BBA Molecular Basis of Disease addresses the biochemistry and molecular genetics of disease processes and models of human disease. This journal covers aspects of aging, cancer, metabolic-, neurological-, and immunological-based disease. Manuscripts focused on using animal models to elucidate biochemical and mechanistic insight in each of these conditions, are particularly encouraged. Manuscripts should emphasize the underlying mechanisms of disease pathways and provide novel contributions to the understanding and/or treatment of these disorders. Highly descriptive and method development submissions may be declined without full review.

Given the complex regulation of gene expression by a vast network of miRNA's, manuscripts describing the regulation of (disease-associated) genes by single miRNAs will only be considered if they provide genuine, novel insight in a disease mechanism. Further, studies restricted to a single cell line will not be considered unless they present truly novel insights.

The submission of uninvited reviews to BBA - Molecular Basis of Disease is strongly discouraged, and any such uninvited review should be accompanied by a cover letter outlining the compelling reasons why the review should be considered.

Benefits to authors
We also provide many author benefits, such as free PDFs, a liberal copyright policy, special discounts on Elsevier publications and much more. Please click here for more information on our author services.

Please see our Guide for Authors for information on article submission. If you require any further information or help, please visit our Support Center.

AUDIENCE
Basic and clinical researchers studying molecular aspects of disease processes, Human geneticists, Biochemists, Molecular biologists, Cell biologists, Cell physiologists

IMPACT FACTOR
2017: 5.108 © Clarivate Analytics Journal Citation Reports 2018
ABSTRACTING AND INDEXING

Science Citation Index
EMBiology
Sociedad Iberoamericana de Informacion Cientifica (SIIC) Data Bases
BIOSIS
Chemical Abstracts
Current Contents/Life Sciences
EMBASE
Index Chemicus
MEDLINE®
Scopus

EDITORIAL BOARD

Executive Editors:
Jeffrey Keller, Pennington Biomedical Research Center/Louisiana State University System, Baton Rouge, Louisiana, USA
Aging, Alzheimer’s disease, neurodegeneration, oxidative stress
Ronald Oude Elferink, Tytgat Institute for Liver and Intestinal Research, Amsterdam, Netherlands
Inherited liver disease, transgenic animal models, drug disposition, ABC transporters, lipid flippases
M. Paul Murphy, University of Kentucky, Lexington, Kentucky, USA

Scientific Editor (Elsevier, Cambridge, MA, USA):
Angela Schena

Editorial Board Members:
Valerie Askanas, University of Southern California, Los Angeles, California, USA
Yidong Bai, University of Texas Health Sciences Center at San Antonio, San Antonio, Texas, USA
Mitochondrial; Oxidative stress, Respiration complex, Metabolism, Mitochondrial DNA mutation
Shairaz Baksh, University of Alberta, Edmonton, Alberta, Canada
oxidative stress, Alzheimer disease and mild cognitive impairment, redox proteomics, amyloid beta-peptide
Garth J.S. Cooper
Molecular mechanisms of diabetes mellitus; experimental therapeutics of diabetes; type-2 diabetes; islet beta-cell death; islet amyloid; insulin resistance; diabetic complications; diabetic cardiomyopathy; diabetic nephropathy; diabetic neuropathy; molecular basis of dementia; molecular linkages between dementia and diabetes; Alzheimer’s disease; Huntington’s disease; amylin; insulin; hormonal regulation of metabolism
Angus Dalgleish, St. George’s Hospital Medical School, University of London, London, UK
Tumour immunology, HIV pathogenesis, vaccines
Rafael deCabo, National Institute of Aging (NIA), Baltimore, Maryland, USA
Aging, caloric restriction, metabolism, redox pathways, sirtuins
Stuart E. Dryer, University of Texas Health Sciences Center at San Antonio, San Antonio, Texas, USA
Glomerular disease; ion channels; renal physiology; calcium signaling; electrophysiology; protein interactions; membrane transport; receptors.
Jason Dyck, University of Alberta, Edmonton, Alberta, Canada
Peter Fickert, Medical University of Graz, Weiz, Austria
Maria Figueiredo-Pereira, City University of New York (CUNY), New York, New York, USA
proteasome, neuroinflammation, neurodegeneration, prostaglandin j2, cyclooxygenase
Nikolaos G. Frangogiannis, Albert Einstein College of Medicine, New-York, New York, USA
Cardiac injury and repair
Saeid Ghavami, University of Manitoba, Winnipeg, Manitoba, Canada
Autophagy; Unfolded Protein Response; Fibrotic Disease; Apoptosis; Lung Cancer; Idiopathic Pulmonary Fibrosis; Rhabdomyosarcoma; Brian tumors
Fernando Gómez-Pinilla, University of California at Los Angeles (UCLA), Los Angeles, California, USA
Grace L. Guo, Rutgers University, Piscataway, New Jersey, USA
Elly Hol, Universitair Medisch Centrum Utrecht (UMC Utrecht), Utrecht, Netherlands
Astrocytes, Glia, Alzheimer, Stroke, Parkinson, Neurogenesis
Nancy Ip, Hong Kong University of Science and Technology, Kowloon, Hong Kong
Developmental and molecular Neurobiology, Neurothrophic factors and their receptors, neuronal differentiation, neural regeneration
Takeshi Iwatsubo, University of Tokyo, Bunkyo-Ku, Japan
Cardiovascular diseases, Diabetes, Cell signaling, Cell death, autophagy, Mitochondria, Insulin, Growth factors, Intracellular communication
Valter D. Longo, University of Southern California, Los Angeles, California, USA
Aging, cell signaling, IGF-1, yeast models of aging
José E. Manautou, University of Connecticut, Storrs, Connecticut, USA
Hepatotoxicity Model hepatotoxins (e.g. acetaminophen, carbon tetrachloride) Hepatobiliary disposition of xenobiotics Hepatoprotection Peroxisome proliferators Transport proteins Covalent binding in hepatotoxicity Reactive intermediates in hepatotoxicity
Sara Mole, University College London (UCL), London, UK
Aging, Alzheimer's disease, Diabetes, Mitochondria, Neurodegeneration, Oxidative stress
Antonio Moschetta, Università di Bari, Bari, Italy
Nuclear Hormone Receptors, Liver Metabolic Disease, Gut-liver axis, Intestinal mucosa regeneration - tumorigenesis, Transcriptional regulation of Cholesterol and Lipid Metabolism
Ram Nagaraj, University of Colorado School of Medicine, Aurora, Colorado, USA
Small heat shock proteins, glycation, oxidative stress, apoptosis, cataract, diabetic retinopathy
William Orr, Southern Methodist University, Dallas, Texas, USA
Aging, redox regulation, innate immunity, circadian rhythm, caloric restriction
Athanasios Papavassiliou, University of Athens Medical School, Athens, Greece
AGE/metabolic stress signaling, Bone mechanobiology, Molecular oncology, Signaling pathways in tumorigenesis, Signal transduction to transcription factors in health and disease
Samir Kumar Patra, National Institute of Technology Rourkela (NIT), Orissa, India
Epigenetic mechanisms, DNA and Histone modifications, DNA demethylase and DNA demethylation mechanisms, regulation of gene expression, membrane lipid raft structure and signaling, Ras-MAPK and Hedgehog signaling pathways, Cancer stem cell and pluripotency.
Raghaban Raju, Augusta University, Augusta, Georgia, USA
Mitochondria, sirtuin, trauma, sepsis, oxidative stress, inflammation
Hemachandra Reddy, Texas Tech University Health Sciences Center, Lubbock, Texas, USA
Aging, Amyloid Beta, Neurodegenerative diseases, Mitochondria and Mitochondrial therapeutics.
Jun Ren, University of Wyoming, Cheyenne, Wyoming, USA
Manfredi Rizzo, Università degli Studi di Palermo, Palermo, Italy
Diabetes, atherosclerosis, cardiovascular prevention, dyslipidemia, metabolic syndrome
Luis Sobrevia, Pontificia Universidad Católica de Chile, Santiago, Chile
endothelium; trophoblast; fetus; placenta; insulin resistance; diabetes; preeclampsia; obesity in pregnancy; membrane transport; membrane receptors; adenosine; nitric oxide; L-arginine; pH; endoplasmic reticulum stress; exosomes; extracellular vesicles
Jacqueline M. Stephens, Louisiana State University, Baton Rouge, Louisiana, USA
Adipocyte, adipose tissue, obesity, insulin resistance, and STATs
Mark Sussman, SDSU Heart Institute, San Diego, California, USA
Cardiac, heart failure, stem cells, Akt kinase, Pim-1 kinase, myocardial biology
Russell H. Swerdlow, University of Kansas School of Medicine, Kansas City, Kansas, USA
Aging, Alzheimer's disease, Bioenergetics, Metabolism, Mitochondria, Neurodegeneration
Ya-Xiong Tao, Auburn University, Auburn, Alabama, USA
Sylvana Zanlungo, Pontificia Universidad Católica de Chile, Santiago, Chile
cholesterol, Niemann-Pick, neurodegeneration, liver, lipids, oxidative stress
Massimo Zeviani, National Neurological Institute “Carlo Besta”, Milano, Italy
Mitochondrial Disease; Oxidative Phosphorylation; mitochondrial respiratory chain; mitochondrial DNA; mtDNA mutation.
Zhuohua Zhang, Central South University, Changsha, China
ubiquitin proteasomal degradation, Parkinson disease, protein folding, connexins, epigenetics

Xiongwei Zhu, Case Western Reserve University School of Medicine, Cleveland, Ohio, USA
Neuroscience, Neurodegenerative diseases, Mitochondrial Oxidative Stress, Amyloid, Signal Transduction, Alzheimer's Disease, Parkinson's Disease
GUIDE FOR AUTHORS

Your Paper Your Way
We now differentiate between the requirements for new and revised submissions. You may choose to submit your manuscript as a single Word or PDF file to be used in the refereeing process. Only when your paper is at the revision stage, will you be requested to put your paper in to a 'correct format' for acceptance and provide the items required for the publication of your article. To find out more, please visit the Preparation section below.

INTRODUCTION
BBA Molecular Basis of Disease addresses the biochemistry and molecular genetics of disease processes and their models with a specific focus on human disease. The section covers metabolic, membrane, receptor and immunological disorders, and includes the biochemistry of differentiation disorders, tissue damage and aging. Manuscripts should emphasize the underlying mechanisms of disease pathways and provide novel contributions to the understanding and treatment of these processes. Highly descriptive and method development submissions may be declined without full review.

Types of paper
Full-length research articles, Review papers.

Reviews and mini-reviews are typically commissioned by the Editors. All Review Articles should be authoritative, state-of-the-art accounts of the selected research field, be of high interest, balanced and accurate. Beyond summaries of important scientific developments and ideas, authors are encouraged to identify and discuss how the field may be impacted or develop in the future, including insights that may be of significance to the scientific community. All BBA Review Articles undergo rigorous and full peer review, in the same way as regular research papers, and publication cannot be guaranteed. The number of co-authors of review articles is limited to five and each author is expected to make a substantial contribution to the writing of the manuscript.

Unsolicited reviews will be considered only in exceptional cases and should be preceded by a letter of enquiry from the prospective author, who should be a recognized expert in the field of the proposed article. Pre-submission enquiries may be sent to the Editorial Office bbareviews@elsevier.com. Specifically, authors must provide the following in their review proposal: 1) both your own and any co-author(s) affiliation and full contact details; 2) an explanation of the current interest and significance to the broad readership of the journal, that is, compelling reasons why the review should be considered; 3) a 500-600 word summary which clearly outlines what will be discussed in the article, plus up to 20 key references that indicate the intended breadth of the proposed article (please note that references should include work published in the past 2-4 years). Only proposals that include this information will be considered. Please be sure to specify which one of the ten BBA journals you request to consider your proposal.

Reviews (full-length) should provide a comprehensive analysis on topics of broad interest to the journal's readership. Reviews should be thorough, sufficiently critical and accommodate different points of view. They should stand out from other recently published reviews on the same theme. Although Reviews are not of any fixed length, they are usually 6,000 to 10,000 words in length (excluding references and figure legends), include an abstract that is no more than 150 words, up to 100 references (should include titles), and a minimum of three figures/illustrations.

Mini-reviews are succinct, focused updates of the literature related to a question of current interest in the scientific community (typically from the last 2-3 years). Subjects covered in Mini-reviews are generally narrower, either in scope or depth, than those covered in full-length Reviews. They should highlight/analyze/discuss recent and important findings and include the author's viewpoint on how the subject relates to the current state of the field. Mini-reviews are usually 2000 to 4000 words in length (excluding references and figure legends), include an abstract that is no more than 100 words, up to 50 references (should include titles), and one to three figures/illustrations.

Contact details for submission
Papers should be submitted using the BBA Molecular Basis of Disease online submission system http://ees.elsevier.com/bbadis. For questions on the submission and reviewing process, please contact the Editorial Office at bbadis@elsevier.com.
BEFORE YOU BEGIN

**Ethics in publishing**
Please see our information pages on Ethics in publishing and Ethical guidelines for journal publication.

**Human and animal rights**
If the work involves the use of human subjects, the author should ensure that the work described has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans; Uniform Requirements for manuscripts submitted to Biomedical journals. Authors should include a statement in the manuscript that informed consent was obtained for experimentation with human subjects. The privacy rights of human subjects must always be observed.

All animal experiments should comply with the ARRIVE guidelines and should be carried out in accordance with the U.K. Animals (Scientific Procedures) Act, 1986 and associated guidelines, EU Directive 2010/63/EU for animal experiments, or the National Institutes of Health guide for the care and use of Laboratory animals (NIH Publications No. 8023, revised 1978) and the authors should clearly indicate in the manuscript that such guidelines have been followed.

**Conflict of Interest**
*BBA Molecular Basis of Disease* follows the ICMJE recommendations regarding conflict of interest disclosures. All authors are required to report the following information with each submission: (1) All third-party financial support for the work in the submitted manuscript. (2) All financial relationships with any entities that could be viewed as relevant to the general area of the submitted manuscript. (3) All sources of revenue with relevance to the submitted work who made payments to you, or to your institution on your behalf, in the 36 months prior to submission. (4) Any other interactions with the sponsor of outside of the submitted work should also be reported. (5) Any relevant patents or copyrights (planned, pending, or issued). (6) Any other relationships or affiliations that may be perceived by readers to have influenced, or give the appearance of potentially influencing, what you wrote in the submitted work. As a general guideline, it is usually better to disclose a relationship than not. This information will be acknowledged at publication in a Transparency Document link directly in the article. Additional information on the ICMJE recommendations can be found at: http://www.icmje.org/. The form for conflict of interest disclosure can be downloaded here: http://www.icmje.org/coi_disclosure.pdf (if this link does not display properly in your browser, please right-click the link and select "Save Target As..." or "Save Link as..." from the pop-up menu).

**Submission declaration and verification**
Submission of an article implies that the work described has not been published previously (except in the form of an abstract, a published lecture or academic thesis, see 'Multiple, redundant or concurrent publication' for more information), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. To verify originality, your article may be checked by the originality detection service Crossref Similarity Check.

**Preprints**
Please note that preprints can be shared anywhere at any time, in line with Elsevier's sharing policy. Sharing your preprints e.g. on a preprint server will not count as prior publication (see 'Multiple, redundant or concurrent publication' for more information).

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

**Changes to authorship**
Authors are expected to consider carefully the list and order of authors before submitting their manuscript and provide the definitive list of authors at the time of the original submission. Any addition, deletion or rearrangement of author names in the authorship list should be made only before the manuscript has been accepted and only if approved by the journal Editor. To request such a change, the Editor must receive the following from the corresponding author: (a) the reason
for the change in author list and (b) written confirmation (e-mail, letter) from all authors that they agree with the addition, removal or rearrangement. In the case of addition or removal of authors, this includes confirmation from the author being added or removed.

Only in exceptional circumstances will the Editor consider the addition, deletion or rearrangement of authors after the manuscript has been accepted. While the Editor considers the request, publication of the manuscript will be suspended. If the manuscript has already been published in an online issue, any requests approved by the Editor will result in a corrigendum.

**Article transfer service**
This journal is part of our Article Transfer Service. This means that if the Editor feels your article is more suitable in one of our other participating journals, then you may be asked to consider transferring the article to one of those. If you agree, your article will be transferred automatically on your behalf with no need to reformat. Please note that your article will be reviewed again by the new journal. More information.

**Copyright**
Upon acceptance of an article, authors will be asked to complete a 'Journal Publishing Agreement' (see more information on this). An e-mail will be sent to the corresponding author confirming receipt of the manuscript together with a 'Journal Publishing Agreement' form or a link to the online version of this agreement.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the Publisher is required for resale or distribution outside the institution and for all other derivative works, including compilations and translations. If excerpts from other copyrighted works are included, the author(s) must obtain written permission from the copyright owners and credit the source(s) in the article. Elsevier has preprinted forms for use by authors in these cases.

For gold open access articles: Upon acceptance of an article, authors will be asked to complete an 'Exclusive License Agreement' (more information). Permitted third party reuse of gold open access articles is determined by the author's choice of user license.

**Author rights**
As an author you (or your employer or institution) have certain rights to reuse your work. More information.

Elsevier supports responsible sharing
Find out how you can share your research published in Elsevier journals.

**Role of the funding source**
You are requested to identify who provided financial support for the conduct of the research and/or preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in the collection, analysis and interpretation of data; in the writing of the report; and in the decision to submit the article for publication. If the funding source(s) had no such involvement then this should be stated.

Elsevier journals comply with current NIH public access policy

**Funding body agreements and policies**
Elsevier has established a number of agreements with funding bodies which allow authors to comply with their funder's open access policies. Some funding bodies will reimburse the author for the gold open access publication fee. Details of existing agreements are available online.

**Open access**
This journal offers authors a choice in publishing their research:

**Subscription**
- Articles are made available to subscribers as well as developing countries and patient groups through our universal access programs.
- No open access publication fee payable by authors.
- The Author is entitled to post the accepted manuscript in their institution’s repository and make this public after an embargo period (known as green Open Access). The published journal article cannot be shared publicly, for example on ResearchGate or Academia.edu, to ensure the sustainability of peer-reviewed research in journal publications. The embargo period for this journal can be found below.
Gold open access

- Articles are freely available to both subscribers and the wider public with permitted reuse.
- A gold open access publication fee is payable by authors or on their behalf, e.g. by their research funder or institution.

Regardless of how you choose to publish your article, the journal will apply the same peer review criteria and acceptance standards.

For gold open access articles, permitted third party (re)use is defined by the following Creative Commons user licenses:

**Creative Commons Attribution (CC BY)**

Lets others distribute and copy the article, create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), include in a collective work (such as an anthology), text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honor or reputation.

**Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND)**

For non-commercial purposes, lets others distribute and copy the article, and to include in a collective work (such as an anthology), as long as they credit the author(s) and provided they do not alter or modify the article.

The gold open access publication fee for this journal is USD 4050, excluding taxes. Learn more about Elsevier's pricing policy: https://www.elsevier.com/openaccesspricing.

Green open access

Authors can share their research in a variety of different ways and Elsevier has a number of green open access options available. We recommend authors see our green open access page for further information. Authors can also self-archive their manuscripts immediately and enable public access from their institution's repository after an embargo period. This is the version that has been accepted for publication and which typically includes author-incorporated changes suggested during submission, peer review and in editor-author communications. Embargo period: For subscription articles, an appropriate amount of time is needed for journals to deliver value to subscribing customers before an article becomes freely available to the public. This is the embargo period and it begins from the date the article is formally published online in its final and fully citable form. Find out more.

This journal has an embargo period of 12 months.

Elsevier Researcher Academy

Researcher Academy is a free e-learning platform designed to support early and mid-career researchers throughout their research journey. The "Learn" environment at Researcher Academy offers several interactive modules, webinars, downloadable guides and resources to guide you through the process of writing for research and going through peer review. Feel free to use these free resources to improve your submission and navigate the publication process with ease.

Language (usage and editing services)

Please write your text in good English (American or British usage is accepted, but not a mixture of these). Authors who feel their English language manuscript may require editing to eliminate possible grammatical or spelling errors and to conform to correct scientific English may wish to use the English Language Editing service available from Elsevier's WebShop.

Submission

Our online submission system guides you stepwise through the process of entering your article details and uploading your files. The system converts your article files to a single PDF file used in the peer-review process. Editable files (e.g., Word, LaTeX) are required to typeset your article for final publication. All correspondence, including notification of the Editor's decision and requests for revision, is sent by e-mail.

Referees

Please submit the names, addresses, and e-mail addresses of 4 potential referees, as well as a brief description of their expertise relevant to your manuscript. Suggested reviewers should be individuals qualified to evaluate the work you have submitted. Editorial Board members who do not
have relevant expertise on the topic of your article should not be suggested. Please note that the reviewers suggested may not be current, recent or extensive collaborators of yours, and cannot have been involved in the preparation of the manuscript.

Please note that the editor retains the sole right to decide whether or not the suggested reviewers are used. Failure to provide appropriate reviewer suggestions as noted above may result in your manuscript being returned to you without review.

Authors may request exclusion of certain referees if conflicts of interest are anticipated. However, no more than 3 such names should be given. Entire groups, institutions or countries cannot be specified for exclusion.

PREPARATION

NEW SUBMISSIONS
Submission to this journal proceeds totally online and you will be guided stepwise through the creation and uploading of your files. The system automatically converts your files to a single PDF file, which is used in the peer-review process. As part of the Your Paper Your Way service, you may choose to submit your manuscript as a single file to be used in the refereeing process. This can be a PDF file or a Word document, in any format or layout that can be used by referees to evaluate your manuscript. It should contain high enough quality figures for refereeing. If you prefer to do so, you may still provide all or some of the source files at the initial submission. Please note that individual figure files larger than 10 MB must be uploaded separately.

References
There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct.

Formatting requirements
There are no strict formatting requirements but all manuscripts must contain the essential elements needed to convey your manuscript, for example Abstract, Keywords, Introduction, Materials and Methods, Results, Conclusions, Artwork and Tables with Captions. If your article includes any Videos and/or other Supplementary material, this should be included in your initial submission for peer review purposes. Divide the article into clearly defined sections.

Please ensure your paper includes page numbers - this is an essential peer review requirement.

Figures and tables embedded in text
Please ensure the figures and the tables included in the single file are placed next to the relevant text in the manuscript, rather than at the bottom or the top of the file. The corresponding caption should be placed directly below the figure or table.

Peer review
This journal operates a single blind review process. All contributions will be initially assessed by the editor for suitability for the journal. Papers deemed suitable are then typically sent to a minimum of two independent expert reviewers to assess the scientific quality of the paper. The Editor is responsible for the final decision regarding acceptance or rejection of articles. The Editor's decision is final. More information on types of peer review.

REVISED SUBMISSIONS

Use of word processing software
Regardless of the file format of the original submission, at revision you must provide us with an editable file of the entire article. Keep the layout of the text as simple as possible. Most formatting codes will be removed and replaced on processing the article. The electronic text should be prepared in a way very similar to that of conventional manuscripts (see also the Guide to Publishing with Elsevier). See also the section on Electronic artwork. To avoid unnecessary errors you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor.
**Article structure**

**Subdivision - numbered sections**
Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to 'the text'. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

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

**Material and methods**
Provide sufficient details to allow the work to be reproduced by an independent researcher. Methods that are already published should be summarized, and indicated by a reference. If quoting directly from a previously published method, use quotation marks and also cite the source. Any modifications to existing methods should also be described.

**Results**
Results should be clear and concise.

**Discussion**
This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

**Conclusions**
The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

**Appendices**
If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

**Essential title page information**
- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible.
- **Author names and affiliations.** Please clearly indicate the given name(s) and family name(s) of each author and check that all names are accurately spelled. You can add your name between parentheses in your own script behind the English transliteration. Present the authors' affiliation addresses (where the actual work was done) below the names. Indicate all affiliations with a lowercase superscript letter immediately after the author's name and in front of the appropriate address. Provide the full postal address of each affiliation, including the country name and, if available, the e-mail address of each author.
- **Corresponding author.** Clearly indicate who will handle correspondence at all stages of refereeing and publication, also post-publication. This responsibility includes answering any future queries about Methodology and Materials. Ensure that the e-mail address is given and that contact details are kept up to date by the corresponding author.
- **Present/permanent address.** If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated as a footnote to that author's name. The address at which the author actually did the work must be retained as the main, affiliation address. Superscript Arabic numerals are used for such footnotes.

**Abstract**
A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

A Regular paper should have a Summary of 100-250 words.
Graphical abstract
Although a graphical abstract is optional, its use is encouraged as it draws more attention to the online article. The graphical abstract should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership. Graphical abstracts should be submitted as a separate file in the online submission system. Image size: Please provide an image with a minimum of 531 × 1328 pixels (h × w) or proportionally more. The image should be readable at a size of 5 × 13 cm using a regular screen resolution of 96 dpi. Preferred file types: TIFF, EPS, PDF or MS Office files. You can view Example Graphical Abstracts on our information site.
Authors can make use of Elsevier's Illustration Services to ensure the best presentation of their images and in accordance with all technical requirements.

Highlights
Highlights are mandatory for this journal. They consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate editable file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point). You can view example Highlights on our information site.

Keywords
Immediately after the abstract, provide a maximum of 6 keywords, using American spelling and avoiding general and plural terms and multiple concepts (avoid, for example, 'and', 'of'). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

Abbreviations
Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

Acknowledgements
Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

Formatting of funding sources
List funding sources in this standard way to facilitate compliance to funder's requirements:

Funding: This work was supported by the National Institutes of Health [grant numbers xxxx, yyyyy]; the Bill & Melinda Gates Foundation, Seattle, WA [grant number zzzzz]; and the United States Institutes of Peace [grant number aaaaa].

It is not necessary to include detailed descriptions on the program or type of grants and awards. When funding is from a block grant or other resources available to a university, college, or other research institution, submit the name of the institute or organization that provided the funding.

If no funding has been provided for the research, please include the following sentence:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Standards for Reporting Enzymology Data (STRENDA)
This journal follows the recommendations of the STRENDA (Standards for Reporting Enzymology Data) Commission of the Beilstein-Institut for the reporting of kinetic and equilibrium binding data. Detailed guidelines can be found at (http://www.strenda.org/documents.html) or in this pdf file. All reports of kinetic and binding data must include a description of the identity of the catalytic or binding entity (enzyme, protein, nucleic acid or other molecule). This information should include the origin or source of the molecule, its purity, composition, and other characteristics such as post-translational modifications, mutations, and any modifications made to facilitate expression or purification. The assay methods and exact experimental conditions of the assay must be fully described if it is a new assay or provided as a reference to previously published work, with or without modifications. The temperature, pH and pressure (if other than atmospheric) of the assay must always be included, even if previously published. In instances where catalytic activity or binding
cannot be detected, an estimate of the limit of detection based on the sensitivity and error analysis of the assay should be provided. Ambiguous terms such as "not detectable" should be avoided. A description of the software used for data analysis should be included along with calculated errors for all parameters.

First-order and second-order rate constants: see pdf for full instructions.

Electrophoretic gels and blots
Manuscripts reporting results from blots (including Western blots) and electrophoretic gels should adhere to the following guidelines: In accordance with our policy on image manipulation, the image should not be adjusted in any way that affects the scientific interpretation displayed, e.g. by strong modification of the background or contrast. Authors should be able to provide original uncropped and unadjusted blots and gels, including molecular size markers, upon request by the editor or any of the reviewers. Similarly, in case the authors use multiple blots for protein quantitation (or draw quantitative conclusions from the blots), the authors should be able to provide upon request pictures of all full blots that have contributed to this quantitation for review purposes. Quantitation should only be performed using a minimum of 3 blots/gels, each obtained from separate experimental trials. Cropped blots in the body of the paper should retain sufficient space above and below the band (about six band widths). Any non-specific band should be labelled as such and an attempt should be made to explain its nature. The image should include all relevant controls, and controls should be run on the same blot or gel as the samples. The image should also display the position of the molecular weight markers. A figure panel may not include composite images of bands originating from different blots or gels. If the figure shows non-adjacent bands from the same blot or gel, this should be clearly denoted by vertical black lines and the figure legend should provide details of how the figure was prepared. The submission of high-contrast gels and blots is discouraged, as overexposure may mask additional bands. Authors should strive for exposures with gray backgrounds. Multiple exposures should be presented in supplementary information if high contrast is unavoidable.

Math formulae
Please submit math equations as editable text and not as images. Present simple formulae in line with normal text where possible and use the solidus (/) instead of a horizontal line for small fractional terms, e.g., X/Y. In principle, variables are to be presented in italics. Powers of e are often more conveniently denoted by exp. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text).

Footnotes
Footnotes should be used sparingly. Number them consecutively throughout the article. Many word processors build footnotes into the text, and this feature may be used. Should this not be the case, indicate the position of footnotes in the text and present the footnotes themselves separately at the end of the article.

Artwork

Image manipulation
While it is accepted that authors sometimes need to manipulate images for clarity, manipulation for purposes of deception or fraud will be seen as scientific ethical abuse and will be dealt with accordingly. For graphical images, this journal is applying the following policy: no specific feature within an image may be enhanced, obscured, moved, removed, or introduced. Adjustments of brightness, contrast, or color balance are acceptable as long as they are applied to the entire image and do not obscure or eliminate any information present in the original. Nonlinear adjustments (e.g. changes to gamma settings) must be disclosed in the figure legend.

Digital images in manuscripts nearing acceptance for publication may be scrutinized for any indication of improper manipulation. BBA Molecular Basis of Disease reserves the right to ask for original data or images and, if these are not satisfactory, we may decide not to accept the manuscript.

Electronic artwork

General points
• Make sure you use uniform lettering and sizing of your original artwork.
• Preferred fonts: Arial (or Helvetica), Times New Roman (or Times), Symbol, Courier.
• Number the illustrations according to their sequence in the text.
• Use a logical naming convention for your artwork files.
• Indicate per figure if it is a single, 1.5 or 2-column fitting image.
• For Word submissions only, you may still provide figures and their captions, and tables within a single file at the revision stage.
• Please note that individual figure files larger than 10 MB must be provided in separate source files. A detailed guide on electronic artwork is available.

You are urged to visit this site; some excerpts from the detailed information are given here.

Formats
Regardless of the application used, when your electronic artwork is finalized, please 'save as' or convert the images to one of the following formats (note the resolution requirements for line drawings, halftones, and line/halftone combinations given below):
- EPS (or PDF): Vector drawings. Embed the font or save the text as 'graphics'.
- TIFF (or JPG): Color or grayscale photographs (halftones): always use a minimum of 300 dpi.
- TIFF (or JPG): Bitmapped line drawings: use a minimum of 1000 dpi.
- TIFF (or JPG): Combinations bitmapped line/half-tone (color or grayscale): a minimum of 500 dpi is required.

Please do not:
- Supply files that are optimized for screen use (e.g., GIF, BMP, PICT, WPG); the resolution is too low.
- Supply files that are too low in resolution.
- Submit graphics that are disproportionately large for the content.

Color artwork
Please make sure that artwork files are in an acceptable format (TIFF (or JPEG), EPS (or PDF) or MS Office files) and with the correct resolution. If, together with your accepted article, you submit usable color figures then Elsevier will ensure, at no additional charge, that these figures will appear in color online (e.g., ScienceDirect and other sites) in addition to color reproduction in print. Further information on the preparation of electronic artwork.

Figure captions
Ensure that each illustration has a caption. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

Tables
Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells.

References
Citation in text
Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication and a copy of the title page of the relevant article must be submitted.

Web references
As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given. Web references can be listed separately (e.g., after the reference list) under a different heading if desired, or can be included in the reference list.

Data references
This journal encourages you to cite underlying or relevant datasets in your manuscript by citing them in your text and including a data reference in your Reference List. Data references should include the following elements: author name(s), dataset title, data repository, version (where available), year, and global persistent identifier. Add [dataset] immediately before the reference so we can properly identify it as a data reference. The [dataset] identifier will not appear in your published article.

References in a special issue
Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.
**Reference management software**

Most Elsevier journals have their reference template available in many of the most popular reference management software products. These include all products that support Citation Style Language styles, such as Mendeley and Zotero, as well as EndNote. Using the word processor plug-ins from these products, authors only need to select the appropriate journal template when preparing their article, after which citations and bibliographies will be automatically formatted in the journal's style. If no template is yet available for this journal, please follow the format of the sample references and citations as shown in this Guide. If you use reference management software, please ensure that you remove all field codes before submitting the electronic manuscript. More information on how to remove field codes.

Users of Mendeley Desktop can easily install the reference style for this journal by clicking the following link:


When preparing your manuscript, you will then be able to select this style using the Mendeley plug-ins for Microsoft Word or LibreOffice.

**Reference formatting**

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the article number or pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct. If you do wish to format the references yourself they should be arranged according to the following examples:

**Reference style**

**Text:** Indicate references by number(s) in square brackets in line with the text. The actual authors can be referred to, but the reference number(s) must always be given.

Example: '..... as demonstrated [3,6]. Barnaby and Jones [8] obtained a different result ....'

**List:** Number the references (numbers in square brackets) in the list in the order in which they appear in the text.

**Examples:**

Reference to a journal publication:


Reference to a journal publication with an article number:


Reference to a book:


Reference to a chapter in an edited book:


Reference to a website:


Reference to a dataset:


**Journal abbreviations source**

Journal names should be abbreviated according to the List of Title Word Abbreviations.

**Video**

Elsevier accepts video material and animation sequences to support and enhance your scientific research. Authors who have video or animation files that they wish to submit with their article are strongly encouraged to include links to these within the body of the article. This can be done in the same way as a figure or table by referring to the video or animation content and noting in the body text where it should be placed. All submitted files should be properly labeled so that they directly relate to the video file's content. In order to ensure that your video or animation material is directly usable, please provide the file in one of our recommended file formats with a preferred maximum
size of 150 MB per file, 1 GB in total. Video and animation files supplied will be published online in the electronic version of your article in Elsevier Web products, including ScienceDirect. Please supply 'stills' with your files: you can choose any frame from the video or animation or make a separate image. These will be used instead of standard icons and will personalize the link to your video data. For more detailed instructions please visit our video instruction pages. Note: since video and animation cannot be embedded in the print version of the journal, please provide text for both the electronic and the print version for the portions of the article that refer to this content.

**AudioSlides**
The journal encourages authors to create an AudioSlides presentation with their published article. AudioSlides are brief, webinar-style presentations that are shown next to the online article on ScienceDirect. This gives authors the opportunity to summarize their research in their own words and to help readers understand what the paper is about. More information and examples are available. Authors of this journal will automatically receive an invitation e-mail to create an AudioSlides presentation after acceptance of their paper.

**Data visualization**
Include interactive data visualizations in your publication and let your readers interact and engage more closely with your research. Follow the instructions here to find out about available data visualization options and how to include them with your article.

**Supplementary material**
Supplementary material such as applications, images and sound clips, can be published with your article to enhance it. Submitted supplementary items are published exactly as they are received (Excel or PowerPoint files will appear as such online). Please submit your material together with the article and supply a concise, descriptive caption for each supplementary file. If you wish to make changes to supplementary material during any stage of the process, please make sure to provide an updated file. Do not annotate any corrections on a previous version. Please switch off the 'Track Changes' option in Microsoft Office files as these will appear in the published version.

**Research data**
This journal encourages and enables you to share data that supports your research publication where appropriate, and enables you to interlink the data with your published articles. Research data refers to the results of observations or experimentation that validate research findings. To facilitate reproducibility and data reuse, this journal also encourages you to share your software, code, models, algorithms, protocols, methods and other useful materials related to the project. Below are a number of ways in which you can associate data with your article or make a statement about the availability of your data when submitting your manuscript. If you are sharing data in one of these ways, you are encouraged to cite the data in your manuscript and reference list. Please refer to the "References" section for more information about data citation. For more information on depositing, sharing and using research data and other relevant research materials, visit the research data page.

**Data linking**
If you have made your research data available in a data repository, you can link your article directly to the dataset. Elsevier collaborates with a number of repositories to link articles on ScienceDirect with relevant repositories, giving readers access to underlying data that gives them a better understanding of the research described.

There are different ways to link your datasets to your article. When available, you can directly link your dataset to your article by providing the relevant information in the submission system. For more information, visit the database linking page.

For supported data repositories a repository banner will automatically appear next to your published article on ScienceDirect.

In addition, you can link to relevant data or entities through identifiers within the text of your manuscript, using the following format: Database: xxxx (e.g., TAIR: AT1G01020; CCDC: 734053; PDB: 1XFN).
Mendeley Data
This journal supports Mendeley Data, enabling you to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with your manuscript in a free-to-use, open access repository. During the submission process, after uploading your manuscript, you will have the opportunity to upload your relevant datasets directly to Mendeley Data. The datasets will be listed and directly accessible to readers next to your published article online.

For more information, visit the Mendeley Data for journals page.

Data in Brief
You have the option of converting any or all parts of your supplementary or additional raw data into one or multiple data articles, a new kind of article that houses and describes your data. Data articles ensure that your data is actively reviewed, curated, formatted, indexed, given a DOI and publicly available to all upon publication. You are encouraged to submit your article for Data in Brief as an additional item directly alongside the revised version of your manuscript. If your research article is accepted, your data article will automatically be transferred over to Data in Brief where it will be editorially reviewed and published in the open access data journal, Data in Brief. Please note an open access fee of 500 USD is payable for publication in Data in Brief. Full details can be found on the Data in Brief website. Please use this template to write your Data in Brief.

MethodsX
You have the option of converting relevant protocols and methods into one or multiple MethodsX articles, a new kind of article that describes the details of customized research methods. Many researchers spend a significant amount of time on developing methods to fit their specific needs or setting, but often without getting credit for this part of their work. MethodsX, an open access journal, now publishes this information in order to make it searchable, peer reviewed, citable and reproducible. Authors are encouraged to submit their MethodsX article as an additional item directly alongside the revised version of their manuscript. If your research article is accepted, your methods article will automatically be transferred over to MethodsX where it will be editorially reviewed. Please note an open access fee is payable for publication in MethodsX. Full details can be found on the MethodsX website. Please use this template to prepare your MethodsX article.

Data statement
To foster transparency, we encourage you to state the availability of your data in your submission. This may be a requirement of your funding body or institution. If your data is unavailable to access or unsuitable to post, you will have the opportunity to indicate why during the submission process, for example by stating that the research data is confidential. The statement will appear with your published article on ScienceDirect. For more information, visit the Data Statement page.

Submission checklist
The following list will be useful during the final checking of an article prior to sending it to the journal for review. Please consult this Guide for Authors for further details of any item.

Ensure that the following items are present:
One author has been designated as the corresponding author with contact details:
• E-mail address
• Full postal address
• Telephone
All necessary files have been uploaded, and contain:
• Keywords
• All figure captions
• All tables (including title, description, footnotes)
Further considerations:
• Manuscript has been 'spell-checked' and 'grammar-checked'
• All references mentioned in the Reference list are cited in the text, and vice versa
• Permission has been obtained for use of copyrighted material from other sources (including the Web)
For any further information please visit our customer support site at http://support.elsevier.com.

AFTER ACCEPTANCE
Online proof correction
Corresponding authors will receive an e-mail with a link to our online proofing system, allowing annotation and correction of proofs online. The environment is similar to MS Word: in addition to editing text, you can also comment on figures/tables and answer questions from the Copy Editor. Web-based proofing provides a faster and less error-prone process by allowing you to directly type your corrections, eliminating the potential introduction of errors.
If preferred, you can still choose to annotate and upload your edits on the PDF version. All instructions for proofing will be given in the e-mail we send to authors, including alternative methods to the online version and PDF.
We will do everything possible to get your article published quickly and accurately. Please use this proof only for checking the typesetting, editing, completeness and correctness of the text, tables and figures. Significant changes to the article as accepted for publication will only be considered at this stage with permission from the Editor. It is important to ensure that all corrections are sent back to us in one communication. Please check carefully before replying, as inclusion of any subsequent corrections cannot be guaranteed. Proofreading is solely your responsibility.

Offprints
The corresponding author will, at no cost, receive a customized Share Link providing 50 days free access to the final published version of the article on ScienceDirect. The Share Link can be used for sharing the article via any communication channel, including email and social media. For an extra charge, paper offprints can be ordered via the offprint order form which is sent once the article is accepted for publication. Both corresponding and co-authors may order offprints at any time via Elsevier’s Webshop. Corresponding authors who have published their article gold open access do not receive a Share Link as their final published version of the article is available open access on ScienceDirect and can be shared through the article DOI link.

AUTHOR INQUIRIES
Visit the Elsevier Support Center to find the answers you need. Here you will find everything from Frequently Asked Questions to ways to get in touch.
You can also check the status of your submitted article or find out when your accepted article will be published.

© Copyright 2018 Elsevier | https://www.elsevier.com