

# Prof. AYSUN ÖZDEMİR

## Personal Information

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## International Researcher IDs

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Publons / Web Of Science ResearcherID: AHH-9834-2022

ScopusID: 37052634200

Yoksis Researcher ID: 134067

## Education Information

Doctorate, Gazi University, Sağlık Bilimleri Enstitüsü, Farmakoloji (Dr), Turkey 2008 - 2014

Postgraduate, Gazi University, Sağlık Bilimleri Enstitüsü, Farmakoloji (YI) (Tezli), Turkey 2006 - 2008

Undergraduate, Gazi University, Eczacılık Fakültesi, Eczacılık Pr. (4 Yıllık), Turkey 2002 - 2006

## Foreign Languages

English, B2 Upper Intermediate

## Dissertations

Doctorate, Kardiyak glikozit aracılıklı sitotoksiste ile rho/rho kinaz yolağının olası bağlantısının kanser hücre dizilerinde incelenmesi, Gazi University, Sağlık Bilimleri Enstitüsü, Farmakoloji (Dr), 2014

Postgraduate, İnsan umbilikal ven endotel hücrelerinde uvabain ile indüklenen aponekrotik ölümlerde Rho Kinazın olası rolünün incelenmesi, Gazi University, Sağlık Bilimleri Enstitüsü, Farmakoloji (YI) (Tezli), 2008

## Research Areas

Health Sciences, Pharmacology and Therapeutics

## Academic Titles / Tasks

Professor, Gazi University, Eczacılık Fakültesi, Eczacılık Meslek Bilimleri, 2023 - Continues

Associate Professor, Gazi University, Eczacılık Fakültesi, Eczacılık Meslek Bilimleri, 2019 - Continues

Research Assistant, Gazi University, Eczacılık Fakültesi, Eczacılık Meslek Bilimleri, 2007 - 2019

## Advising Theses

Özdemir A., A549 kanser hücrelerinde kemoterapötiklerle indüklenen senesente teofilinin sekretom gelişimi üzerindeki etkisi, Postgraduate, E.KARGIOĞLU(Student), 2022

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Temporal regulation of gene expression and pathways in chemotherapy-induced senescence in HeLa cervical cancer cell line**  
Sucularli C., Şimay Demir Y. D., Özdemir A., Ark M.  
BIOSYSTEMS, vol.237, 2024 (SCI-Expanded)
- II. **Synthesis and molecular modeling of some novel hydroxypyrrone derivatives as antidermatophytic agents**  
Karakaya G., Türe A., Özdemir A., Özçelik B., Aytemir M.  
JOURNAL OF HETEROCYCLIC CHEMISTRY, vol.1, no.12, pp.1801-1812, 2022 (SCI-Expanded)
- III. **Effect of Finishing-Polishing Procedures on Cytotoxicity of Resin-Based Restorative Materials via Real-Time Cell Analysis.**  
Çimen C., Demirsoy F. F., Özdemir A., Ark M., Özalp N.  
The Journal of clinical pediatric dentistry, vol.46, no.1, pp.24-29, 2022 (SCI-Expanded)
- IV. **The implication of ROCK 2 as a potential senotherapeutic target via the suppression of the harmful effects of the SASP: Do senescent cancer cells really engulf the other cells?**  
Demir Y. D., Özdemir A., Sucularli C., Behür E., Ark M.  
CELLULAR SIGNALLING, vol.84, 2021 (SCI-Expanded)
- V. **Antimigratory effect of pyrazole derivatives through the induction of STAT1 phosphorylation in A549 cancer cells**  
Şimay Demir Y. D., Özdemir A., Özdemir R. G., Cevher S. C., Çalışkan B., Ark M.  
JOURNAL OF PHARMACY AND PHARMACOLOGY, vol.73, no.6, pp.808-815, 2021 (SCI-Expanded)
- VI. **A novel proteolytic cleavage of ROCK 1 in cell death: Not only by caspases 3 and 7 but also by caspase 2**  
Özdemir A., İbişoğlu B., Şimay Demir Y. D., Behür E., Valipour F., Ark M.  
BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, vol.547, pp.118-124, 2021 (SCI-Expanded)
- VII. **A novel ROCK inhibitor: off-target effects of metformin**  
ÖZDEMİR A., ARK M.  
TURKISH JOURNAL OF BIOLOGY, vol.45, no.1, pp.35-45, 2021 (SCI-Expanded)
- VIII. **Evaluation of Cytotoxic Activity of New Benzimidazole-Piperazine Hybrids Against Human MCF-7 and A549 Cancer Cells**  
ÖZDEMİR A., Thranli S., ÇALIŞKAN B., Arka M., BANOĞLU E.  
Pharmaceutical Chemistry Journal, vol.53, no.11, pp.1036-1046, 2020 (SCI-Expanded)
- IX. **The connection between the cardiac glycoside-induced senescent cell morphology and Rho/Rho kinase pathway**  
Simay Y. D., ÖZDEMİR A., Ibisoglu B., ARK M.  
CYTOSKELETON, vol.75, no.11, pp.461-471, 2018 (SCI-Expanded)
- X. **Gemcitabine hydrochloride-loaded liposomes and nanoparticles: comparison of encapsulation efficiency, drug release, particle size, and cytotoxicity**  
YALÇIN T. E., İLBASMIŞ TAMER S., Ibisoglu B., ÖZDEMİR A., ARK M., TAKKA S.  
PHARMACEUTICAL DEVELOPMENT AND TECHNOLOGY, vol.23, no.1, pp.76-86, 2018 (SCI-Expanded)
- XI. **Promising anticancer activity of Cyclotrichium niveum L. extracts through induction of both apoptosis and necrosis**  
ÖZDEMİR A., Yildiz M., ŞENOL DENİZ F. S., Simay Y. D., Iboğlu B., GÖKBULUT A., ERDOĞAN ORHAN İ., ARK M.  
FOOD AND CHEMICAL TOXICOLOGY, vol.109, pp.898-909, 2017 (SCI-Expanded)
- XII. **Cardiac glycoside-induced cell death and Rho/Rho kinase pathway: Implication of different regulation in cancer cell lines**

- ÖZDEMİR A., Simay Y. D., Ibisoglu B., Yaren B., Bulbul D., ARK M.  
STEROIDS, vol.109, pp.29-43, 2016 (SCI-Expanded)
- XIII. **Identification of the T-complex protein as a binding partner for newly synthesized cytoplasmic dynein intermediate chain 2**  
Ozdemir A., Machida K., Imataka H., Catling A. D.  
BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, vol.469, no.1, pp.126-131, 2016 (SCI-Expanded)
- XIV. **Chronic ouabain treatment induces Rho kinase activation**  
ÖZDEMİR A., Sahan G., Demirtas A., Aypar E., Gozubuyuk G., Turan N. N., ARK M.  
ARCHIVES OF PHARMACAL RESEARCH, vol.38, no.10, pp.1897-1905, 2015 (SCI-Expanded)
- XV. **Ouabain induces Rho-dependent rock activation and membrane blebbing in cultured endothelial cells**  
Ozdemir A., Ibisoglu B., Simay Y. D., Polat B., Ark M.  
MOLECULAR BIOLOGY, vol.49, no.1, pp.138-143, 2015 (SCI-Expanded)
- XVI. **Epidermal Growth Factor Stimulates Extracellular-Signal Regulated Kinase Phosphorylation of a Novel Site on Cytoplasmic Dynein Intermediate Chain 2**  
Pullikuth A. K., Ozdemir A., Cardenas D., Bailey E., Sherman N. E., Pfister K. K., Catling A. D.  
INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES, vol.14, no.2, pp.3595-3620, 2013 (SCI-Expanded)
- XVII. **Ouabain-induced apoptosis and Rho kinase: a novel caspase-2 cleavage site and fragment of Rock-2**  
ARK M., ÖZDEMİR A., Polat B.  
APOPTOSIS, vol.15, no.12, pp.1494-1506, 2010 (SCI-Expanded)
- XVIII. **Ouabain-induced hypertension and rho kinase**  
ÖZDEMİR A., Aypar E., Pahan G., Gozubuyuk G., Demirtap A., Turan N. N., ARK M.  
FASEB JOURNAL, vol.22, 2008 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Evaluation of Antioxidant, Cytotoxic Effects and Phytochemical Profiles of Galls Caused by Eriophyidae mite in Juglans regia Leaves**  
BULUT S., Özüpek B., PEKACAR S., ÖZDEMİR A., Orhan D. D.  
Fabad Journal of Pharmaceutical Sciences, vol.49, no.3, pp.525-538, 2024 (Scopus)
- II. **Synthesis of novel potential ROCK inhibitors and their antimigratory effects**  
TURANLI S., Uslu A. G., ÖZDEMİR A.  
Organic Communications, vol.13, no.4, pp.165-174, 2020 (ESCI)
- III. **xCELLigence Real Time Cell Analysis System A New Method for Cell Proliferation and Cytotoxicity**  
ÖZDEMİR A., ARK M.  
Niche Journal, vol.2, no.2, pp.15-17, 2014 (Peer-Reviewed Journal)
- IV. **Uvabain Aracılıklı Apoptotik Hücre Ölümleri ve Rho Kinaz Bir Proteomik Çalışma**  
BAYRAM E., ÖZDEMİR A., CİHAN A., ÖZEL DEMİRALP F. D., POLAT B., ARK M.  
Mersin Üniversitesi Sağlık Bilimleri Dergisi, 2010 (Peer-Reviewed Journal)
- V. **Rho Kinaz ve Apoptoz**  
ÖZDEMİR A., ARK M.  
Mersin Üniversitesi Sağlık Bilimleri Dergisi, 2009 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Senescent cells and SASP in cancer microenvironment: New approaches in cancer therapy**  
ÖZDEMİR A., ŞİMAY DEMİR Y. D., YEŞİLYURT Z. E., ARK M.  
in: Advances in Protein Chemistry and Structural Biology, rossen Donev, Editor, Elsevier, pp.115-158, 2023
- II. **Senescent cells and SASP in cancer microenvironment: New approaches in cancer therapy**

ÖZDEMİR A., ŞİMAY DEMİR Y. D., YEŞİLYURT Z., ARK M.

in: Advances in Protein Chemistry and Structural Biology, rossen Donev, Editor, Elsevier, pp.115-158, 2023

III. **Hücre Kültürü ve Temel Moleküler Biyoloji Protokolleri**

ARK M., ÖZDEMİR A., şimay y. d., İBİŞOĞLU B.

Ankara Nobel Tıp Kitabevi, 2017

**Refereed Congress / Symposium Publications in Proceedings**

- I. **Cardiotrophin 1: A Novel SASP Marker in Senescent MCF7 Cells**  
Özdemir A., Tayyar T., Şimay Demir Y. D., Ark M.  
The 48th FEBS Congress, Milan, Italy, 29 June - 03 July 2024, pp.318
- II. **KEMOTERAPİ İLE İNDÜKLENEN SENESCENT HÜCRE SEKRETOMUNUN MODÜLASYONU İÇİN YENİ BİR HEDEF OLARAK LİPİT RAFTLARININ DEĞERLENDİRİLMESİ**  
Şimay Demir Y. D., Özdek E., Yeşilyurt Z. E., Özdemir A., Ark M.  
2. ULUSLARARASI 27. ULUSAL FARMAKOLOJİ KONGRESİ, Antalya, Turkey, 23 - 26 November 2023
- III. **Doksorubisin ile İndüklenen Senesent Hela Hücrelerinde Parekoksibin Senomorfik Etkinliğinin Değerlendirilmesi**  
Bozan E. B., ÖZDEMİR A., ŞİMAY DEMİR Y. D., ARK M.  
12th International Medicine and Health Sciences Researches Congress, Ankara, Turkey, 18 - 19 March 2023
- IV. **A Novel Specific Cell Death Morphology for Cardiac Glycosides and MCF7 Cells: Implication of E-Cadherin and Cell-Cell Junctions**  
Özdemir A., Yeşilyurt Z. E., Şimay Demir Y. D., Ark M.  
ICDS meeting "Future of Cell Death in Basic Science and Translational Medicine, İstanbul, Turkey, 2 - 04 July 2022
- V. **Teofilin A549 Hücrelerinde Senesens İle İlişkili Salgı Fenotipini (SASP) Modüle Etmektedir**  
Özdemir A., Kargioğlu E., Yeşilyurt Z. E., Ark M.  
10. ULUSAL MOLEKÜLER BİYOLOJİ VE BİYOTEKNOLOJİ KONGRESİ, Ankara, Turkey, 18 - 20 December 2021, pp.41
- VI. **A POTENTIAL SENOTHERAPEUTIC DRUG: THEOPHYLLINE RESTORES THE DOXORUBICIN-INDUCED SENESCENT CELL MORPHOLOGY IN A549 CELLS**  
Şahinoğlu E., Ark M., Özdemir A.  
3rd International Gazi Pharma Symposium Series, Ankara, Turkey, 8 - 10 September 2021
- VII. **Antimigratory Effect of a Newly Synthesized Pyrazole Derivative Compound in A549 Cancer Cells**  
ÖZDEMİR A., Gönbe Özdemir R., ŞİMAY DEMİR Y. D., Cevher S. C., Şahinoğlu E., ÇALIŞKAN B., ARK M.  
DGZ International Meeting, 17 - 19 September 2018, vol.44
- VIII. **Possible involvement of Rho kinase on the secretory activity of drug-induced senescent cells**  
simay y. d., ÖZDEMİR A., ARK M.  
Cell Death CSHL 2017, 15 - 19 August 2017
- IX. **Anticancer activity of novel benzimidazole derivatives against MCF-7 cancer cells**  
ÖZDEMİR A., Uzunoglu S., ÇALIŞKAN B., BANOĞLU E., ARK M.  
Experimental Biology Meeting, Illinois, United States Of America, 22 - 26 April 2017, vol.31
- X. **Holographic view of the senescent cells: Imagine all the senescent cells are not flattened**  
Simay Y. D., ÖZDEMİR A., İbisoglu B., ARK M.  
Experimental Biology Meeting, Illinois, United States Of America, 22 - 26 April 2017, vol.31
- XI. **A Possible Novel Mechanism in the Formation of Senescent Cell Morphology Caveolar Depletion**  
DİLBER ŞİMAY Y., ÖZDEMİR A., İBİŞOĞLU B., ARK M.  
12th International Congress of Cell Biology, 21 - 25 July 2016
- XII. **A novel Proteolytic Cleavage of ROCK 1 by caspase 2**  
İBİŞOĞLU B., ÖZDEMİR A., ŞİMAY Y. D., ARK M.  
7th European Congress of Pharmacology, 26 - 30 June 2016
- XIII. **Cytotoxic Activity Appraisal of Different Extracts from Cyclotrichium Niveum L In Three Cell Lines**  
YILDIZ M., ŞENOL F. S., ÖZDEMİR A., İBİŞOĞLU B., ŞİMAY Y. D., ERDOĞAN ORHAN İ., ARK M.

the 18th International Congress Phtopharm 2014, 3 - 05 July 2014

**XIV. Combination of ouabain and a specific ROCK inhibitor Y27632 in HeLa cells: implication of therapeutic benefits**

Ibisoglu B., Simay Y., ÖZDEMİR A., ARK M.

Experimental Biology Meeting, California, United States Of America, 26 - 30 April 2014, vol.28

**XV. Cleavage of ROCK II: As a Common Phenomenon in Cell Death**

ÖZDEMİR A., Ibisoglu B., Simay Y. D., Yaren B. M., ARK M.

Joint Annual Meeting of the ASPET/BPS at Experimental Biology (EB), Massachusetts, United States Of America, 20 - 24 April 2013, vol.27

**XVI. Rock Inhibition Reduces Senescent Cell Size**

Simay Y. D., Hosbas S., Ibisoglu B., Yildiz M., ÖZDEMİR A., ARK M.

Joint Annual Meeting of the ASPET/BPS at Experimental Biology (EB), Massachusetts, United States Of America, 20 - 24 April 2013, vol.27

**XVII. Identification of the T complex protein as a novel binding partner for Cytoplasmic Dynein Intermediate Chain 2**

ÖZDEMİR A., PFISTER K., MACHIDA K., CATLING A.

Louisiana Cancer Research Consortium 2013, 01 March 2013

**XVIII. Ouabain Induces Caspase-2 Dependent Rock II Cleavage In HeLa Cells**

ÖZDEMİR A., Bulbul D., ARK M.

Experimental Biology Meeting 2011, Washington, Kiribati, 9 - 13 April 2011, vol.25

**XIX. Ouabain induced hypertension and rho kinase**

ÖZDEMİR A., AYPAR E., ŞAHAN G., GÖZÜBÜYÜK G., DEMİRTAŞ A., TURAN DURAL N. N., ARK M.

Experimental Biology 2008, 5 - 09 April 2008, vol.22

## Supported Projects

Ark M., Özdemir A., Şimay Demir Y. D., Basan H., Sucularlı C., TUBITAK Project, Kardiyak glikozidlerin kanser hücrelerindeki etkileri için olası yeni hedef molekül(ler)in keşfi, 2024 - 2026

Şimay Demir Y. D., Ark M., Özdemir A., TUBITAK Project, Kemoterapi ile İndüklenen Kanser Hücre Sekretomunun Modülasyonu İçin Yeni Bir Hedef Olarak Lipit Raftlarının Değerlendirilmesi, 2022 - 2025

ÖZDEMİR A., Tayyar T., Project Supported by Higher Education Institutions, Kardiyotrofin1 CTF1in Doksorubisin ile indüklenen Senesent Kanser Hücrelerinde Ekspresyon ve Sekresyonunun Değerlendirilmesi, 2023 - 2024

Ark M., Şimay Demir Y. D., Özdemir A., Project Supported by Higher Education Institutions, Senoterapötikler Bazı benzimidazol ve benzoksazon türevi olası ROCK inhibitörlerinin kanser mikroçevresinde senesent hücreler üzerinde etkinliğinin incelenmesi, 2021 - 2023

ÖZDEMİR A., Şahinoğlu E., Project Supported by Higher Education Institutions, A549 kanser hücrelerinde kemoterapötiklerle indüklenen senesente teofilinin sekretom gelişimi üzerindeki etkisi, 2020 - 2023

ARK M., ÖZDEMİR A., Benhür E., Project Supported by Higher Education Institutions, Östrojen reseptörü, kardiyak glikozitler ve hücre-hücre bağlantıları arasındaki olası kenetin incelenmesi, 2020 - 2022

ÖZDEMİR A., Project Supported by Higher Education Institutions, METFORMİN, GLİPİZİD ve TOLBUTAMİDİN OLASI HEDEF DIŞI RHO KİNAZ İNHİBİSYONU ETKİSİNİN MCF7 ve HeLa KANSER HÜCRELERİNDE İNCELENMESİ, 2018 - 2020

Ark M., Özdemir A., TUBITAK Project, Apoptotik Hücre Ölümünde Rock 1 İçin Olası Yeni Bir Proteolitik Düzenleyici Mekanizmanın Belirlenmesi, 2017 - 2020

Ark M., ÖZDEMİR A., TUBITAK Project, Kanser hücrelerinde kemoterapötiklerle indüklenen senesense ait morfolojik değişiklikler ve sekretom gelişiminde olası mekanizmaların incelenmesi, 2016 - 2019

Özdemir A., Ark M., Banoğlu E., TUBITAK Project, Yeni Benzimidazol Türevlerinin Antikanser ve Antimigratuvar Etkileri ve Bu Bileşiklere Ait Etki Mekanizmalarının MCF 7 ve A549 Kanser Hücre Hatlarında İncelenmesi, 2015 - 2017

Ark M., Özdemir A., Erdoğan Orhan İ., Şenol Deniz F. S., Project Supported by Higher Education Institutions, Cytothrichium niveum L.'den Elde Edilen Ekstrelerin Sitotoksik Aktivitelerinin İncelenmesi, 2011 - 2013

## Patent

Özdemir A., Tayyar T., Ark M., Şimay Demir Y. D., Use of Cardiotrophin-1 as a Biomarker of Cellular Senescence in Estrogen Receptor Positive Breast Cancer Cells, Patent, CHAPTER A Human Needs, The Invention Recourse Number: 2024/006099 , Standard Registration, 2024

Ark M., Özdemir A., Şimay Demir Y. D., Bozan E. B., MOKSİFLOKSASİNİN SENOMORFİK ETKİLİ İLAÇ OLARAK KULLANIMI, Patent, CHAPTER A Human Needs, The Invention Recourse Number: 2022/008651 , Standard Registration, 2022

## Metrics

Publication: 45

Citation (WoS): 121

Citation (Scopus): 175

H-Index (WoS): 6

H-Index (Scopus): 8

## Non Academic Experience

Louisiana State University Health Sciences Center