Antibiotics 2026 Conference

Antibiotics 2026: Advances in Antimicrobial Action and Resistance

11–14 May 2026 | Barcelona, Spain



Program and Abstract Book

Contents

Welcome from the Chairs 2

Event Chairs 3

Keynote Speakers 3

Invited Speakers 4

Scientific Committee 5

Program 6

General Information 7

The Venue 9

Conference Dinner 9

Conference Secretariat 10

Abstracts — Talks 11

Keynote and Invited Talks 12

S1. Antimicrobial Resistance Mechanisms 25

S2/3. Antimicrobials, Antimicrobial Resistance, Ethnopharmacology and One Health 30

S4. Conventional and Novel Approaches in the Discovery of New Antimicrobial Agents ... 47

S5. Innovation in Antimicrobial Stewardship and Optimized Clinical Strategies 60

Abstracts — Posters 65

Poster Session A 66

Poster Session B 106



Welcome from the Chairs

Dear Colleagues,

Welcome to **Antibiotics 2026—Advances in Antimicrobial Action and Resistance**, taking place in Barcelona, Spain, from the 11th to the 14th of May 2026

This conference brings together researchers, industry professionals, and experts from across the globe to share the latest advancements, exchange ideas, and foster collaboration in the field of antimicrobials, antimicrobial resistance, and innovative therapeutic strategies.

Over four days, the programme will cover a broad range of topics, including antimicrobial resistance mechanisms, antimicrobials and One Health, ethnopharmacology in research and treatment, traditional and emerging approaches in the discovery of new antimicrobial agents, and advances in antimicrobial stewardship and clinical practice. The scientific programme features keynote lectures, oral presentations, and poster sessions, providing a dynamic forum for discussing cutting-edge research, current challenges, and future directions.

We encourage you to engage fully - present your work, contribute to discussions, and connect with colleagues from around the world. At the same time, don't forget to enjoy Barcelona during the free afternoon on Wednesday, with its rich culture, history and cuisine!

We wish you a stimulating and productive conference and are delighted to welcome you to Antibiotics 2026.

Sincerely,

Prof. Dr. Manuel Simões
Prof. Dr. Jordi Vila
Dr. Marc Maresca

A28. Polymeric Nanoparticle-Mediated Enhancement of Cefuroxime Axetil: Potent Antibiofilm Activity Against Biofilm-Forming Pathogens

Pervin Soyer[1], A. Alper Öztürk[2]

[1] Anadolu University, Faculty of Pharmacy, Department of Pharmaceutical Microbiology 26470, Eskisehir, Turkiye
[2] Anadolu University, Faculty of Pharmacy, Department of Pharmaceutical Technology 26470, Eskisehir, Turkiye

Biofilm-driven infections represent a critical barrier to effective antimicrobial therapy, contributing significantly to the global burden of antibiotic resistance. Overcoming the limited biofilm penetration, rapid drug clearance, and suboptimal local antibiotic concentrations associated with conventional formulations remains a key therapeutic challenge. In this context, cefuroxime axetil-loaded polymeric nanoparticles based on Eudragit RS100 and RL100 were designed to enhance antibacterial and antibiofilm activity. Polymeric nanoparticle systems offer several advantages, including improved drug stability, enhanced penetration into the biofilm matrix, controlled and sustained drug release, and increased local drug concentration at the site of infection. Antibacterial activity was evaluated against clinically relevant biofilm-forming pathogens (Staphylococcus aureus ATCC 29213 and Escherichia coli ATCC 35218), revealing minimum inhibitory concentration (MIC) values ranging from 500 to 15.62 μg/mL. Importantly, the nanoparticulate system demonstrated pronounced antibiofilm efficacy across all tested concentrations. At 500 μg/mL, biofilm inhibition exceeded ≥94±1.48%, indicating near-complete suppression of biofilm formation. Remarkably, substantial inhibition ≥75±1.00% was retained even at the lowest concentration tested (15.62 μg/mL), underscoring the robustness of the formulation. The enhanced antibiofilm activity is likely driven by improved antibiotic diffusion into the biofilm matrix combined with sustained drug release characteristics of the Eudragit polymers, enabling prolonged antimicrobial exposure. Collectively, these findings position Eudragit-based cefuroxime axetil nanoparticles as a robust and promising platform to combat biofilm-associated infections and antimicrobial resistance. This approach highlights the potential of nanoparticle-mediated antibiotic delivery systems for next-generation therapeutic strategies targeting persistent infections.

This study was supported by Anadolu University Scientific Research Projects Commission under the grant no: YTT-2025-3144.

Organizers

MDPI 30

antibiotics
an Open Access Journal by MDPI

Silver Sponsors

Warwick **AMR**
Screening Facility

Media Partners

pharmacoepidemiology

future pharmacology
an Open Access Journal by MDPI

pharmaceutics
an Open Access Journal by MDPI

pharmaceuticals
an Open Access Journal by MDPI

International Journal of Molecular Sciences
an Open Access Journal by MDPI

molecules
an Open Access Journal by MDPI

biomolecules

biomedicines
an Open Access Journal by MDPI

sciforum.net/event/Antibiotics2026
#Antibiotics2026


MDPI