the use of lower specification for all of these points if the supplementary information can still be represented clearly. Our recommended maximum data rate is 150 KB/s.

Please note: We do not allow the resupplying of Supplementary Information files for style reasons after a paper has been exported in production, unless there is a serious error that affects the science and, if by not replacing, it would lead to a formal correction once the paper has been published. In these cases, we would make an exception and replace the file; however, there are very few instances where a Supplementary Information file would be corrected post publication.

Further questions about the submission or preparation of supplementary information should be directed to the editorial office.

**Acknowledgments.** These should be brief and include sources of support and sources of material not commercially available.

**Ethics Approval and Consent to Participate.** Manuscripts reporting studies involving human participants, human data or human tissue must include: A statement on ethics approval and consent (even where the need for approval was waived); the name of the ethics committee that approved the study and the committee's reference number if appropriate; a statement that the study was performed in accordance with the Declaration of Helsinki.

If your manuscript contains any individual person's data in any form (including individual details, images or videos), written consent for publication must be obtained from that person, or in the case of children, their parent or legal guardian. 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. In certain cases, the journal may insist upon obtaining evidence of informed consent from authors. Images without appropriate consent must be removed from publication.

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

**Author Contributions.** Authors must include a statement about the contribution of each author to the manuscript (see section on Authorship). The initials of each author may be used.

This is an example of a typical Author Contribution statement: E.R. and V.S. performed study concept and design; E.P., C.S., M.J. and O.D. performed development of methodology and writing, review and revision of the paper; M.J., O.D., C.S., B.L., and T.C. provided acquisition, analysis and interpretation of data, and statistical analysis; M.D. provided technical and material support. All authors read and approved the final paper.

To understand more about authorship definitions, please refer to the [ICMJE Authorship Guidelines](#).

**Funding.** The funding section is mandatory. Authors must declare sources of study funding including sponsorship (e.g. university, charity, commercial organization). If no funding was received, please state "The author(s) received no specific funding for this work."

**Data Availability Statement.** *Modern Pathology* 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](#).

**Subject ontology.** Choosing the most relevant and specific subject terms from our subject ontology will ensure that your article will be more discoverable and will appear on appropriate subject specific pages on nature.com, in addition to the journal's own pages. Your article should be indexed with at least two, and up to five unique subject terms that describe the key subjects and concepts in your manuscript.

EDITORIAL NOTE: Rejected papers will not be considered for resubmission.

## HOW TO SUBMIT

### Pre-submission Enquiries

Pre-submission enquiries should be sent to the editorial office: e-mail: [journals@uscap.org](mailto:journals@uscap.org)

### Online Submission

We only accept manuscript submission via our [online manuscript submission system](#). Before submitting a manuscript, authors are encouraged to consult both our full Editorial Policies PDF and Preparation of Articles instructions for our online manuscript submission system.


You will be able to monitor the status of your manuscript online throughout the editorial process.

### Navigating the Online Submission System

The first thing you need to do, if you have not done so already, is [register for an account](#). After this, please consult the instructions below to enable you to submit your article through our secure server.

**Please be sure that your browser is set to accept cookies. Our tracking system requires cookies for proper operation.**

**Important note:** The material that is entered into the online manuscript tracking system is for the peer review process only. This information is NOT transmitted to the publisher when a manuscript is accepted. The title page of your manuscript MUST contain ALL of the information described above in section (1), above, because this is the ONLY information that the publisher uses. This means, for example, that if you enter an online profile for a co-author correctly, but spell his/her name wrong on your manuscript file, the misspelled name will be published.

When you first access our tracking system, you will be taken to your Home page, where different categories of tasks are listed. If you are required to perform a pending action item or task, there will be a **red arrow**  before submitting a manuscript, please ensure that the manuscript is complete. Do not upload partial submissions with the aim of making extensive modifications on the web site at a later date. You need to have the following information to hand:

- All Author details:
  - First and Last Names
  - Work Telephone Numbers
  - E-mail Addresses
  - Fax Numbers
  - Postal Addresses

In addition, you will need the following manuscript details:

- Cover Letter
- Title (you may copy and paste this from your manuscript)
- Abstract (you may copy and paste this from your manuscript)
- Manuscript files in Word format.
- Figures/Images in external files in TIFF, or JPG in either grayscale or CMYK color, not in RGB. If your manuscript is accepted, there will be no charge for 1-4 pages of color illustrations, but additional color images are \$627 USD per page. PLEASE DO NOT SUBMIT

IMAGES IN COLOR UNLESS YOU ARE WILLING TO PAY THESE CHARGES.

**Please note that both color and page charges will not apply to authors who choose to pay an article processing charge to make their paper open access.**

Never embed the figures/images within the text from word processing software as embedded figures/images are not acceptable for production.

Please note we cannot process PDFs as source files.

**The manuscript submission process is broken down into a series of 4 primary tasks that gather detailed information about your manuscript and allow you to upload the pertinent text and figure/image files. The sequence of screens is as follows:**

1. The 'Files' primary task allows you to select the actual file locations (via an open file dialogue). You will be able to 'Browse' for the relevant files on your computer. **Please include the figure number in the title line for each figure.** On the completion screen, you will be asked to specify the order in which you want the individual files to appear in the merged document. Editors and/or reviewers will also be able to look at the individual PDF files if necessary.
2. The 'Manuscript Information' primary task which asks for author details, the manuscript title, abstract, other associated manuscript information and types/number of files to be submitted. Please note, if you are the corresponding author please submit your details in the corresponding author fields; DO NOT re-enter the same details in the contributing author fields.
3. The 'Validate' primary task gives you the opportunity to check and verify the manuscript files and manuscript information uploaded. If you are submitting manuscript files separately, we create a merged PDF containing your manuscript text, figures and tables to simplify the handling of your paper. You will need to approve the merged PDF file, and a PDF or any other file not included in the merge, to submit your manuscript. You may also update and/or change manuscript files and manuscript information by clicking on the 'Change' or 'Fix' links respectively.
4. The 'Submit' primary task is the last step in the manuscript submission process. At this stage the Manuscript Tracking System will perform a final check to ensure that all mandatory fields have been completed. Any incomplete fields will be flagged by a red arrow and highlighted by a red box. Click on the 'Fix' link to return to relevant section for completion. Once your manuscript has been finalized, click on the 'Approve Submission' button to submit your manuscript for **consideration**. A 'Manuscript Approved' message will display on your author desktop to confirm the submission.

If you need any assistance, please contact [Catherine Ketcham](#), Managing Editor.

#### **Submission of Revisions**

Authors submitting a revised manuscript after review are asked to include the following:

1. A rebuttal letter, indicating point-by-point how you have addressed the comments raised by the reviewers. If you disagree with any of the points raised, please provide adequate justification in your letter.
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. Please highlight this text, do not use track changes. Do not provide any strikethrough/crossed out text; unwanted material should be fully deleted.
3. A 'clean' (non-highlighted) version of the manuscript.
4. The authors are responsible for providing a manuscript that is error-free and exhibits proper English usage.

#### **Social Media**

Did you know that MPATH is on Twitter? Follow us at [@ModernPathology](#). If your paper is accepted, we would like to promote it on Twitter, and invite you to include your social media information on the online submission form while submitting your article. Please supply our social media editor with a suggested "tweet" or short blurb about your article, which may or may not be used or edited at the discretion of the journal (250 character limit). Please also include your Twitter handle and/or the Twitter handle of your co-authors so we can tag you in relation to your article.

## POST-ACCEPTANCE



Once a manuscript is accepted and typeset, the corresponding author will be prompted via the Springer Nature platform called Open Access System Solution to complete and sign a License to Publish form on behalf of all authors. **Failure to complete the form will result in delay of publication.**

Springer Nature does not require authors of original research papers to assign copyright of their published contributions. Authors grant Springer Nature an exclusive license to publish, in return for which they can re-use their papers in their future printed work. Springer Nature's [author license page](#) provides details of the policy.

### **Standard Publication**

Manuscripts published under the standard method of publication will be behind a paywall. Readers will be able to access manuscripts through their institutional or personal subscriptions or on a pay-per-view basis. Authors will need to complete the standard License to Publish form when prompted. Government employees from the United States, Canada and UK are required to complete the license to publish form relevant to them.

### **Open Access Publication (gold open access)**

Upon acceptance, authors can indicate whether they wish to pay an optional article processing charge (APC) for their article to be made open access online immediately upon publication. Open access articles are published under Creative Commons licenses, which allow authors to retain copyright to their work while making it open to readers.

The cost for open access publication in *Modern Pathology* is 3,580 EUR/ 4,480 USD/ 3,060 GBP (VAT or local taxes will be added where applicable).

For information about the Creative Commons license options and APC prices, visit [this site](#).

If authors opt to publish via the open access route then the corresponding author will receive instructions to complete an open access License to Publish (LTP) form on behalf of all authors, and will be contacted to arrange payment of the associated Article Processing Charge (APC). Please note this process must be completed prior to publication and failure to do so will result in delay of publication. Government employees from the United States, Canada and the UK are required to complete the government open access license to publish form relevant to them.

Please note with regards to payment that usual credit terms are 30 days from receipt of invoice. Failure to pay your invoice within the stated credit term may result in the Open Access status of the paper being rescinded, with the paper being placed behind the paywall. You may also be subject to such penalties as restrictions on your ability to publish with Springer Nature in the future, involvement of a third party debt collection agency and legal proceedings.

To facilitate self-archiving Springer Nature deposits open access articles in PubMed Central and Europe PubMed Central on publication. Authors are also permitted to post the final, published PDF of their article on a website, institutional repository or other free public server, immediately on publication.

Visit our [open research site](#) for further information about licenses, APCs, and our free OA funding support service:

### **Retrospective open access**

Authors who initially opted to publish their paper under the subscription model in a hybrid journal may be able to retrospectively pay an article processing charge (APC) to make their paper open access. To request retrospective open access for an article that has already been published, please contact the Open Research Support Team at [ORSupport@springernature.com](mailto:ORSupport@springernature.com) with your Article's title, DOI and Journal name.

### **Compliance with open access mandates**

Springer Nature's open access journals allow authors to comply with all funders' open access policies worldwide. Authors may need to take specific actions to achieve compliance with funder and institutional open access mandates.

Learn more about [open access compliance](#).

### **Waiver of institutional open access policies**

Please note that Harvard University FAS, Princeton, University of Hawaii at Manoa, California Institute of Technology (Caltech) and the Georgia Institute of Technology have enacted Open Access policies that conflict with our own policy for articles published via the subscription route. If any corresponding or contributing authors are from these institutions, you will need to provide a waiver from the institution of every affected author, which can be obtained from the institution. This waiver should be submitted at the same time as the License to Publish form. This requirement does not apply to articles published via the open access route.

### **Self-archiving and manuscript deposition (green open access)**

Authors of original research articles are encouraged to submit the author's version of the accepted paper (the unedited manuscript) to a

repository for public release six months after publication. Springer Nature also offers a free, opt-in Manuscript Deposition Service for original research articles in order to help authors fulfil funder and institutional mandates.

Learn more about [self-archiving and manuscript deposition](#)

#### **E-Proofs**

The Springer Nature e-proofing system is a unique solution that will enable authors to remotely edit /correct your article proofs.

The corresponding author will receive an e-mail containing a URL linking to the e-proofing site. Proof corrections must be returned within 48 hours of receipt. Failure to do so may result in delayed publication. Extensive corrections cannot be made at this stage.

For more information and instructions on how to use the e-proofing too please see [here](#).

#### **Advance Online Publication**

The final version of the manuscript is published online in advance of print. AOP represents the official version of the manuscript and will subsequently appear unchanged, in print.

#### **Protocol Exchange**

If your manuscript is accepted for publication, we encourage you to upload the step-by-step protocols used in your manuscript to the Protocol Exchange. Protocol Exchange is an open online resource that allows researchers to share their detailed experimental know-how. All uploaded protocols are made freely available, assigned DOIs for ease of citation and fully searchable through nature.com. Protocols can be linked to any publications in which they are used and will be linked to from your article. You can also establish a dedicated page to collect your entire lab Protocols. By uploading your Protocols to Protocol Exchange, you are enabling researchers to more readily reproduce or adapt the methodology you use, as well as increasing the visibility of your protocols and papers. Upload your protocols at the [Protocol Exchange web site](#). Further information can be found [here](#).

#### **Content Sharing**

In order to aid the dissemination of research swiftly and legally to the broader community, we are providing all authors with the ability to generate a unique shareable link that will allow anyone to read the published article. If you have selected an Open Access option for your paper, or where an individual can view content via a personal or institutional subscription, recipients of the link will also be able to download and print the PDF.

As soon as your article is published, you can generate your shareable link by entering the DOI of your article here:

<http://authors.springernature.com/share>

We encourage you to forward this link to your co-authors, as sharing your paper is a great way to improve the visibility of your work. There are no restrictions on the number of people you may share this link with, how many times they can view the linked article or where you can post the link online. More information on Springer Nature's commitment to content sharing is available [here](#)

## **COSTS**

#### **Open Access Publication (Gold Open Access)**

Upon acceptance, authors can indicate whether they wish to make their article open access online immediately upon publication, an option which will incur a fee or "article processing charge" (APC). For information about the Creative Commons license options and APC prices for *Modern Pathology*, [visit this site](#).

#### **Color charges**

If your manuscript is accepted, there will be no charge for 1-4 color illustrations. After that, additional color images are \$627USD per image. Please do not submit images in color unless you are willing to pay these charges. Color charges will not apply to authors who choose to pay an article processing charge to make their paper open access.

#### **Offprints**

Offprints may be ordered on the form accompanying the proofs. The charges are necessarily higher if orders for offprints are received after the issue has gone to press.

## **EDITORIAL POLICIES**

#### **Authorship**

Requirements for all categories of articles should conform to the "Uniform Requirements for Manuscripts Submitted to Biomedical Journals," developed by the ICMJE ([www.icmje.org](http://www.icmje.org)).

Each author must have contributed sufficiently to the intellectual content of the submission. The corresponding author should list all authors and their contributions to the work. The corresponding author must confirm that he or she has had full access to the data in the study and final responsibility for the decision to submit for publication.

To qualify as a contributing author, one must meet all of the following criteria:

1. Conceived and/or designed the work that led to the submission, acquired data, and/or played an important role in interpreting the results.
2. Drafted or revised the manuscript.
3. Approved the final version.
4. Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Contributions by individuals who made direct contributions to the work but do not meet all of the above criteria should be noted in the Acknowledgments section of the manuscript. Medical writers and industry employees can be contributors. Their roles, affiliations, and potential conflicts of interest should be included in the author list or noted in the Acknowledgments and/or Contributors section concurrent with their contribution to the work submitted. Signed statements from any medical writers or editors declaring that they have given permission to be named as an author, as a contributor, or in the Acknowledgments section is also required. Failure to acknowledge these contributors can be considered inappropriate, which conflicts with the journal's editorial policy.

#### ***Changes to authorship***

It is the corresponding author's responsibility to ensure that the author list is correct, both in the manuscript file uploaded and the online submission form. Any changes to an author list, including the removal or addition of any authors, between initial submission and acceptance will require written agreement from all authors should the manuscript be considered for publication. New authors must also confirm that they fully comply with the journal's authorship requirements.

Changes to authorship (addition or removal) will not be allowed once the manuscript has been accepted for publication.

#### **Correspondence with the Journal**

One author is designated the contact author for matters arising from the manuscript (materials requests, technical comments and so on). It is this author's responsibility to inform all co-authors of matters arising and to ensure such matters are dealt with promptly. Before submission, the corresponding author ensures that all authors are included in the author list, its order agreed upon by all authors, and are aware that the manuscript was submitted. After acceptance for publication, proofs are e-mailed to this corresponding author who should circulate the proof to all co-authors and coordinate corrections among them

#### **Anonymity and Confidentiality**

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.

Upon accepting an invitation to evaluate a manuscript, reviewers must keep the manuscript and associated data confidential, and not redistribute them without the journal's permission. If a reviewer asks a colleague to assist in assessing a manuscript, confidentiality must be ensured and their names must be provided to the journal with the final report.

We ask reviewers not to identify themselves to authors without the editor's knowledge. If they wish to reveal their identities while the manuscript is under consideration, this should be done via the editor; if this is not practicable, we ask authors to inform the editor as soon as possible after the reviewer has revealed their identity. Our own policy is to neither confirm nor deny any speculation about reviewers' identities, and we encourage reviewers to adopt a similar policy.

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.

Regardless of whether a submitted manuscript is eventually published, correspondence with the journal, referees' reports, and other confidential material must not be published, disclosed, or otherwise publicized without prior written consent.

#### **Communication with the Media**

Material submitted must not be discussed with the media. We reserve the right to halt the consideration or publication of a paper if this condition is broken. If a paper is particularly newsworthy, the press release will be sent to our list of journalists in advance of publication with an embargo that forbids any coverage of the manuscript, or the findings of the manuscript, until the time and date clearly stated.

Authors whose papers are scheduled for publication may also arrange their own publicity (for instance through their institution's press offices), but they must strictly adhere to our press embargo and are advised to coordinate their own publicity with our [press office](#).

### Pre- and Post-Submissions

Authors are welcome to post pre-submission versions or the original submitted version of the manuscript on a personal blog, a collaborative wiki or a recognized preprint server (such as [ArXiv](#) or [BioRxiv](#)) at any time (but not subsequent pre-accept versions that evolve following peer review).

For subscribed content, the accepted version of the manuscript, following the review process, may only be posted 6 months after the paper is published in a Springer Nature journal. A publication reference and URL to the published version on the journal website must be provided on the first page of the postprint. The published version — copyedited and in the individual Springer Nature journal format — may not be posted on any website or preprint server.

For open access content published under a creative commons license, authors can replace the submitted version with the final published version at publication as long as a publication reference and URL to the published version on the journal website are provided

### Permissions

If a table or figure has been published before, the authors must obtain written permission to reproduce the material in both print and electronic formats from the copyright owner and submit it with the manuscript. This follows for illustrations and other materials taken from previously published works not in the public domain. The original source should be cited in the figure caption or table footnote. Permission to reproduce material can usually be obtained through the [Copyright Clearance Center](#).

### Conflict of Interest

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. The corresponding author is responsible for submitting a competing financial interests statement on behalf of all authors of the paper. This statement must be included in the cover letter and on the title page of the manuscript, as well as within the article before the References section listed under 'Competing Interests'.

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.
- *Personal financial interests*: Stocks or shares in companies that may gain or lose financially through publication; consultation fees or other forms of remuneration from organizations that may gain or lose financially.
- *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 included in the submission must contain an explicit and unambiguous description of any potential competing interests, or lack thereof, for any of the authors as it relates to the subject of the report. Examples include:

- **Conflict of Interest**  
The authors declare no competing financial interests
- **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 competing interests.

Neither the precise amount received from each entity nor the aggregate income from these sources needs to be provided.

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.

### **Studies involving animals and other human subjects**

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, along with a statement confirming that informed consent was obtained from all subjects, must appear in all manuscripts reporting such research. It is the author's responsibility to ensure that a patient's anonymity is carefully protected. Authors should remove patients' identifying information from figures unless they obtain written consent and submit this documentation with the manuscript.

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. *Modern Pathology* recommends following the [ARRIVE reporting guidelines](#) when documenting animal studies.

### **Clinical Trials**

All clinical trials must be registered in a public registry prior to submission and the trial registry number must be included in the manuscript and provided on 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. [ClinicalTrials.gov](http://ClinicalTrials.gov) the registry sponsored by the United States National Library of Medicine
2. the [International Standard Randomized Controlled Trial Number Registry](#)
3. the [Cochrane Renal Group Registry](#)
4. the [European Clinical Trials Database](#)

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).

### **Informed Consent**

When publishing identifiable images from human research participants, authors must include a statement attesting that they have obtained informed consent for publication of the images. If the participant is deceased, consent must be sought from the next of kin of the participant. 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 will be removed from publication.

### **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.

### **Biosecurity Policy**

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.

**Research Data Policy.** *Modern Pathology* 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](#).

### 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](#), [Uniprot](#), [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](#).

### 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), e-mail: [nome@galton.ucl.ac.uk](mailto:nome@galton.ucl.ac.uk); see also <http://www.gene.ucl.ac.uk/nomenclature>. Approved mouse symbols are provided by The Jackson Laboratory, e-mail: [nomen@informatics.jax.org](mailto:nomen@informatics.jax.org); see also <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)'

### Misconduct

Springer Nature takes seriously all allegations of potential misconduct. As a member of the [Committee on Publication Ethics](#) (COPE), *Modern Pathology* 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.

### Duplicate Publication

Papers must be original and not published or submitted for publication elsewhere. This rule also applies to non-English language publications.

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.

Springer Nature also allows publication of meeting abstracts before the full contribution is submitted. Such abstracts should be included with the journal submission and referred to in the cover letter accompanying the manuscript. Again this policy does not extend to meeting abstracts and reports available to the media or which are otherwise publicized outside the scientific community during the submission and consideration process.

## 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. This can range from getting an identical paper published in multiple journals, to 'salami-slicing', where authors add small amounts of new data to a previous paper.

Plagiarism can be said to have clearly occurred when large chunks of text have been cut-and-pasted. Minor plagiarism without dishonest intent is relatively frequent, for example, when an author reuses parts of an introduction from an earlier paper. Journal editors judge any case of which they become aware (either by their own knowledge of and reading about the literature, or when alerted by referees) on its own merits.

Springer Nature is a member of Similarity Check (formerly CrossCheck), a multi-publisher initiative used to screen published and submitted content for originality. *Modern Pathology* uses Similarity Check to detect instances of overlapping and similar text in submitted manuscripts. To find out more about this, visit the [Similarity Check](#) website.

If a case of plagiarism comes to light after a paper is published, the Journal will conduct a preliminary investigation, utilizing 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.

## 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 color 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.

## 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 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-coloring' and nonlinear adjustment (for example 'gamma changes') are used, this must be disclosed. Adjustments of individual color 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-color 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.

### **Correction and Retraction Process**

Publishable amendments that affect the publication record and/or the scientific accuracy of published information will receive a DOI and be published in the journal. Five categories of amendments are relevant for peer-reviewed material – detailed below. All five correction types are bi-directionally linked to the original published paper.

*Erratum or Publisher Correction.* Notification of an important error made by the journal that affects the publication record or the scientific integrity of the paper, or the reputation of the authors or of the journal.

*Corrigendum or Author Correction.* Notification of an important error made by the author(s) that affects the publication record or the scientific integrity of the paper, or the reputation of the authors or the journal.

*Retraction.* Notification of invalid results that affect the reliability of a previously published article. The original article is marked as retracted but remains available to readers, and the retraction statement notifying readers of the invalidity of the published paper is bi-directionally linked to the original published paper.

*Addendum.* Notification of additional information about a paper. Addenda are published when the editors decide that the addendum is crucial to the reader's understanding of a significant part of the published contribution. Addenda include Editorial Expression of Concern, which is an editorial statement alerting our readership to serious concerns with the published paper. Editorial Expressions of Concern are typically updated with another amendment once further information is available.

*Editor's Note.* An editor's note is a statement from editors notifying readers of issues related to the published paper. It is an online update made only to the HTML version of record of the published article. Editor's notes are typically updated with another amendment once further information is available.

For a correction to be considered, please ensure you complete a [correction request form](#) and submit to the [editorial office](#). Decisions about corrections are made by the Editor (sometimes with peer-reviewers' advice) and this sometimes involves author consultation. Requests to make corrections that do not affect the paper in a significant way or impair the reader's understanding of the contribution (a spelling mistake or grammatical error, for example) are not considered.

In cases where co-authors disagree about a correction, 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.

If there is suspicion of misconduct, the journal will carry out an investigation following COPE guidelines. Following an investigation, if the allegation raises valid concerns, the author will be contacted and given an opportunity to address the issue. If misconduct is established beyond reasonable doubt, this may result in the Editor implementing one of the following measures:

- If the article is still under consideration, it may be rejected and returned to the author.
- If the article has already been published online, depending on the nature and severity of the infraction, either a correction will be published alongside the article or, in severe cases, complete retraction of the article will occur. The reason for the correction or retraction must be given.
- In either case, the author's institution or funding agency may be informed.

### **English Language Support**

For editors and reviewers to accurately assess the work presented in your manuscript you need to ensure the English language is of sufficient quality to be understood. If you need help with writing in English, you should consider:



- Asking a colleague who is a native English speaker to review your manuscript for clarity.
- Visiting the [English language tutorial](#) which covers the common mistakes when writing in English.
- Using a professional language editing service where editors will improve the English to ensure that your meaning is clear and identify problems that require your review. Two such services are provided by our affiliates [Nature Research Editing Service](#) and [American Journal Experts](#).

#### *English language editing services*

- [American Journal Experts](#)
- [Inter-Biotech](#)
- Inter-Biotech also provides a [free online writing course](#) to help biomedical scientists whose first language is not English to write and publish their papers in English-language journals.
- [Nature Research Editing Service](#)
- [SPI Professional Editing Services](#)
- [Write Science Right](#)

Please note that the use of a language editing service is not a requirement for publication in this journal and does not imply or guarantee that the article will be selected for peer review or accepted.

For more details on Springer Nature's editorial policies, view our [Editorial Policies PDF](#).

## FURTHER INFORMATION

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](#).