

E-ISSN: 2148-6247



Turkish Journal of PHARMACEUTICAL SCIENCES

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

Volume: **22** Issue: **6** December **2025**



www.turkjps.org



PubMed
Central

PubMed

Scopus

TRDizin

galenos
Publishing House



Turkish Journal of PHARMACEUTICAL SCIENCES

OWNER

Arman ÜNEY on behalf of the Turkish Pharmacists' Association

Editor-in-Chief

Prof. Mesut Sancar, MSc, Ph.D.

ORCID: orcid.org/0000-0002-7445-3235

Marmara University Faculty of Pharmacy, Department of Clinical Pharmacy, İstanbul, Türkiye
E-mail: sancarmesut@yahoo.com

Associate Editors

Prof. Bensu Karahalil, Ph.D.

ORCID: orcid.org/0000-0003-1625-6337

Gazi University Faculty of Pharmacy, Department of
Pharmaceutical Toxicology, Ankara, Türkiye
E-mail: bensu@gazi.edu.tr

Prof. Betül Okuyan, MSc, Ph.D.

ORCID: orcid.org/0000-0002-4023-2565

Marmara University Faculty of Pharmacy, Department
of Clinical Pharmacy, İstanbul, Türkiye
E-mail: betulokuyan@gmail.com

Prof. İ. İrem Tatlı Çankaya, MSc, Ph.D.

ORCID: orcid.org/0000-0001-8531-9130

Hacettepe University Faculty of Pharmacy, Department
of Pharmaceutical Botany, Ankara, Türkiye
E-mail: itatli@hacettepe.edu.tr

Editorial Board

Prof. Afonso Miguel Cavaco, Ph.D.

ORCID: orcid.org/0000-0001-8466-0484

Lisbon University Faculty of Pharmacy, Department
of Pharmacy, Pharmacology and Health
Technologies, Lisboa, Portugal
acavaco@campus.ul.pt

Prof. Bezhan Chankvetadze, Ph.D.

ORCID: orcid.org/0000-0003-2379-9815

Ivane Javakhishvili Tbilisi State University, Institute of
Physical and Analytical Chemistry, Tbilisi, Georgia
jpba_bezhan@yahoo.com

Prof. Blanca Laffon, P.D.

ORCID: orcid.org/0000-0001-7649-2599

DICOMOSA group, Advanced Scientific Research
Center (CICA), University of A Coruña, Department
of Psychology, Area Psychobiology, Central Services
of Research Building (ESCI), Campus Elviña s/n, A
Coruña, Spain
blanca.laffon@udc.es

Prof. Christine Lafforgue, Ph.D.

ORCID: orcid.org/0000-0001-7798-2565

Paris Saclay University Faculty of Pharmacy,
Department of Dermopharmacology and
Cosmetology, Paris, France
christine.lafforgue@universite-paris-saclay.fr

Prof. Dietmar Fuchs, Ph.D.

ORCID: orcid.org/0000-0003-1627-9563

Innsbruck Medical University, Center for Chemistry
and Biomedicine, Institute of Biological Chemistry,
Biocenter, Innsbruck, Austria
dietmar.fuchs@i-med.ac.at

Prof. Francesco Epifano, Ph.D.

ORCID: 0000-0002-0381-7812

Università degli Studi G. d'Annunzio Chieti e Pescara,
Chieti CH, Italy
francesco.epifano@unich.it

Prof. Fernanda Borges, Ph.D.

ORCID: orcid.org/0000-0003-1050-2402

Porto University Faculty of Sciences, Department of
Chemistry and Biochemistry, Porto, Portugal
fborges@fc.up.pt

Prof. Göksel Şener, Ph.D.

ORCID: orcid.org/0000-0001-7444-6193

Fenerbahçe University Faculty of Pharmacy,
Department of Pharmacology, İstanbul, Türkiye
gsener@marmara.edu.tr

Prof. Gülbin Özçelikay, Ph.D.

ORCID: orcid.org/0000-0002-1580-5050

Ankara University Faculty of Pharmacy, Department
of Pharmacy Management, Ankara, Türkiye
gozcelikay@ankara.edu.tr

Prof. Hermann Bolt, Ph.D.

ORCID: orcid.org/0000-0002-5271-5871

Dortmund University, Leibniz Research Centre,
Institute of Occupational Physiology, Dortmund,
Germany
bolt@ifado.de

Prof. Hildebert Wagner, Ph.D.

Ludwig-Maximilians University, Center for
Pharmaceutical Research, Institute of Pharmacy,
Munich, Germany
h.wagner@cup.uni-muenchen.de

Prof. K. Arzum Erdem Gürsan, Ph.D.

ORCID: orcid.org/0000-0002-4375-8386

Ege University Faculty of Pharmacy, Department of
Analytical Chemistry, İzmir, Türkiye
arzum.erdem@ege.edu.tr

Prof. Bambang Kuswandi, Ph.D.

ORCID: orcid.org/0000-0002-1983-6110

Chemo and Biosensors Group, Faculty of Pharmacy
University of Jember, East Java, Indonesia
b_kuswandi.farmasi@unej.ac.id

Prof. Luciano Saso, Ph.D.

ORCID: 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. Maarten J. Postma, Ph.D.

ORCID: orcid.org/0000-0002-6306-3653

University of Groningen (Netherlands), Department
of Pharmacy, Unit of Pharmacoepidemiology and
Pharmacoeconomics, Groningen, Holland
m.j.postma@rug.nl

Prof. Meriç Köksal Akkoç, Ph.D.

ORCID: orcid.org/0000-0001-7662-9364

Yeditepe University Faculty of Pharmacy,
Department of Pharmaceutical Chemistry, İstanbul,
Türkiye
merickoksal@yeditepe.edu.tr

**Assoc. Prof. Nadja Cristhina de Souza
Pinto, Ph.D.**

ORCID: orcid.org/0000-0003-4206-964X

University of São Paulo, Institute of Chemistry, São
Paulo, Brazil
nadja@iq.usp.br

**Assoc. Prof. Neslihan Ayygün Kocabaş,
Ph.D. E.R.T**

ORCID: orcid.org/0000-0000-0000-0000

Total Research and Technology Feluy Zone
Industrielle Feluy, Refining and Chemicals, Strategy-
Development-Research, Toxicology Manager,
Seneffe, Belgium
neslihan.aygun.kocabas@total.com

Prof. Rob Verpoorte, Ph.D.

ORCID: orcid.org/0000-0001-6180-1424

Leiden University, Natural Products Laboratory,
Leiden, Netherlands
verpoort@chem.leidenuniv.nl



Turkish Journal of PHARMACEUTICAL SCIENCES

Prof. Robert Rapoport, Ph.D.

ORCID: orcid.org/0000-0001-8554-1014

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

roberttrapoport@gmail.com

Prof. Tayfun Uzbay, Ph.D.

ORCID: orcid.org/0000-0002-9784-5637

Üsküdar University Faculty of Medicine,
Department of Medical Pharmacology, İstanbul,
Türkiye

tayfun.uzbay@uskudar.edu.tr

Prof. Wolfgang Sadee, Ph.D.

ORCID: orcid.org/0000-0003-1894-6374

Ohio State University, Center for
Pharmacogenomics, Ohio, USA

wolfgang.sadee@osumc.edu

Advisory Board

Prof. Yusuf ÖZTÜRK, Ph.D.

İstanbul Aydın University, Faculty of Pharmacy,
Department of Pharmacology, İstanbul, TÜRKİYE
ORCID: 0000-0002-9488-0891

Prof. Tayfun UZBAY, Ph.D.

Üsküdar University, Faculty of Medicine,
Department of Medical Pharmacology, İstanbul,
TÜRKİYE

ORCID: orcid.org/0000-0002-9784-5637

Prof. K. Hüsnü Can BAŞER, Ph.D.

Anadolu University, Faculty of Pharmacy,
Department of Pharmacognosy, Eskişehir, TÜRKİYE
ORCID: 0000-0003-2710-0231

Prof. Yılmaz ÇAPAN, Ph.D.

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

ORCID: 0000-0003-1234-9018

Prof. Sibel A. ÖZKAN, Ph.D.

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

ORCID: 0000-0001-7494-3077

Prof. Ekrem SEZİK, Ph.D.

İstanbul Health and Technology University, Faculty
of Pharmacy, Department of Pharmacognosy,
İstanbul, TÜRKİYE

ORCID: 0000-0002-8284-0948

Prof. Gönül ŞAHİN, Ph.D.

Eastern Mediterranean University, Faculty of
Pharmacy, Department of Pharmaceutical
Toxicology, Famagusta, CYPRUS

ORCID: 0000-0003-3742-6841

Prof. Sevda ŞENEL, Ph.D.

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

ORCID: 0000-0002-1467-3471

Prof. Sevim ROLLAS, Ph.D.

Marmara University, Faculty of Pharmacy,
Department of Pharmaceutical Chemistry, İstanbul,
TÜRKİYE

ORCID: 0000-0002-4144-6952

Prof. Göksel ŞENER, Ph.D.

Fenerbahçe University, Faculty of Pharmacy,
Department of Pharmacology, İstanbul, TÜRKİYE

ORCID: 0000-0001-7444-6193

Prof. Erdal BEDİR, Ph.D.

İzmir Institute of Technology, Department of
Bioengineering, İzmir, TÜRKİYE

ORCID: 0000-0003-1262-063X

Prof. Nurşen BAŞARAN, Ph.D.

Hacettepe University, Faculty of Pharmacy,
Department of Pharmaceutical Toxicology, Ankara,
TÜRKİYE

ORCID: 0000-0001-8581-8933

Prof. Bensu KARAHALİL, Ph.D.

Gazi University, Faculty of Pharmacy, Department
of Pharmaceutical Toxicology, Ankara, TÜRKİYE

ORCID: 0000-0003-1625-6337

Prof. Betül DEMİRCİ, Ph.D.

Anadolu University, Faculty of Pharmacy,
Department of Pharmacognosy, Eskişehir, TÜRKİYE

ORCID: 0000-0003-2343-746X

Prof. Bengi USLU, Ph.D.

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

ORCID: 0000-0002-7327-4913

Prof. Ahmet AYDIN, Ph.D.

Yeditepe University, Faculty of Pharmacy,
Department of Pharmaceutical Toxicology, İstanbul,
TÜRKİYE

ORCID: 0000-0003-3499-6435

Prof. İlkay ERDOĞAN ORHAN, Ph.D.

Lokman Hekim University, Faculty of Pharmacy,
Department of Pharmacognosy, Ankara, TÜRKİYE

ORCID: 0000-0002-7379-5436

Prof. Ş. Güniz KÜÇÜKGÜZEL, Ph.D.

Fenerbahçe University Faculty of Pharmacy,
Department of Pharmaceutical Chemistry, İstanbul,
TÜRKİYE

ORCID: 0000-0001-9405-8905

Prof. Engin Umut AKKAYA, Ph.D.

Dalian University of Technology, Department of
Chemistry, Dalian, CHINA

ORCID: 0000-0003-4720-7554

Prof. Esra AKKOL, Ph.D.

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

ORCID: 0000-0002-5829-7869

Prof. Erem BİLENSOY, Ph.D.

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

ORCID: 0000-0003-3911-6388

Prof. Uğur TAMER, Ph.D.

Gazi University, Faculty of Pharmacy, Department
of Analytical Chemistry, Ankara, TÜRKİYE

ORCID: 0000-0001-9989-6123

Prof. Gülaçtı TOPÇU, Ph.D.

Bezmialem Vakıf University, Faculty of Pharmacy,
Department of Pharmacognosy, İstanbul, TÜRKİYE

ORCID: 0000-0002-7946-6545

Prof. Hasan KIRMIZİBEKMEZ, Ph.D.

Yeditepe University, Faculty of Pharmacy,
Department of Pharmacognosy, İstanbul, TÜRKİYE

ORCID: 0000-0002-6118-8225

Douglas Siqueira de Almeida Chaves, Ph.D.

Federal Rural University of Rio de Janeiro,
Department of Pharmaceutical Sciences, Rio de
Janeiro, BRAZIL

ORCID: 0000-0002-0571-9538

**Members of the Advisory Board consist of the scientists
who received Science Award presented by TEB Academy
of Pharmacy in chronological order.*



Turkish Journal of PHARMACEUTICAL SCIENCES

Please refer to the journal's webpage (<https://www.turkjps.org/>) for "Editorial Policy" and "Instructions to Authors".

The editorial and publication process of the **Turkish Journal of Pharmaceutical Sciences** are shaped in accordance with the guidelines of ICMJE, WAME, CSE, COPE, EASE, and NISO. The Turkish Journal of Pharmaceutical Sciences is indexed in **PubMed, PubMed Central, Thomson Reuters / Emerging Sources Citation Index, Scopus, ULAKBİM, Türkiye Citation Index, Embase, EBSCO Host, Türk Medline, Cabi, CNKI**.

The journal is published online.

Owner: Turkish Pharmacists' Association, Academy of Pharmacy

Responsible Manager: Mesut Sancar



Publisher Contact

Address: Molla Gürani Mah. Kaçamak Sk. No: 21/1

34093 İstanbul, Türkiye

Phone: +90 (530) 177 30 97

E-mail: info@galenos.com.tr / yayin@galenos.com.tr

Web: www.galenos.com.tr | **Publisher Certificate Number:** 14521

Publication Date: February 2026

E-ISSN: 2148-6247

International scientific journal published bimonthly.



Turkish Journal of PHARMACEUTICAL SCIENCES

CONTENTS

Original Articles

- 357** Evaluation of Wound Healing Potential of (5-formylfuran-2-yl)methyl Benzoates by *In Vitro* Cell Culture Studies
Mehmet KOCA, Fatma YEŞİLYURT, Hatice Şükran DURMAZ, Ahmet HACIMÜFTÜOĞLU, Neslihan ÇELEBİOĞLU
- 367** Overcoming Intrinsic and Acquired Temozolomide Resistance in Glioblastoma: Fisetin as a Potential Strategy to Enhance Sensitivity via ZEB1 Modulation
Sena FERAH, Mine ÇAMLİBEL, Melis ERÇELİK, Çağla TEKİN, Gülçin TEZCAN, Melisa GÜRBÜZ, Ahmet BEKAR, Hasan KOCAELİ, Berrin TUNCA
- 381** Development and Optimization of Electrospun Poly(vinyl alcohol) Nanofibers for Vaginal Drug Delivery Using Design of Experiments Approach
Sinem SAAR, Fatmanur TUĞCU-DEMİRÖZ, Füsün ACARTÜRK
- 393** Perspectives and Experiences of Community Pharmacists on Vaccine and Cold Chain: A Qualitative Study
Hilal İLBARS, Berna TERZİOĞLU BEBİTOĞLU, Seyhan HİDİROĞLU, Fatma Burcu DOĞANÇ, Yeliz TUĞLU, Deniz Kerem ÇUHADAROĞLU, Hatice SARI

Index

2025 Author Index
2025 Subject Index
2025 Referee Index