# TURKISH JOURNAL OF PHARMACEUTICAL SCIENCES



An Official Journal of the Turkish Pharmacists' Association, Academy of Pharmacy

# TURKISH JOURNAL OF PHARMACEUTICAL SCIENCES

#### Editor-in-Chief

Prof. Terken BAYDAR, Ph.D., E.R.T.

orcid.org/0000-0002-5497-9600 Hacettepe University, Faculty of Pharmacy, Department of Toxicology, Ankara, TURKEY tbaydar@hacettepe.edu.tr

#### **Associate Editors**

#### Prof. Samiye YABANOĞLU ÇİFTÇİ, Ph.D.

orcid.org/0000-0001-5467-0497 Hacettepe University, Faculty of Pharmacy, Department of Biochemistry, Ankara, TURKEY samiye@hacettepe.edu.tr Assoc. Prof. Pinar ERKEKOĞLU, Ph.D., E.R.T. orcid.org/0000-0003-4713-7672

Hacettepe University, Faculty of Pharmacy, Department of Toxicology, Ankara, TURKEY erkekp@hacettepe.edu.tr

#### **Editorial Board**

#### Prof. Fernanda BORGES, Ph.D.

orcid.org/0000-0003-1050-2402 Porto University, Faculty of Sciences, Department of Chemistry and Biochemistry, Porto, PORTUGAL fborges@fc.up.pt

#### Prof. Bezhan CHANKVETADZE, Ph.D.

orcid.org/0000-0003-2379-9815 Ivane Javakhishvili Tbilisi State University, Institute of Physical and Analytical Chemistry, Tbilisi, GEORGIA jpba\_bezhan@yahoo.com

#### Prof. Dietmar FUCHS, Ph.D.

orcid.org/0000-0003-1627-9563 Innsbruck Medical University, Center for Chemistry and Biomedicine, Institute of Biological Chemistry, Biocenter, Innsbruck, AUSTRİA dietmar.fuchs@i-med.ac.at

#### Prof. Satyajit D. Sarker, Ph.D.

orcid.org/0000-0003-4038-0514 Liverpool John Moores University, Liverpool, UNITED KINGDOM S.Sarker@ljmu.ac.uk

#### Prof. Luciano SASO, Ph.D.

orcid.org/0000-0003-4530-8706 Sapienze University, Faculty of Pharmacy and Medicine, Department of Physiology and Pharmacology "Vittorio Erspamer", Rome, ITALY luciano.saso@uniroma1.it

#### Prof. Rob VERPOORTE, Ph.D.

orcid.org/0000-0001-6180-1424 Leiden University, Natural Products Laboratory, Leiden, NETHERLANDS verpoort@chem.leidenuniv.nl

#### **Advisory Board**

#### Prof. Nurettin ABACIOĞLU, Ph.D.

Kyrenia University, Faculty of Pharmacy, Department of Pharmacology, Girne, TRNC, CYPRUS

#### Prof. Kadriye BENKLİ, Ph.D.

Girne American University, Faculty of Pharmacy, Department of Pharmaceutical Chemistry, Girne, TRNC, CYPRUS

#### Prof. Arzu BEŞİKCİ, Ph.D.

Ankara University, Faculty of Pharmacy, Department of Pharmacology, Ankara, TURKEY

#### Prof. Erem BİLENSOY, Ph.D.

Hacettepe University, Faculty of Pharmacy, Department of Pharmaceutical Technology, Ankara, TURKEY

#### Prof. Hermann BOLT, Ph.D.

Dortmund University, Leibniz Research Centre, Institute of Occupational Physiology, Dortmund, GERMANY

#### Prof. Erdal CEVHER, Ph.D.

Istanbul University Faculty of Pharmacy, Department of Pharmaceutical Technology, Istanbul, TURKEY

#### Prof. Nevin ERK, Ph.D.

Ankara University, Faculty of Pharmacy, Department of Analytical Chemistry, Ankara, TURKEY

#### Prof. Jean-Alain FEHRENTZ, Ph.D.

Montpellier University, Faculty of Pharmacy, Institute of Biomolecules Max Mousseron, Montpellier, FRANCE

#### Prof. Joerg KREUTER, Ph.D.

Johann Wolfgang Goethe University, Faculty of Pharmacy, Institute of Pharmaceutical Technology, Frankfurt, GERMANY

#### Prof. Christine LAFFORGUE, Ph.D.

Paris-Sud University, Faculty of Pharmacy, Department of Dermopharmacology and Cosmetology, Paris, FRANCE

#### Prof. Şule APİKOĞLU RABUŞ, Ph.D.

Marmara University, Faculty of Pharmacy, Department of Clinical Pharmacy, İstanbul, TURKEY

#### Prof. Robert RAPOPORT, Ph.D.

Cincinati University, Faculty of Pharmacy, Department of Pharmacology and Cell Biophysics, Cincinati, USA

#### Prof. Wolfgang SADEE, Ph.D.

Ohio State University, Center for Pharmacogenomics, Ohio, USA

#### Prof. Hildebert WAGNER, Ph.D.

Ludwig-Maximilians University, Center for Pharmaceutical Research, Institute of Pharmacy, Munich, GERMANY

#### Assoc. Prof. Hande SİPAHİ, Ph.D.

Yeditepe University, Faculty of Pharmacy, Department of Toxicology, İstanbul, TURKEY

#### Assoc. Prof. İpek SÜNTAR, Ph.D.

Gazi University, Faculty of Pharmacy, Department of Pharmacognosy, Ankara, TURKEY

# JOURNAL OF PHARMACEUTICAL SCIENCES

#### Baş Editör

#### Terken BAYDAR, E.R.T., Prof. Dr. E.R.T.

orcid.org/0000-0002-5497-9600 Hacettepe Üniversitesi, Eczacılık Fakültesi, Toksikoloji Anabilim Dalı, Ankara, TÜRKİYE tbaydar@hacettepe.edu.tr

#### Yardımcı Editörler

#### Samiye YABANOĞLU ÇİFTÇİ, Prof. Dr.

orcid.org/0000-0001-5467-0497 Hacettepe Üniversitesi, Eczacılık Fakültesi , Biyokimya Anabilim Dalı, Ankara, TÜRKİYE samiye@hacettepe.edu.tr

#### Pınar ERKEKOĞLU, Doç. Dr. E.R.T.

orcid.org/0000-0003-4713-7672 Hacettepe Üniversitesi, Eczacılık Fakültesi, Toksikoloji Anabilim Dalı, Ankara, TÜRKİYE erkekp@hacettepe.edu.tr

#### Editörler Kurulu

#### Fernanda BORGES, Prof. Dr.

orcid.org/0000-0003-1050-2402 Porto Üniversitesi, Fen Fakültesi, Kimya ve Biyokimya Anabilim Dalı, Porto, PORTEKİZ fborges@fc.up.pt

#### Bezhan CHANKVETADZE, Prof. Dr.

orcid.org/0000-0003-2379-9815 Ivane Javakhishvili Tiflis Devlet Üniversitesi, Fiziksel ve Analitik Kimya Enstitüsü, Tiflis, GÜRCİSTAN jpba\_bezhan@yahoo.com

#### Dietmar FUCHS, Prof. Dr.

orcid.org/0000-0003-1627-9563 Innsbruck Tıp Üniversitesi, Kimya ve Biyotıp Merkezi, Biyolojik Kimya Enstitüsü, Biocenter, Innsbruck, AVUSTURYA

dietmar.fuchs@i-med.ac.at

#### Satyajit D. Sarker, Prof. Dr.

orcid.org/0000-0003-4038-0514 Liverpool John Moores Üniversitesi, Liverpool, BIRLEŞIK KRALLIK S.Sarker@ljmu.ac.uk

#### Luciano SASO, Prof. Dr.

orcid.org/0000-0003-4530-8706 Sapienza Üniversitesi, Eczacılık ve Tıp Fakültesi, Fizyoloji ve Farmakoloji Anabilim Dalı "Vittorio Erspamer", Roma, İTALYA luciano.saso@uniroma1.it

#### Rob VERPOORTE, Prof. Dr.

orcid.org/0000-0001-6180-1424 Leiden Üniversitesi, Doğal Ürünler Laboratuvarı, Leiden, HOLLANDA verpoort@chem.leidenuniv.nl

#### Danışma Kurulu

#### Nurettin ABACIOĞLU, Prof. Dr.

Girne Üniversitesi, Eczacılık Fakültesi, Farmakoloji Anabilim Dalı, Girne, TRNC, KIBRIS

#### Kadriye BENKLİ, Prof. Dr

Girne Amerikan Üniversitesi, Eczacılık Fakültesi, Farmasötik Anabilim Dalı, Girne, TRNC, KIBRIS

#### Arzu BEŞİKCİ, Prof. Dr.

Ankara Üniversitesi, Eczacılık Fakültesi, Farmakoloji Anabilim Dalı, Ankara, TÜRKİYE

#### Erem BİLENSOY, Prof. Dr.

Hacettepe Üniversitesi, Eczacılık Fakültesi, Farmasötik Anabilim Dalı, Ankara, TÜRKİYE

#### Hermann BOLT, Prof. Dr.

Dortmund Üniversitesi, Leibniz Araştırma Merkezi, Mesleki Fizyoloji Enstitüsü, Dortmund, ALMANYA

#### Erdal CEVHER, Prof. Dr.

İstanbul Üniversitesi Eczacılık Fakültesi, Farmasötik Anabilim Dalı, İstanbul, TÜRKİYE

#### Nevin ERK, Prof. Dr.

Ankara Üniversitesi, Eczacılık Fakültesi, Analitik Kimya Anabilim Dalı, Ankara, TÜRKİYE

#### Jean-Alain FEHRENTZ, Prof. Dr.

Montpellier Üniversitesi, Eczacılık Fakültesi, Biyomoleküller Enstitüsü Max Mousseron, Montpellier, FRANSA

#### Joerg KREUTER, Prof. Dr.

Johann Wolfgang Goethe Üniversitesi, Eczacılık Fakültesi, Farmasötik Teknoloji Enstitüsü, Frankfurt, ALMANYA

#### Christine LAFFORGUE, Prof. Dr.

Paris-Sud Üniversitesi, Eczacılık Fakültesi, Dermofarmakoloji ve Kozmetoloji Bölümü, Paris, FRANSA

#### Sule APİKOĞLU RABUŞ, Prof. Dr.

Marmara Üniversitesi, Eczacılık Fakültesi, Klinik Eczacılık Anabilim Dalı, İstanbul, TÜRKİYE

#### Robert RAPOPORT, Prof. Dr.

Cincinnati Üniversitesi, Eczacılık Fakültesi, Farmakoloji ve Hücre Biyofiziği Bölümü, Cincinnati, ABD

#### Wolfgang SADEE, Prof. Dr.

Ohio Eyalet Üniversitesi, Farmakogenomik Merkezi, Ohio, ABD

#### Hildebert WAGNER, Prof. Dr.

Ludwig-Maximilians Üniversitesi, Farmasötik Araştırma Merkezi, Eczacılık Enstitüsü, Münih, ALMANYA

#### Hande SİPAHİ, Doç. Dr.

Yeditepe Üniversitesi, Eczacılık Fakültesi, Toksikoloji Anabilim Dalı, İstanbul, TÜRKİYE

#### İpek SÜNTAR, Doc. Dr.

Gazi Üniversitesi, Eczacılık Fakültesi, Farmakognozi Anabilim Dalı, Ankara, TÜRKİYE

### TURKISH **JOURNAL OF PHARMACEUTICAL SCIENCES**

#### AIMS AND SCOPE

The Turkish Journal of Pharmaceutical Sciences is the only scientific periodical publication of the Turkish Pharmacists' Association and has been published since April 2004.

Turkish Journal of Pharmaceutical Sciences journal is regularly published 6 times in a year (February, April, June, August, October, December). The issuing body of the journal is Galenos Yayinevi/Publishing House level.

The aim of Turkish Journal of Pharmaceutical Sciences is to publish original research papers of the highest scientific and clinical value at an international level. The target audience includes specialists and professionals in all fields of pharmaceutical sciences.

The editorial policies are based on the "Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals (ICMJE Recommendations)" by the International Committee of Medical Journal Editors (2013, archived at http://www.icmje.org/) rules.

#### Editorial Independence

Turkish Journal of Pharmaceutical Sciences is an independent journal with independent editors and principles and has no commerical relationship with the commercial product, drug or pharmaceutical company regarding decisions and review processes upon articles.

#### ABSTRACTED/INDEXED IN

PubMed Central

Web of Science-Emerging Sources Citation Index (ESCI) SCOPUS SJR

TÜBİTAK/ULAKBİM TR Dizin

Directory of Open Access Journals (DOAJ)

ProQuest

Chemical Abstracts Service (CAS)

**FBSCO** 

**EMBASE** 

GALE

Index Copernicus

Analytical Abstracts

International Pharmaceutical Abstracts (IPA) Medicinal & Aromatic Plants Abstracts (MAPA)

British Library

**CSIR INDIA** 

GOALI

Hinari OARE

ARDI

AGORA

Türkiye Atıf Dizini

Türk Medline

UDL-EDGE .I- Gate

Idealonline

ROOTINDEXING

#### **OPEN ACCESS POLICY**

This journal provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge.

Open Access Policy is based on the rules of the Budapest Open Access Initiative (BOAI) http://www.budapestopenaccessinitiative.org/. By "open access" to peer-reviewed research literature, we mean its free availability on the public internet, permitting any users to read, download, copy, distribute, print, search. or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited.

#### CORRESPONDENCE ADDRESS

All correspondence should be directed to the Turkish Journal of Pharmaceutical Sciences editorial board:

Post Address: Turkish Pharmacists' Association, Mustafa Kemal Mah 2147.Sok

No:3 06510 Cankaya/Ankara, TURKEY

Phone: +90 (312) 409 81 00 Fax: +90 (312) 409 81 09 Web Page: http://turkjps.org E-mail: teb@teb.org.tr

#### **PERMISSIONS**

Requests for permission to reproduce published material should be sent to the

publisher.

Publisher: Erkan Mor

Adress: Molla Gürani Mah. Kaçamak Sok. 21/1 Fındıkzade, Fatih, İstanbul, Turkey

Telephone: +90 212 621 99 25 Fax: +90 212 621 99 27

Web page: http://www.galenos.com.tr/en

E-mail: info@galenos.com.tr

#### ISSUING BODY CORRESPONDING ADDRESS

Issuing Body: Galenos Yayınevi

Address: Molla Gürani Mah. Kaçamak Sk. No: 21/1, 34093 İstanbul, Turkey

Phone: +90 212 621 99 25 Fax: +90 212 621 99 27

E-mail: info@galenos.com.tr

#### MATERIAL DISCLAIMER

The author(s) is (are) responsible for the articles published in the JOURNAL. The editor, editorial board and publisher do not accept any responsibility for the

This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.



Galenos Publishing House Owner and Publisher Derya Mor

**Publication Coordinator** Burak Sever

Web Coordinators Turgay Akpınar **Graphics Department** 

Ayda Alaca Çiğdem Birinci Gülşah Özgül

**Project Coordinators** Gamze Aksoy Saliha Tuğçe Evin Melike Eren Duygu Yıldırm Pınar Akpınar

**Project Assistants** Gülay Akın Özlem Çelik Rabia Palazoğlu

Research & Development Mert Can Köse Mevlüde Özlem Akgüney Finance Coordinator Sevinç Çakmak

**Publisher Contact** 

Address: Molla Gürani Mah. Kaçamak Sk. No: 21/1 34093 İstanbul, Turkey

Phone: +90 (212) 621 99 25 Fax: +90 (212) 621 99 27 E-mail: info@galenos.com.tr/yayin@galenos.com.tr

Web: www.galenos.com.tr | Publisher Certificate Number: 14521 Printing at: Özgün Basım Tanıtım San. Tic. Ltd. Şti. Yeşilce Mah. Aytekin Sok. Oto Sanayi Sitesi No: 21 Kat: 2

Seyrantepe Sanayi, Kağıthane, İstanbul, Türkiye Telefon/Phone: +90 (212) 280 00 09 Sertifika No: 48150

Printing Date: August 2020 ISSN: 1304-530X

International scientific journal published quarterly.

### TURKISH

### **JOURNAL OF PHARMACEUTICAL SCIENCES**

#### INSTRUCTIONS TO AUTHORS

Turkish Journal of Pharmaceutical Sciences journal is published 6 times (February, April, June, August, October, December) per year and publishes the following articles:

- · Research articles
- · Reviews (only upon the request or consent of the Editorial Board)
- Preliminary results/Short communications/Technical notes/Letters to the Editor in every field of pharmaceutical sciences.

The publication language of the journal is English.

The Turkish Journal of Pharmaceutical Sciences does not charge any article submission or processing charges.

A manuscript will be considered only with the understanding that it is an original contribution that has not been published elsewhere.

The Journal should be abbreviated as "Turk J Pharm Sci" when referenced.

The scientific and ethical liability of the manuscripts belongs to the authors and the copyright of the manuscripts belongs to the Journal. Authors are responsible for the contents of the manuscript and accuracy of the references. All manuscripts submitted for publication must be accompanied by the Copyright Transfer Form [copyright transfer]. Once this form, signed by all the authors, has been submitted, it is understood that neither the manuscript nor the data it contains have been submitted elsewhere or previously published and authors declare the statement of scientific contributions and responsibilities of all authors.

Experimental, clinical and drug studies requiring approval by an ethics committee must be submitted to the JOURNAL with an ethics committee approval report including approval number confirming that the study was conducted in accordance with international agreements and the Declaration of Helsinki (revised 2013) (http://www.wma.net/en/30publications/10policies/b3/). The approval of the ethics committee and the fact that informed consent was given by the patients should be indicated in the Materials and Methods section. In experimental animal studies, the authors should indicate that the procedures followed were in accordance with animal rights as per the Guide for the Care and Use of Laboratory Animals ( http://oacu.od.nih.gov/regs/guide/guide.pdf ) and they should obtain animal ethics committee approval.

Authors must provide disclosure/acknowledgment of financial or material support, if any was received, for the current study.

If the article includes any direct or indirect commercial links or if any institution provided material support to the study, authors must state in the cover letter that they have no relationship with the commercial product, drug, pharmaceutical company, etc. concerned; or specify the type of relationship (consultant, other agreements), if any.

Authors must provide a statement on the absence of conflicts of interest among the authors and provide authorship contributions.

All manuscripts submitted to the journal are screened for plagiarism using the 'iThenticate' software. Results indicating plagiarism may result in manuscripts being returned or rejected.

#### The Review Process

This is an independent international journal based on double-blind peerreview principles. The manuscript is assigned to the Editor-in-Chief, who reviews the manuscript and makes an initial decision based on manuscript quality and editorial priorities. Manuscripts that pass initial evaluation are sent for external peer review, and the Editor-in-Chief assigns an Associate Editor. The Associate Editor sends the manuscript to at least two reviewers (internal and/or external reviewers). The Associate Editor recommends a decision based on the reviewers' recommendations and returns the manuscript to the Editor-in-Chief. The Editor-in-Chief makes a final decision based on editorial priorities, manuscript quality, and reviewer recommendations. If there are any conflicting recommendations from reviewers, the Editor-in-Chief can assign a new reviewer.

The scientific board guiding the selection of the papers to be published in the Journal consists of elected experts of the Journal and if necessary, selected from national and international authorities. The Editor-in-Chief, Associate Editors may make minor corrections to accepted manuscripts that do not change the main text of the paper.

In case of any suspicion or claim regarding scientific shortcomings or ethical infringement, the Journal reserves the right to submit the manuscript to the supporting institutions or other authorities for investigation. The Journal accepts the responsibility of initiating action but does not undertake any responsibility for an actual investigation or any power of decision.

The Editorial Policies and General Guidelines for manuscript preparation specified below are based on "Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals (ICMJE Recommendations)" by the International Committee of Medical Journal Editors (2013, archived at http://www.icmje.org/).

Preparation of research articles, systematic reviews and meta-analyses must comply with study design guidelines:

CONSORT statement for randomized controlled trials (Moher D, Schultz KF, Altman D, for the CONSORT Group. The CONSORT statement revised recommendations for improving the quality of reports of parallel group randomized trials. JAMA 2001; 285: 1987-91) (http://www.consortstatement.org/);

PRISMA statement of preferred reporting items for systematic reviews and meta-analyses (Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 2009; 6(7): e1000097.) (http://www.prisma-statement.org/);

STARD checklist for the reporting of studies of diagnostic accuracy (Bossuyt PM, Reitsma JB, Bruns DE, Gatsonis CA, Glasziou PP, Irwig LM, et al., for the STARD Group. Towards complete and accurate reporting of studies of diagnostic accuracy: the STARD initiative. Ann Intern Med 2003;138:40-4.) (http://www.stard-statement.org/);

STROBE statement, a checklist of items that should be included in reports of observational studies (http://www.strobe-statement.org/);

MOOSE guidelines for meta-analysis and systemic reviews of observational studies (Stroup DF, Berlin JA, Morton SC, et al. Meta-analysis of observational studies in epidemiology: a proposal for reporting Meta-analysis of observational Studies in Epidemiology (MOOSE) group. JAMA 2000; 283: 2008-12).

#### **GENERAL GUIDELINES**

Manuscripts can only be submitted electronically through the Journal Agent website (http://journalagent.com/tjps/) after creating an account. This system allows online submission and review.

### JOURNAL OF PHARMACEUTICAL SCIENCES

#### **INSTRUCTIONS TO AUTHORS**

Format: Manuscripts should be prepared using Microsoft Word, size A4 with 2.5 cm margins on all sides, 12 pt Arial font and 1.5 line spacing.

Abbreviations: Abbreviations should be defined at first mention and used consistently thereafter. Internationally accepted abbreviations should be used; refer to scientific writing guides as necessary.

Cover letter: The cover letter should include statements about manuscript type, single-Journal submission affirmation, conflict of interest statement, sources of outside funding, equipment (if applicable), for original research articles.

#### ETHICS COMMITTEE APPROVAL

The editorial board and our reviewers systematically ask for ethics committee approval from every research manuscript submitted to the Turkish Journal of Pharmaceutical Sciences. If a submitted manuscript does not have ethical approval, which is necessary for every human or animal experiment as stated in international ethical guidelines, it must be rejected on the first evaluation.

Research involving animals should be conducted with the same rigor as research in humans; the Turkish Journal of Pharmaceutical Sciences asks original approval document to show implements the 3Rs principles. If a study does not have ethics committee approval or authors claim that their study does not need approval, the study is consulted to and evaluated by the editorial board for approval.

#### **SIMILARITY**

The Turkish Journal of Pharmaceutical Sciences is routinely looking for similarity index score from every manuscript submitted before evaluation by the editorial board and reviewers. The journal uses iThenticate plagiarism checker software to verify the originality of written work. There is no acceptable similarity index; but, exceptions are made for similarities less than 15 %.

#### **REFERENCES**

Authors are solely responsible for the accuracy of all references.

In-text citations: References should be indicated as a superscript immediately after the period/full stop of the relevant sentence. If the author(s) of a reference is/are indicated at the beginning of the sentence, this reference should be written as a superscript immediately after the author's name. If relevant research has been conducted in Turkey or by Turkish investigators, these studies should be given priority while citing the literature.

Presentations presented in congresses, unpublished manuscripts, theses, Internet addresses, and personal interviews or experiences should not be indicated as references. If such references are used, they should be indicated in parentheses at the end of the relevant sentence in the text, without reference number and written in full, in order to clarify their nature.

References section: References should be numbered consecutively in the order in which they are first mentioned in the text. All authors should be listed regardless of number. The titles of Journals should be abbreviated according to the style used in the Index Medicus.

Reference Format

Journal: Last name(s) of the author(s) and initials, article title, publication title and its original abbreviation, publication date, volume, the inclusive page numbers. Example: Collin JR, Rathbun JE. Involutional entropion: a review with evaluation of a procedure. Arch Ophthalmol. 1978;96:1058-1064

Book: Last name(s) of the author(s) and initials, book title, edition, place of publication, date of publication and inclusive page numbers of the extract cited.

Example: Herbert L. The Infectious Diseases (1st ed). Philadelphia; Mosby Harcourt; 1999:11;1-8.

Book Chapter: Last name(s) of the author(s) and initials, chapter title, book editors, book title, edition, place of publication, date of publication and inclusive page numbers of the cited piece.

Example: O'Brien TP, Green WR. Periocular Infections. In: Feigin RD, Cherry JD, eds. Textbook of Pediatric Infectious Diseases (4th ed). Philadelphia; W.B. Saunders Company;1998:1273-1278.

Books in which the editor and author are the same person: Last name(s) of the author(s) and initials, chapter title, book editors, book title, edition, place of publication, date of publication and inclusive page numbers of the cited piece. Example: Solcia E, Capella C, Kloppel G. Tumors of the exocrine pancreas. In: Solcia E, Capella C, Kloppel G, eds. Tumors of the Pancreas. 2nd ed. Washington: Armed Forces Institute of Pathology; 1997:145-210.

#### TABLES, GRAPHICS, FIGURES, AND IMAGES

All visual materials together with their legends should be located on separate pages that follow the main text.

Images: Images (pictures) should be numbered and include a brief title. Permission to reproduce pictures that were published elsewhere must be included. All pictures should be of the highest quality possible, in

JPEG format, and at a minimum resolution of 300 dpi.

Tables, Graphics, Figures: All tables, graphics or figures should be enumerated according to their sequence within the text and a brief descriptive caption should be written. Any abbreviations used should be defined in the accompanying legend. Tables in particular should be explanatory and facilitate readers' understanding of the manuscript, and should not repeat data presented in the main text.

#### MANUSCRIPT TYPES

#### **Original Articles**

Clinical research should comprise clinical observation, new techniques or laboratories studies. Original research articles should include title, structured abstract, key words relevant to the content of the article, introduction, materials and methods, results, discussion, study limitations, conclusion references, tables/figures/images and acknowledgement sections. Title, abstract and key words should be written in both Turkish and English. The manuscript should be formatted in accordance with the above-mentioned guidelines and should not exceed 16 A4 pages.

Title Page: This page should include the title of the manuscript, short title, name(s) of the authors and author information. The following descriptions should be stated in the given order:

### TURKISH TURKIS

#### INSTRUCTIONS TO AUTHORS

- 1. Title of the manuscript (Turkish and English), as concise and explanatory as possible, including no abbreviations, up to 135 characters
- 2. Short title (Turkish and English), up to 60 characters
- 3. Name(s) and surname(s) of the author(s) (without abbreviations and academic titles) and affiliations
- 4. Name, address, e-mail, phone and fax number of the corresponding author
- 5. The place and date of scientific meeting in which the manuscript was presented and its abstract published in the abstract book, if applicable

Abstract: A summary of the manuscript should be written in both Turkish and English. References should not be cited in the abstract. Use of abbreviations should be avoided as much as possible; if any abbreviations are used, they must be taken into consideration independently of the abbreviations used in the text. For original articles, the structured abstract should include the following sub-headings:

Objectives: The aim of the study should be clearly stated.

Materials and Methods: The study and standard criteria used should be defined; it should also be indicated whether the study is randomized or not, whether it is retrospective or prospective, and the statistical methods applied should be indicated, if applicable.

Results: The detailed results of the study should be given and the statistical significance level should be indicated.

Conclusion: Should summarize the results of the study, the clinical applicability of the results should be defined, and the favorable and unfavorable aspects should be declared.

Keywords: A list of minimum 3, but no more than 5 key words must follow the abstract. Key words in English should be consistent with "Medical Subject Headings (MESH)" (www.nlm.nih.gov/mesh/MBrowser.html). Turkish key words should be direct translations of the terms in MESH.

Original research articles should have the following sections:

**Introduction:** Should consist of a brief explanation of the topic and indicate the objective of the study, supported by information from the literature.

Materials and Methods: The study plan should be clearly described, indicating whether the study is randomized or not, whether it is retrospective or prospective, the number of trials, the characteristics, and the statistical methods used.

Results: The results of the study should be stated, with tables/figures given in numerical order; the results should be evaluated according to the statistical analysis methods applied. See General Guidelines for details about the preparation of visual material.

Discussion: The study results should be discussed in terms of their favorable and unfavorable aspects and they should be compared with the literature. The conclusion of the study should be highlighted.

Study Limitations: Limitations of the study should be discussed. In addition, an evaluation of the implications of the obtained findings/results for future research should be outlined.

Conclusion: The conclusion of the study should be highlighted.

Acknowledgements: Any technical or financial support or editorial contributions (statistical analysis, English/Turkish evaluation) towards the study should appear at the end of the article.

References: Authors are responsible for the accuracy of the references. See General Guidelines for details about the usage and formatting required.

#### **Review Articles**

Review articles can address any aspect of clinical or laboratory pharmaceuticals. Review articles must provide critical analyses of contemporary evidence and provide directions of or future research. Most review articles are commissioned, but other review submissions are also welcome. Before sending a review, discussion with the editor is recommended.

Reviews articles analyze topics in depth, independently and objectively. The first chapter should include the title in Turkish and English, an unstructured summary and key words. Source of all citations should be indicated. The entire text should not exceed 25 pages (A4, formatted as specified above).

# TURKISH JOURNAL OF PHARMACEUTICAL SCIENCES

CONTENTS

#### Letter to Editor

357 Can Pharmacists be More Effective Regarding the Proper Use of Face Masks by the Public During the COVID-19 Pandemic?

Eczacılar COVID-19 Salgını Sırasında Yüz Maskelerinin Toplum Tarafından Doğru Kullanılmasında Daha Etkili Olabilir mi? Nesligül ÖZDEMİR, Melda BAHAP, Ayçe ÇELİKER

#### **Original Articles**

- 359 Development and Statistical Optimization of Solid Lipid Nanoparticle Formulations of Fluticasone Propionate Flutikazon Propiyonatının Katı Lipit Nanopartikül Formülasyonlarının Geliştirilmesi ve İstatistiksel Optimizasyonu Gülin AMASYA, Ceyda Tuba ŞENGEL TÜRK, Ulya BADILLI, Nilüfer TARIMCI
- 367 Evaluation of Lactose-Based Direct Tableting Agents' Compressibility Behavior Using a Compaction Simulator Sıkıştırma Simülatörü Kullanarak Laktoz Bazlı Doğrudan Tabletleme Ajanlarının Sıkıştırabilme Davranışlarının Değerlendirilmesi Yıldız ÖZALP, Motunrayo M. ONAYO, Nailla JIWA
- 372 Determining the Best Poloxamer Carrier for Thiocolchicoside Solid Dispersions Tiyokolşikosid Katı Dispersiyonları İçin En İyi Poloksamer Taşıyıcının Belirlenmesi Hemanth ANNEPOGU, Hindustan Abdul AHAD, Devanna NAYAKANTI
- The Formulation of Methylene Blue Encapsulated, Tc-99m Labeled Multifunctional Liposomes for Sentinel Lymph Node Imaging and Therapy

Sentinel Lenf Nodu Görüntüleme ve Tedavisi İçin Metilen Mavisi Enkapsüle Edilmiş, Tc-99m İşaretli Çok-Fonksiyonlu Lipozomların Formülasyonu

Mine SİLİNDİR GÜNAY

- Development of Bioadhesive Buccal Tablets of Nicorandil Using a Factorial Approach Faktöriyel Yaklaşım ile Nikorandil İçeren Biyoadezif Bukkal Tabletlerin Geliştirilmesi Rajendra KOTADIYA, Karan SHAH
- 398 Electrochemical Determination of Rifampicin Based on Its Oxidation Using Multi-Walled Carbon Nanotube-Modified Glassy Carbon Electrodes

Çok Duvarlı Karbon Nanotüp Modifiye Camsı Karbon Elektrot Kullanılarak Rifampisinin Oksidasyonuna Dayalı Elektrokimyasal Tayini Dilek KUL

- 408 Investigation of the Peripheral Analgesic Activity of Oxicams and Their Combinations with Caffeine Oksikamların ve Kafein ile Kombinasyonlarının Periferal Analjezik Aktivitelerinin İncelenmesi
  Anna SYROVA, Larisa LUKYANOVA, Svetlana KOZUB, Oksana ZAVADA, Olga LEVASHOVA, Viktor SHAPOSHNIK
- Green Synthesis and Characterization of Copper Nanoparticles and Their Effects on Liver Function and Hematological Parameters in Mice

  Bakır Nanopartiküllerinin Yeşil Sentezi, Karakterizasyonu, Farelerde Karaciğer İşlevi ve Hematolojik Parametreler Üzerine Etkileri

  Mehrdad KHATAMI, Katrin EBRAHIMI, Nasrin GALEHDAR, Mohammad Nabi MORADI, Alireza MOAYYEDKAZEMI
- 417 Molecular Docking Simulation Studies of Curcumin and Its Derivatives as Cyclin-Dependent Kinase 2 Inhibitors Siklin Bağımlı Kinaz 2 İnhibitörü Olarak Kurkumin ve Türevlerinin Moleküler Kenetlenme Simülasyonları Riyadi SUMIRTANURDIN, Shafira SUNGKAR, Yasarah HISPRASTIN, Kenny Dwi SIDHARTA, Dea Dian NURHIKMAH
- Ferulic Acid Prevents Angiogenesis Through Cyclooxygenase-2 and Vascular Endothelial Growth Factor in the Chick Embryo Chorioallantoic Membrane Model

Ferulik Asitin Tavuk Embriyo Koriyoallantoik Membran Modelinde Siklooksijenaz 2 ve Vasküler Endotel Büyüme Faktörü Üzerinden Anjiyojenezi Önlemesi

- Juni EKOWATI, Iwan Sahrial HAMID, Nuzul Wahyuning DIYAH, Siswandono SISWANDONO
- 432 Safety Assessment of Vanillic Acid: Subacute Oral Toxicity Studies in Wistar Rats Vanilik Asitinin Güvenlik Değerlendirmesi: Wistar Sıçanlarında Subakut Oral Toksisite Çalışmaları Anwarbaig Chandbaig MIRZA, Shital Sharad PANCHAL
- The Effect of *Rusa unicolor* Antler Deer Extracts from East Kalimantan in Bone Turnover Cell Model Doğu Kalimantan'dan Rusa unicolor Geyiği Boynuzu Ekstraktlarının Kemik Dönüşümü Hücre Modelleri Üzerine Etkisi Retno WIDYOWATI, Suciati SUCIATI, Dewi Melani HARYADI, Hsin-I CHANG, IPG Ngurah SURYAWAN, Agung Widi UTAMA
- Cytotoxic, Genotoxic, and Apoptotic Effects of Nickel Oxide Nanoparticles in Intestinal Epithelial Cells Nikel Oksit Nanopartiküllerinin Bağırsak Epitel Hücreleri Üzerine Sitotoksik, Genotoksik ve Apoptotik Etkileri Mahmoud ABUDAYYAK, Elif GÜZEL, Gül ÖZHAN

# TURKISH JOURNAL OF PHARMACEUTICAL SCIENCES

#### **CONTENTS**

452 Evaluation of the Possible Role of miRNAs in Chemical Allergen Potency miRNA'ların Kimyasal Alerjen Potansiyellerinin Olası Rollerinin Değerlendirilmesi Hatice Gül ANLAR, Valentina GALBIATI, Emanuela CORSINI, Nurşen BAŞARAN

#### Review

457

Toxicological Evaluation of Bisphenol A and Its Analogues Bisfenol A ve Analoglarının Toksikolojik Değerlendirilmesi İrem İYİĞÜNDOĞDU, Aylin ÜSTÜNDAĞ, Yalçın DUYDU

PUBLICATION NAME	Turkish Journal of Pharmaceutical Sciences
TYPE OF PUBLICATION	Vernacular Publication
PERIOD AND LANGUAGE	Bimonthly-English
OWNER	Erdoğan ÇOLAK on behalf of the Turkish Pharmacists' Association
EDITOR-IN-CHIEF	Prof.Terken BAYDAR, Ph.D.
ADDRESS OF PUBLICATION	Turkish Pharmacists' Association, Mustafa Kemal Mah 2147.Sok No:3 06510 Çankaya/ Ankara, TURKEY

### TURKISH JOURNAL OF PHARMACEUTICAL SCIENCES

Volume: 17, No: 4, Year: 2020

### CONTENTS

Letter to Editor
Can Pharmacists be More Effective Regarding the Proper Use of Face Masks by the Public During the COVID-19 Pandemic?  Nesligül ÖZDEMİR, Melda BAHAP, Ayçe ÇELİKER
Original Articles
Development and Statistical Optimization of Solid Lipid Nanoparticle Formulations of Fluticasone Propionate  Gülin AMASYA, Ceyda Tuba ŞENGEL TÜRK, Ulya BADILLI, Nilüfer TARIMCI
Evaluation of Lactose-Based Direct Tableting Agents' Compressibility Behavior Using a Compaction
Simulator Yıldız ÖZALP, Motunrayo M. ONAYO, Nailla JIWA
Determining the Best Poloxamer Carrier for Thiocolchicoside Solid Dispersions Hemanth ANNEPOGU, Hindustan Abdul AHAD, Devanna NAYAKANTI
The Formulation of Methylene Blue Encapsulated, Tc-99m Labeled Multifunctional Liposomes for Sentinel Lymph Node Imaging and Therapy  Mine SiLiNDiR GÜNAY
Development of Bioadhesive Buccal Tablets of Nicorandil Using a Factorial Approach
Rajendra KOTADIYA, Karan SHAH
Electrochemical Determination of Rifampicin Based on Its Oxidation Using Multi-Walled Carbon Nanotube-Modified Glassy Carbon Electrodes  Dilek KUL
Investigation of the Peripheral Analgesic Activity of Oxicams and Their Combinations with Caffeine Anna SYROVA, Larisa LUKYANOVA, Svetlana KOZUB, Oksana ZAVADA, Olga LEVASHOVA, Viktor SHAPOSHNIK
Green Synthesis and Characterization of Copper Nanoparticles and Their Effects on Liver Function and Hematological Parameters in Mice
Mehrdad KHATAMI, Katrin EBRAHIMI, Nasrin GALEHDAR, Mohammad Nabi MORADI, Alireza MOAYYEDKAZEMI412
Molecular Docking Simulation Studies of Curcumin and Its Derivatives as Cyclin-Dependent Kinase 2 Inhibitors Riyadi SUMIRTANURDIN, Shafira SUNGKAR, Yasarah HISPRASTIN, Kenny Dwi SIDHARTA, Dea Dian NURHIKMAH417
Ferulic Acid Prevents Angiogenesis Through Cyclooxygenase-2 and Vascular Endothelial Growth Factor in the Chick Embryo Chorioallantoic Membrane Model
Juni EKOWATI, Iwan Sahrial HAMID, Nuzul Wahyuning DIYAH, Siswandono SISWANDONO424
Safety Assessment of Vanillic Acid: Subacute Oral Toxicity Studies in Wistar Rats  Anwarbaig Chandbaig MIRZA, Shital Sharad PANCHAL
The Effect of <i>Rusa unicolor</i> Antler Horn Extracts from East Kalimantan in Bone Turnover Cell Model Retno WIDYOWATI, Suciati SUCIATI, Dewi Melani HARYADI, Hsin-I CHANG, IPG Ngurah SURYAWAN, Agung Widi UTAMA
Cytotoxic, Genotoxic, and Apoptotic Effects of Nickel Oxide Nanoparticles in Intestinal Epithelial Cells
Mahmoud ABUDAYYAK, Elif GÜZEL, Gül ÖZHAN446
Evaluation of the Possible Role of miRNAs in Chemical Allergen Potency Hatice Gül ANLAR, Valentina GALBIATI, Emanuela CORSINI, Nurşen BAŞARAN452
Review
Toxicological Evaluation of Bisphenol A and Its Analogues İrem İYİGÜNDOĞDU, Aylin ÜSTÜNDAĞ, Yalçın DUYDU457