BIOCHEMICAL PHARMACOLOGY

TABLE OF CONTENTS

- Description p.1
- Audience p.2
- Impact Factor p.2
- Abstracting and Indexing p.2
- Editorial Board p.2
- Guide for Authors p.7

DESCRIPTION

*Biochemical Pharmacology* publishes original research findings, Commentaries and review articles related to the elucidation of cellular and tissue function(s) at the biochemical and molecular levels, the modification of cellular phenotype(s) by genetic, transcriptional/translational or drug/compound-induced modifications, as well as the pharmacodynamics and pharmacokinetics of xenobiotics and drugs, the latter including both small molecules and biologics.

The journal’s target audience includes scientists engaged in the identification and study of the mechanisms of action of xenobiotics, biologics and drugs and in the drug discovery and development process.

All areas of cellular biology and cellular, tissue/organ and whole animal pharmacology fall within the scope of the journal. Drug classes covered include anti-infectives, anti-inflammatory agents, chemotherapeutics, cardiovascular, endocrinological, immunological, metabolic, neurological and psychiatric drugs, as well as research on drug metabolism and kinetics. While medicinal chemistry is a topic of complimentary interest, manuscripts in this area must contain sufficient biological data to characterize pharmacologically the compounds reported. Submissions describing work focused predominately on chemical synthesis and molecular modeling will not be considered for review.

While particular emphasis is placed on reporting the results of molecular and biochemical studies, research involving the use of tissue and animal models of human pathophysiology and toxicology is of interest to the extent that it helps define drug mechanisms of action, safety and efficacy.

Reports describing experiments conducted with natural product mixtures, plant or animal extracts will not be considered for publication unless the structures and concentrations of all component substances are known, and the agents can be easily obtained by others wishing to replicate the study.

The chemical structure of all novel compounds tested must be included in the submitted manuscript or be readily accessible in the published literature. References to structures in the patent literature must unambiguously identify a single molecular structure. All compounds, reagents, instrumentation and equipment employed in a study must be available from identified commercial suppliers, bio/pharmaceutical companies or from individuals holding legal rights to their use. Submissions will not be considered for publication if the chemical structures of tested compounds are not revealed, generally known, or accessible in the literature.
Original research submissions must contain: A rationale for the selection of the compound/drug for study as well as for the concentrations/doses employed. Quantities used for concentration- and dose-response experiments should vary logarithmically, e.g., 1, 3, 10, 30 mg/kg, 0.1, 1.0, 10, 100 nanomolar, etc. Justification must be provided for studying only a single concentration or dose of a compound, especially as it relates to reference standards and antagonists/modulators of receptors, enzymes and signaling pathways. Justification must also be provided for the selection of the statistical tests employed as they relate to the experimental design. It is expected that all findings have been subjected to rigorous quantitative analyses, with the calculation and reporting of IC$_{50}$, K$_i$, EC$_{50}$, etc., values. These must be derived from a minimum of three (3) separate and distinct experiments, with the replicates within any single experiment being averaged to obtain a single value for that experimental series. Manuscripts that fail to meet these criteria will be subject to rejection without peer-review.

US National Institutes of Health (NIH) voluntary posting ("Public Access") policy
Biochemical Pharmacology and Elsevier facilitate the author's response to the NIH Public Access Policy.

Please bookmark this URL: http://www.elsevier.com/locate/biochempharm

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
Pharmacologists, Biochemists, Toxicologists, Neuroscientists, Molecular and Cellular Biologists.

IMPACT FACTOR
2016: 4.581 © Clarivate Analytics Journal Citation Reports 2017

ABSTRACTING AND INDEXING
Current Contents/ASCA
BIOSIS
Elsevier BIBOBASE
Chemical Abstracts
Current Contents/Life Sciences
EMBASE
Current Contents/BIOBASE Database
PASCAL/CNRS
Current Contents/Science Citation Index
Current Contents/SciSearch Database
MEDLINE®
Reference Update
Scopus

EDITORIAL BOARD

Editor-in-Chief:
S.J. Enna, University of Kansas Medical Center, Kansas City, Kansas, USA

Editor:
J.G. Piette, Université de Liège, Liège, Belgium
Associate Editors:
R.A. Khali, Harvard Medical School, Boston, Massachusetts, USA
O. Leo, Université Libre de Bruxelles (ULB), Charleroi, Belgium
G. Viola, University of Padova, Padova, Italy

Editorial Office:
Biochemical Pharmacology, University of Kansas Medical Center, 3901 Rainbow Boulevard, Mail Stop 1034, Kansas City, Kansas, KS 66160, USA, Fax: +1-913-588-7373

Managing Editor:
L. LeCount

Editorial Coordinator:
J. McNichols

Editorial Advisory Board
Antibiotics and Chemotherapeutics
R. Alfieri, Università degli Studi di Parma, Parma, Italy
C. Bailly, Institut de Recherche Pierre Fabre, Toulouse, France
D. Bassi, Fox Chase Cancer Center, Philadelphia, Pennsylvania, USA
S.G. Bourgoin, Centre de Recherche, Québec, Quebec, Canada
C. Carrillo, Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Rosario, Argentina
S. Ceruti, Università degli Studi di Milano, Milano, Italy
B.S. Cummings, University of Georgia, Athens, Georgia, USA
E. De Clercq, KU Leuven, Leuven, Belgium
M. Diederich, Seoul National University (SNU), Seoul, The Republic of Korea
S.L. Doyle, Trinity College Dublin, Dublin 12, Ireland
M. Galleni, Université de Liège, Liège, Belgium
HP. Gerber, Maverick Therapeutics, Inc., Brisbane California, USA
R. Ghosh, University of Texas Health Science Center at San Antonio , San Antonio, TX, USA
C. Giardina, University of Connecticut, Storrs, Connecticut, USA
A. Giordano, Temple University, Philadelphia, Pennsylvania, USA
B. Hagenbuch, University of Kansas Medical Center, Kansas City, Kansas, USA
H.K. Ho, National University of Singapore, Singapore, Singapore
S.E. Kane, City of Hope, Duarte, California, USA
K. Kashfi, City University of New York (CUNY), New York, New York, USA
A Kauppinen, University of Eastern Finland, Kuopio, Finland
F.A.E. Kruyt, Universitair Medisch Centrum Groningen, Groningen, Netherlands
F. Lezot, Université de Nantes, Nantes, France
L. Lopez-Barcons, Texas Tech University Health Sciences Center, Lubbock, Texas, USA
I. Marzo, Universidad de Zaragoza, Zaragoza, Spain
P. Melera, Rutgers - Robert Wood Johnson Medical School, Piscataway, New Jersey, USA
C. Michiels, Université de Namur, Namur, Belgium
R. Nahta, Emory University School of Medicine, Atlanta, Georgia, USA
J. Neyts, KU Leuven, Leuven, Belgium
S. Nock, Teva Pharmaceutical Industries Ltd., Redwood City, California, USA
C. Ozvegy-Laczka, Hungarian Academy of Sciences, Budapest, Hungary
T Rodrigues, Federal University of ABC (UFABC), São Paulo, Brazil
B.A. Ruggeri, Incyte Corporation, Wilmington, Delaware, USA
G.L. Russo, Consiglio Nazionale delle Ricerche, Avellino, Italy
C. Schwartz, Université de Strasbourg, Strasbourg, France
S. Sébastien, Université de Liège, Liège, Belgium
P Sexton, Monash University, Parkville, Victoria, Australia
D.A. Skoufias, Institut de Biologie Structurale, Grenoble, France
K.S.M. Smalley, H. Lee Moffitt Cancer Center, Tampa, Florida, USA
F. Stossi, Baylor College of Medicine, Houston, Texas, USA
F. Takahashi-Yanaga, University of Occupational and Environmental Health, Japan, Kitakyushu, Japan
B.A. Teicher, National Cancer Institute, Rockville, MD, USA
K.D. Tew, Medical University of South Carolina, Charleston, SC, USA
A. Therien, Merck & Co. Inc., Kenilworth, New Jersey, USA
S. van de Graaf, Universiteit van Amsterdam, Academisch Medisch Centrum (AMC), Amsterdam, Netherlands
J. Wang, Shanghai Medicilon, Inc., Shanghai, China
S. Windhorst, Universitätsklinikum Hamburg-Eppendorf, Hamburg, Germany
F. Zunino, National Institute for the Study and Cure of Tumors, Milan, Italy
Cardiovascular

P. Abel, Creighton University, Omaha, California, USA
S.G. Bourgoin, Centre de Recherche, Québec, Quebec, Canada
J.Y.H. Chan, Chang Gung Memorial Hospital, Taiwan
L. De Windt, University of Maastricht, Maastricht, Netherlands
C. de Wit, Universität zu Lübeck, Luebeck, Germany
S.L. Doyle, Trinity College Dublin, Dublin 12, Ireland
Y.-H. Feng, Uniformed Services University of Health Sciences, Bethesda, Maryland, USA
B.M. Frey-von Matt, Universitätspoliklinik Bern, Bern, Switzerland
D.J. Fulton, Augusta University, Augusta, Georgia, USA
S.J. George, Bristol Royal Infirmary, Bristol, UK
S.E. Gill, Western University, Ontario, Canada
P. Gresele, Università degli Studi di Perugia, Perugia, Italy
B. Hagenbuch, University of Kansas Medical Center, Kansas City, Kansas, USA
A Kauppinen, University of Eastern Finland, Kuopio, Finland
T Rodrigues, Federal University of ABC (UFABC), São Paulo, Brazil
S. Sébastien, Université de Liège, Liège, Belgium
P Sexton, Monash University, Parkville, Victoria, Australia
F.G. Spinale, University of South Carolina, Columbia, South Carolina, USA
B. Staels, Institut Pasteur, Lille, France
S. van de Graaf, Universiteit van Amsterdam, Academisch Medisch Centrum (AMC), Amsterdam, Netherlands
A.H. Wagner, University of Heidelberg, Heidelberg, Germany
S. Windhorst, Universitätsklinikum Hamburg-Eppendorf, Hamburg, Germany
R.J. Winquist, Xenon Pharmaceuticals Inc., Burnaby, British Columbia, Canada

Metabolic Disorders and Endocrinology

S.G. Bourgoin, Centre de Recherche, Québec, Quebec, Canada
N. Chattopadhyay, Central Drug Research Institute, Lucknow, Uttar Pradesh, India
S.L. Doyle, Trinity College Dublin, Dublin 12, Ireland
R. Gaspar, University of Szeged, Szeged, Hungary
B. Hagenbuch, University of Kansas Medical Center, Kansas City, Kansas, USA
A Kauppinen, University of Eastern Finland, Kuopio, Finland
A. Kowluru, Wayne State University, Detroit, MI, USA
N. Landonir, Mercer University, Atlanta, Georgia, USA
M.E. Poirot, INSERM-University of Toulouse, Toulouse, France
T Rodrigues, Federal University of ABC (UFABC), São Paulo, Brazil
A. Romani, Case Western Reserve University, Cleveland, Ohio, USA
S. Sébastien, Université de Liège, Liège, Belgium
P Sexton, Monash University, Parkville, Victoria, Australia
C.D. Sutherland, University of Dundee, Dundee, Scotland, UK
S. van de Graaf, Universiteit van Amsterdam, Academisch Medisch Centrum (AMC), Amsterdam, Netherlands
S. Windhorst, Universitätsklinikum Hamburg-Eppendorf, Hamburg, Germany

Inflammation and Immunopharmacology

M.J. Alcaraz, Universitat de València, Valencia, Spain
A. Arif, Cleveland Clinic Lerner Research Institute, Cleveland, Ohio, USA
R. Beyaert, Universiteit Gent, Gent (Zwijnaarde), Belgium
S.G. Bourgoin, Centre de Recherche, Québec, Quebec, Canada
A. Bowie, Trinity College, Dublin, Ireland
F. D’Acquisto, William Harvey Research Institute, London, UK
S.L. Doyle, Trinity College Dublin, Dublin 12, Ireland
J. El Benna, INSERM, Paris, France
M.P. Fink, University of California at Los Angeles (UCLA), Los Angeles, California, USA
K.B. Glaser, AbbVie, Inc., North Chicago, Illinois, USA
B. Hagenbuch, University of Kansas Medical Center, Kansas City, Kansas, USA
J.P. Hardwick, Northeastern Ohio University College of Medicine, Rootstown, Ohio, USA
L. Herrero, Universitat de Barcelona, Barcelona, Spain
J.D. Imig, Medical College of Wisconsin, Milwaukee, Wisconsin, USA
A Kauppinen, University of Eastern Finland, Kuopio, Finland
Y. Kim, Chungbuk National University, Cheongju, The Republic of Korea
J.-H. Lai, Chang Gung Memorial Hospital, Taoyuan City, Taiwan
E. Lavelle, Trinity College Dublin, Dublin 2, Ireland
D. MacEwan, University of Liverpool, Liverpool, England, UK
C. Martini, Università di Pisa, Pisa, Italy
K. McCoy, Virginia Commonwealth University, Richmond, VA, USA
J.J. Moreno, Universitat de Barcelona, Barcelona, Spain
M. Mousli, University of Strasbourg, Strasbourg, France
S. Windhorst, Universitätsklinikum Hamburg-Eppendorf, Hamburg, Germany
GUIDE FOR AUTHORS

INTRODUCTION

Biochemical Pharmacology is an international peer reviewed journal devoted to publishing original research and invited reviews and commentaries on the interaction of chemical compounds with biological systems. Manuscripts describing experiments conducted with chemical mixtures, plant or animal extracts will not be considered for publication unless the chemical structures and precise concentrations of all substances are reported.

While particular emphasis is placed on reporting findings that relate to pharmacodynamics, pharmacokinetics, and metabolism of both small molecules and biologics at the biochemical and molecular levels, submissions in the areas of behavioral and physiological pharmacology and toxicology are considered if they describe studies directed at defining mechanisms of action. All areas related to the field of pharmacology are represented in the journal including, but not limited to, chemotherapy, neuropharmacology, inflammation/immunopharmacology, antimicrobials, behavioral, respiratory, gastrointestinal, cardiovascular and endocrine pharmacology and toxicology.

Reports describing de novo results of clinical studies and those that predominately or exclusively concern database mining and analysis and computational methodologies, e.g. CAMD, are outside the scope of the journal.

Types of papers
(1) Full-length Research Papers. Biochemical Pharmacology publishes original research on issues of relevance to the field of pharmacology.
(2) Reviews and Commentaries. These articles are by invitation only and provide the authors' views on a selected topic of interest to pharmacologists.

Manuscript preparation and submission
Provided below is detailed information on the scientific criteria and manuscript formatting required for an article to be considered for publication in Biochemical Pharmacology. The online submission process includes the Scientific Checklist (Table 1). Failure to complete the Checklist, or a lack of a response to any items on the Scientific Checklist, automatically disqualifies the work for consideration. Note especially items 1 - 4 as a negative response to any of these automatically disqualifies the report for consideration. See Mullane et al., Guidelines for Manuscript Submission in the Peer-Reviewed Pharmacological Literature (Biochem. Pharmacol. 97:225-235, 2015; http://www.sciencedirect.com/science/article/pii/S0006295215003585) for a detailed discussion of the issues addressed in the Scientific Checklist.

Scientific Checklist

Table 1. Scientific Submission Checklist
Please answer the following questions with "Yes", "No", or "Not applicable".

Formatting - The submission will automatically be rejected if these first four questions are not marked "yes"
1. As Biochemical Pharmacology does NOT publish supplemental data with the exception of audio or video files, are all necessary data included in the body of the manuscript?
2. Are all tables and figures numbered and appropriately titled with descriptive legends that permit stand-alone interpretation? Are all data shown in the tables and figures also described in the Results section, discussed in the Discussion section and stated in the Conclusions?
3. Is there a clear statement with background describing the hypothesis being tested by this study? Are the primary endpoints clearly stated?

Materials and Methods
4. Were human tissues or fluids used in this study? Were the experiments reviewed and approved by the Institutional review Board (IRB)?
5. Were animals used in the study? Has the species, strain, sex, weight and source of the animals been provided? If used, is the method of anesthesia described? Were the experiments reviewed and approved by the Instructional Animal Care and Use Committee (IACUC).
6. Are the source(s) and passage number of cell lines indicated and authenticated by you or the vendor?
7. Is (are) the chemical structure(s) of any new compound(s) presented as a figure or referenced in the peer-reviewed literature?
8. Are the sources of all materials clearly indicated? If used, has the selectivity of antibodies and/or interference RNA been validated and their source clearly indicated?
9. Is the rationale for the selection of concentrations, doses, route and frequency of compound administration provided?
10. Are quantified results (e.g., IC50 and/or EC50 values) of concentration- and dose-response experiments included in the manuscript?
11. Are all group sizes approximately the same and clearly indicated in the text and/or in the tables and figures?
12. Were the criteria used for excluding any data from analysis determined prospectively and clearly stated?
13. Was the investigator responsible for data analysis blinded to which samples/animals represent control and treatment groups?
14. Are the reported data displayed as means +/- standard deviation (SD)? Is the number of replicates of three or more independent experimental observations clearly indicated? Were post-hoc tests used to assess the statistical significance among means? Is the threshold for statistical significance (P value) clearly indicated?

Results
15. If western blots are shown, are the appropriate loading controls, replication data, and quantification and statistical analysis shown?
16. If PCR and RT-PCR are included, were MIQE guidelines followed? Was a reference standard (positive or negative controls) included in the study to validate the experiment?

Discussion
17. Are the primary conclusions and any secondary endpoints and their implications clearly stated?
18. Are the limitations of the current study or alternative interpretations of the findings clearly stated?

Conflict of Interest/Financial Support
19. Is a conflict of interest statement included in the manuscript?
20. Are all organizations providing funding for this work listed in Acknowledgements?

Please list any additional explanation(s) you feel may be necessary on the above questions:

BEFORE YOU BEGIN

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

Declaration of interest
All authors must disclose any financial and personal relationships with other people or organizations that could inappropriately influence (bias) their work. Examples of potential competing interests include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Authors must disclose any interests in two places: 1. A summary declaration of interest statement in the title page file (if double-blind) or the manuscript file (if single-blind). If there are no interests to declare then please state this: 'Declarations of interest: none'. This summary statement will be ultimately published if the article is accepted. 2. Detailed disclosures as part of a separate Declaration of Interest form, which forms part of the journal's official records. It is important for potential interests to be declared in both places and that the information matches. More information.

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).

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.

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](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.

**Submission**
All articles must be in editable files (e.g. Word, LaTeX) and submitted online at [http://ees.elsevier.com/bcp](http://ees.elsevier.com/bcp). Articles submitted as pdfs will not be processed.

**Categories**
Authors must indicate on the title page which of the following categories best describes their work:
• Antibiotics and Chemotherapeutics
• Cardiovascular Pharmacology
• Gastrointestinal Pharmacology
• Inflammation and Immunopharmacology
• Metabolic Disorders and Endocrinology
• Neuropharmacology
• Pharmacokinetics and Drug Metabolism
• Pulmonary, Renal and Hepatic Pharmacology
• Toxicology

**PREPARATION**

*Manuscript preparation*
**Language**

Neither the Editorial Board nor the reviewers will provide detailed advice for improving the grammar and clarity of a manuscript, regardless of the scientific merit of the work. Authors are responsible for ensuring the article is written in clear English. Either American or British usage is accepted, but not a combination of the two. Manuscripts lacking linguistic clarity or that are not prepared according to the style guidelines outlined below will not be considered for publication. Authors can have their manuscript language-edited. See [English Editing Services](#) under Useful Links below.

**Use of Word Processing Software**


**Article Layout**

Reports must be written in English with the pages numbered sequentially. The text must be double-spaced in single-column format with 1" or 25 mm margins. Size 12 (point) Times Roman or Arial font is preferred. The article must be divided into clearly defined sections. The required sections are Introduction, Materials and Methods, Results, Discussion, and References. See Mullane et al., *Guidelines for Manuscript Submission in the Peer-Reviewed Pharmacological Literature* (Biochem. Pharmacol. 97:225-235, 2015; [http://www.sciencedirect.com/science/article/pii/S0006295215003585](http://www.sciencedirect.com/science/article/pii/S0006295215003585)) for a detailed discussion of the topics that must be covered in each section. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ), 1.2, etc. The abstract is not included in section numbering. This numbering should be used for internal cross-referencing in the text. Subsections may be assigned a brief heading that appears alone on a separate line.

**Title and Abstract**

The article title should be concise but informative. All abbreviations must be spelled out fully when first mentioned in the abstract or body of the report.

**Keywords**

Immediately following the abstract the authors must provide up to 6 keywords for indexing purposes. American spelling must be used, avoiding general and plural terms and multiple concepts. Only established abbreviations may be proposed as keywords.

**Acknowledgments**

Acknowledgments must be listed in a separate section at the end of the article before the references. The Acknowledgments should include the names of individuals, organizations and funding agencies that provided assistance in underwriting and reporting the work.

**Nomenclature and abbreviations**

Receptor and ion channel nomenclature must conform to guidelines of the Committee on Receptor Nomenclature and Drug Classification of the International Union of Basic and Clinical Pharmacology (IUPHAR) ([http://www.guidetopharmacology.org/nomenclature.jsp](http://www.guidetopharmacology.org/nomenclature.jsp)). Use only abbreviations that are generally accepted by the scientific community. Click [HERE](#) to view the full list of abbreviations that can be employed without definition. Drugs or other compounds should only be identified by their chemical or generic names. The source, including company name and location, for all chemicals, reagents, cell lines, tissue, and experimental animals must be provided in Materials and Methods.

**GenBank**

GenBank accession numbers should be typed in bold, underlined text. Letters in the accession number should always be capitalized. Example: a B-cell tumor from a chronic lymphatic leukemia (GenBank accession no. **BE675048**), and a T-cell lymphoma (GenBank accession no. **AA361117**). In the final electronic version of the article, the accession number text will be linked to the appropriate source in the NCBI databases.

**Footnotes**

Footnotes should be used sparingly and numbered consecutively throughout the text. Indicate the position of footnotes in the text and list them separately at the end of the article. Do not include footnotes in the Reference list.
**Figure Legends**
Illustrations must have a caption that is listed separately from the figure in the submitted version of the work. The caption should be self-explanatory without the need to reference the accompanying text. All symbols appearing on the illustration must be clearly defined in the figure legend.

**Tables**
All tables must be numbered consecutively in Arabic numerals and cited in the text in their order of appearance. Table titles should be brief and descriptive. Tables should appear individually on separate pages in the submitted version of the work, together with a legend that includes sufficient information about the experimental protocol and results so the reader does not have to refer back to the text to understand the experimental protocol and findings. Tables should not have vertical lines, and the number of horizontal lines should be minimized.

**References**

*Citations in text*
Ensure that every reference cited in the text is present in the reference list, and vice versa. Unpublished results and personal communications should not appear in the reference list, but may be indicated in the text.

*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.


*Reference formatting*
There are no strict requirements on reference formatting for the initial submission. References can be in any style or format as long as they are consistent within the manuscript. Regardless of the format, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the pagination must be shown. Use of DOI is encouraged.

*Reference management software*
Most Elsevier journals have a standard template available in key reference management packages. This covers packages using the Citation Style Language, such as Mendeley (http://www.mendeley.com/features/reference-manager/): Elsevier [Numeric, with titles]) and also others like EndNote (http://endnote.com/downloads/style/biochemical-pharmacology) and Reference Manager (http://refman.com/downloads/styles/).

**Institutional Email Address**
As of January 1st, 2016 manuscripts will not be considered for publication in *Biochemical Pharmacology* if the email address for the corresponding author does not reflect an affiliation with a research-based institution. Alternatively, the submission must include a separate statement in English on institutional letterhead signed by an official responsible for research activities for the institute from which the manuscript originates verifying the affiliation listed by the corresponding author, along with the official’s institutional email contact information.

**Graphical Abstract**
Authors asked to submit a revised version of the work for consideration must also supply a graphical abstract at that time. The graphical abstract, which will be displayed on the online Table of Contents, should provide a concise summary of the work in pictorial form designed to capture the attention of a wide audience and for compilation of databases. Graphical Abstract text should not exceed 30 words. The content of the graphical abstract should be kept within an area of 5 cm tall by 17 cm wide (landscape shape). Authors are encouraged to limit graphical abstracts to 189 pixels tall by 642 pixels wide to ensure the image and text will be legible when displayed online. Authors must supply the graphic separately as an electronic file. See http://www.sciencedirect.com/science/journal/00062952/94/2 for examples of graphical abstracts.
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.

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).

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.

Useful Links
Listed below are links to sites that provide additional details on topics relating to the preparation and submission of manuscripts for publication in Biochemical Pharmacology as well as post-publication resources.