Doç. Dr. AHMET ACAR

Kişisel Bilgiler

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Uluslararası Araştırmacı ID'leri
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Publons / Web Of Science ResearcherID: ABI-3298-2020
ScopusID: 57212498766
Yoksis Araştırmacı ID: jbossn183

Biyografi

During my undergraduate studies, I visited Prof Robert A. Weinberg's Laboratory at Massachusetts Institute of Technology, Cambridge, MA, US. as a summer student. After receiving my BSc degree, I won a competitive Cancer Research UK scholarship to enrol in a Ph.D. program at Cancer Research UK Manchester Institute, Manchester, UK, between 2008 and 2012. During my Ph.D., I focused on the evolution of cancer-associated fibroblasts in breast cancer mediated by crosstalk of signaling pathways namely Notch, TGFb, and SDF1. Following my Ph.D., I did a postdoc at the Faculty of Biology, Medicine, and Health, University of Manchester (UoM) for 3 years. My research there focused on the crosstalk of Wnt and Notch signaling and how they regulate each other. Next, I moved to the Institute of Cancer Research in London for the next 4 years where I switched my focus to cancer evolution and genomics to understand the underlying mechanisms of treatment resistance by designing experimental model systems consisting of large Hyperflasks, single-cell barcoding, and patient-derived organoids.

At the beginning of 2020, I moved to Turkey to start my own research group in Ankara's Middle East Technical University (METU) as part of an International Fellowship for Outstanding Researchers Program administrated by TUBITAK. In addition to my academic journey, I am the founder and CEO of a start-up called HistoCan at METU Teknopark since 2021.

Eğitim Bilgileri

Bütünleşik Doktora, The University of Manchester, Faculty of Medicine, Cancer Sciences, Birleşik Krallık 2008 - 2012
Lisans, Orta Doğu Teknik Üniversitesi, Fen Edebiyat Fakültesi, Biyolojik Bilimler Bölümü, Türkiye 2002 - 2007

Araştırma Alanları

Tıp, Temel Eczacılık Bilimleri, Meslek Bilimleri, Eczacılık Teknolojisi, Biyoenformatik, Biyoenstrümantasyon ve MEMS, Biyomedikal Görüntü İşleme, Biyomedikal Görüntü İşleme, Klinik Mühendisliği, Teletıp, Teletıp, Biyofizik, Biyokimya, Biyoinformatik, Biyolojik Modelleme, Biyolojik Veritabanları, Genetik Bozuklukların Moleküler Biyolojisi, Genetik Mühendisliği, Genomiks, Hayvan Moleküler Genetiği, Kanser Moleküler Biyolojisi, Mikrobiyal Genetik, Evrim, Bilgisayar Bilimleri, Oyun Kuramı, Sağlık Bilimleri, Temel Bilimler

Akademik Unvanlar / Görevler

Dr. Öğr. Üyesi, Orta Doğu Teknik Üniversitesi, Fen Edebiyat Fakültesi, Biyolojik Bilimler Bölümü, 2021 - Devam Ediyor
Dr. Öğr. Üyesi, Orta Doğu Teknik Üniversitesi, Fen Edebiyat Fakültesi, Biyolojik Bilimler Bölümü, 2020 - 2021

Verdiği Dersler

MOLECULAR BIOLOGY, Lisans, 2020 - 2021
Molecular and Cellular Biology I, Lisans, 2021 - 2022, 2020 - 2021
Biology of Cancer, Yüksek Lisans, 2021 - 2022

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

I. **Characterization of dabrafenib-induced drug insensitivity via cellular barcoding and collateral sensitivity to second-line therapeutics**
Baygin R. C., Yilmaz K. C., ACAR A.
Scientific Reports, cilt.14, sa.1, 2024 (SCI-Expanded)

II. **Tumor evolution metrics predict recurrence beyond 10 years in locally advanced prostate cancer**
Fernandez-Mateos J., Cresswell G. D., Trahearn N., Webb K., Sakr C., Lampis A., Stuttle C., Corbishley C. M., Stavrinides V., Zapata L., et al.
Nature Cancer, cilt.5, sa.9, ss.1334-1351, 2024 (SCI-Expanded)

III. **Exploiting Matrix Stiffness to Overcome Drug Resistance**
Aydin H. B., ÖZÇELİKKALE A., ACAR A.
ACS BIOMATERIALS SCIENCE & ENGINEERING, cilt.10, sa.8, ss.4682-4700, 2024 (SCI-Expanded)

IV. **Optimizing cancer therapy: a review of the multifaceted effects of metronomic chemotherapy**
Basar O. Y., Mohammed S., Qoronfleh M. W., ACAR A.
FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY, cilt.12, 2024 (SCI-Expanded)

V. **Current Technologies and Future Perspectives in Immunotherapy towards a Clinical Oncology Approach**
Adhikary S., Pathak S., Palani V., ACAR A., Banerjee A., Al-Dewik N. I., Essa M. M., Mohammed S. G. A. A., Qoronfleh M. W.
BIOMEDICINES, cilt.12, sa.1, 2024 (SCI-Expanded)

VI. **Investigation of evolutionary dynamics for drug resistance in 3D spheroid model system using cellular barcoding technology**
Yalcin G. D., Yilmaz K. C., DİLBER T., ACAR A.
PLoS ONE, cilt.18, sa.9 September, 2023 (SCI-Expanded)

VII. **Editorial: Cancer evolution**
Ermini L., Mallo D., Kleftogiannis D., ACAR A.
FRONTIERS IN GENETICS, cilt.14, 2023 (SCI-Expanded)

VIII. **Pan-Cancer Analysis of the COVID-19 Causal Gene SLC6A20**
ACAR A.
ACS OMEGA, cilt.8, sa.14, ss.13153-13161, 2023 (SCI-Expanded)

IX. **Immune selection determines tumor antigenicity and influences response to checkpoint inhibitors**
Zapata L., Caravagna G., Williams M. J., Lakatos E., AbdulJabbar K., Werner B., Chowell D., James C., Gourmet L., Milite S., et al.
NATURE GENETICS, cilt.55, sa.3, ss.451-460, 2023 (SCI-Expanded)

X. **Identification of collateral sensitivity and evolutionary landscape of chemotherapy-induced drug resistance using cellular barcoding technology**
Danisik N., Yilmaz K. C., ACAR A.

Frontiers in Pharmacology, cilt.14, 2023 (SCI-Expanded)

XI. **Increased TRIM31 gene expression is positively correlated with SARS-CoV-2 associated genes TMPRSS2 and TMPRSS4 in gastrointestinal cancers**
Temena M. A., ACAR A.
SCIENTIFIC REPORTS, cilt.12, sa.1, 2022 (SCI-Expanded)

XII. **Inhibition of Wnt signalling by Notch via two distinct mechanisms**
Acar A., Hidalgo-Sastre A., Leverentz M. K., Mills C. G., Woodcock S., Baron M., Collu G. M., Brennan K.
SCIENTIFIC REPORTS, cilt.11, sa.1, 2021 (SCI-Expanded)

XIII. **Systems Biology and Experimental Model Systems of Cancer**
Yalcin G. D., Danisik N., Baygin R. C., Acar A.
JOURNAL OF PERSONALIZED MEDICINE, cilt.10, sa.4, ss.1-12, 2020 (SCI-Expanded)

XIV. **Subclonal reconstruction of tumors by using machine learning and population genetics**
Caravagna G., Heide T., Williams M. J., Zapata L., Nichol D., Chkhaidze K., Cross W., Cresswell G. D., Werner B., ACAR A., et al.
NATURE GENETICS, cilt.52, sa.9, ss.898-919, 2020 (SCI-Expanded)

XV. **Exploiting evolutionary steering to induce collateral drug sensitivity in cancer**
Acar A., Nichol D., Fernandez-Mateos J., Cresswell G. D., Barozzi I., Hong S. P., Trahearn N., Spiteri I., Stubbs M., Burke R., et al.
NATURE COMMUNICATIONS, cilt.11, sa.1, 2020 (SCI-Expanded)

XVI. **Evolutionary dynamics of residual disease in human glioblastoma**
Spiteri I., Caravagna G., Cresswell G. D., Vatsiou A., Nichol D., ACAR A., Ermini L., Chkhaidze K., Werner B., Mair R., et al.
ANNALS OF ONCOLOGY, cilt.30, sa.3, ss.456-463, 2019 (SCI-Expanded)

XVII. **The Spatiotemporal Evolution of Lymph Node Spread in Early Breast Cancer**
Barry P., Vatsiou A., Spiteri I., Nichol D., Cresswell G. D., ACAR A., Trahearn N., Hrebien S., Garcia-Murillas I., Chkhaidze K., et al.
CLINICAL CANCER RESEARCH, cilt.24, sa.19, ss.4763-4770, 2018 (SCI-Expanded)

XVIII. **A Role for Notch Signalling in Breast Cancer and Endocrine Resistancesssss**
ACAR A., Simoes B. M., Clarke R. B., Brennan K.
STEM CELLS INTERNATIONAL, cilt.2016, 2016 (SCI-Expanded)

XIX. **Anti-estrogen Resistance in Human Breast Tumors Is Driven by JAG1-NOTCH4-Dependent Cancer Stem Cell Activity**
Simoes B. M., O'Brien C. S., Eyre R., Silva A., Yu L., Sarmiento-Castro A., Alferez D. G., Spence K., Santiago-Gomez A., Chemi F., et al.
CELL REPORTS, cilt.12, sa.12, ss.1968-1977, 2015 (SCI-Expanded)

XX. **TGF-beta receptor type-2 expression in cancer-associated fibroblasts regulates breast cancer cell growth and survival and is a prognostic marker in pre-menopausal breast cancer**
Busch S., ACAR A., Magnusson Y., Gregersson P., Ryden L., Landberg G.
ONCOGENE, cilt.34, sa.1, ss.27-38, 2015 (SCI-Expanded)

XXI. **Dishevelled limits Notch signalling through inhibition of CSL**
Collu G. M., Hidalgo-Sastre A., ACAR A., Bayston L., Gildea C., Leverentz M. K., Mills C. G., Owens T. W., Meurette O., Dorey K., et al.
DEVELOPMENT, cilt.139, sa.23, ss.4405-4415, 2012 (SCI-Expanded)

XXII. **Experimental Generation of Carcinoma-Associated Fibroblasts (CAFs) from Human Mammary Fibroblasts**
Polanska U. M., ACAR A., Orimo A.
JOVE-JOURNAL OF VISUALIZED EXPERIMENTS, sa.56, 2011 (SCI-Expanded)

XXIII. **Autocrine TGF-beta and stromal cell-derived factor-1 (SDF-1) signaling drives the evolution of tumor-promoting mammary stromal myofibroblasts**
Kojima Y., ACAR A., Eaton E. N., Mellody K. T., Scheel C., Ben-Porath I., Onder T. T., Wang Z. C., Richardson A. L., Weinberg R. A., et al.

PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, cilt.107, sa.46, ss.20009-20014, 2010 (SCI-Expanded)

Diğer Dergilerde Yayınlanan Makaleler

I. **Tumor-Microenvironment-on-Chip Platform for Assessing Drug Response in 3D Dynamic Culture**
Aydin H. B., Moon H., Han B., ÖZÇELİKKALE A., ACAR A.
Methods in molecular biology (Clifton, N.J.), cilt.2764, ss.265-278, 2024 (Scopus)

II. **Integrative profiling of CEACAM1 in different malignancies with implications on the SARS-CoV-2 infection genes ACE2 and TMPRSS2**
Acar A.
Hacettepe Journal of Biology and Chemistry, cilt.51, sa.2, ss.1-10, 2023 (Hakemli Dergi)

Kitap & Kitap Bölümleri

I. **Tumor-Microenvironment-on-Chip Platform for Assessing Drug Response in 3D Dynamic Culture**
Aydin H. B., Moon H., Han B., Ozcelikkale A., Acar A.
3D Cell Culture, Zuzana Sumbalova Koledova, Editör, Springer Nature, London, ss.265-278, 2024

Bilimsel Dergilerdeki Faaliyetler

Frontiers in Systems Biology, Özel Sayı Editörü, 2023 - Devam Ediyor
FRONTIERS IN GENETICS, Özel Sayı Editörü, 2021 - 2023

Bilimsel Kuruluşlardaki Üyelikler / Görevler

COST, Üye, 2023 - Devam Ediyor , İngiltere
COST, Üye, 2022 - Devam Ediyor , İspanya
COST, Üye, 2022 - Devam Ediyor , Fransa
NIH/NCI Cancer Systems Biology Consortium , Asosiye Üye, 2021 - Devam Ediyor , Amerika Birleşik Devletleri
EACR, Üye, 2021 - Devam Ediyor , İtalya
MOKAD, Üye, 2021 - Devam Ediyor , Türkiye
COST, Üye, 2021 - 2022, İspanya

Bilimsel Hakemlikler

FRONTIERS IN ONCOLOGY, SCI-E Kapsamındaki Dergi, Aralık 2022
FRONTIERS IN ONCOLOGY, SCI-E Kapsamındaki Dergi, Aralık 2022
FRONTIERS IN ONCOLOGY, SSCI Kapsamındaki Dergi, Kasım 2022
FRONTIERS IN ONCOLOGY, SCI-E Kapsamındaki Dergi, Ekim 2022
VIRUS RESEARCH, SCI-E Kapsamındaki Dergi, Temmuz 2022
FRONTIERS IN ECOLOGY AND EVOLUTION, SCI-E Kapsamındaki Dergi, Haziran 2022
FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY, SCI-E Kapsamındaki Dergi, Mart 2022
SCIENTIFIC REPORTS, SCI-E Kapsamındaki Dergi, Mart 2022
FRONTIERS IN ONCOLOGY, SCI-E Kapsamındaki Dergi, Şubat 2022
FRONTIERS IN ONCOLOGY, SCI-E Kapsamındaki Dergi, Ocak 2022
FRONTIERS IN ONCOLOGY, SCI-E Kapsamındaki Dergi, Ocak 2022

FRONTIERS IN ONCOLOGY, SCI-E Kapsamındaki Dergi, Ocak 2022
FRONTIERS IN ONCOLOGY, SCI-E Kapsamındaki Dergi, Ocak 2022
FRONTIERS IN GENETICS, SCI-E Kapsamındaki Dergi, Ekim 2021
SCIENTIFIC REPORTS, SCI-E Kapsamındaki Dergi, Mayıs 2021
FRONTIERS IN ONCOLOGY, SCI Kapsamındaki Dergi, Nisan 2021
TUMOR BIOLOGY, SCI Kapsamındaki Dergi, Ocak 2021
Turkish Journal of Biochemistry, Diğer Dergiler, Ocak 2021
TÜBİTAK Projesi, 2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, Orta Doğu Teknik Üniversitesi, Türkiye, Aralık 2020
SCIENTIFIC REPORTS, SCI Kapsamındaki Dergi, Mart 2020

Metrikler

Yayın: 27
Atıf (WoS): 1131
Atıf (Scopus): 1183
H-İndeks (WoS): 12
H-İndeks (Scopus): 12

Ödüller

British Council Study in the UK Bilim ve Sürdürülebilirlik Ödülü, British Council, Şubat 2024
Acar A., Mustafa Parlar Vakfi Arastirma Tesvik Odulu, Mustafa Parlar Vakfi, Aralık 2023
Acar A., Molecular Cancer Research Association Award for Basic Cancer Researcher of the Year, Molecular Cancer Research Association , Temmuz 2022
Acar A., Aydin Dogan Foundation Ozlem Tureci & Ugur Sahin Molecular Biology and Genetics Research Award, Aydin Dogan Vakfi, Temmuz 2022
Acar A., Bilim Akademisi Genç Bilim İnsanları (BAGEP) Odulu 2022, Bilim Akademisi, Nisan 2022
Acar A., 2021 TÜBA-Üstün Başarılı Genç Bilim İnsanı Ödülü (GEBİP), Türkiye Bilimler Akademisi (Tüba), Aralık 2021
Acar A., TÜSEB Aziz Sancar Tesvik Ödülü, Tüseb, Ekim 2021