Tuesday, January 6, 2026

Poster abstract submission

Approval Status Not Started

Presenting author Yousra Benghait

Presenting author's email benghaity@gmail.com

Further authors (if any)
Mohamed Blaghen

Affiliation(s)
Biology Department, Faculty of Science Ain Chock, University Hassan II of Casablanca, Morocco

Country Morocco

Type of organization Academic / research institution

Poster title
Biosynthetic Potential and Antibacterial Activity of a New Streptomyces Strain from Morocco

Poster abstract
The antimicrobial resistance (AMR) crisis demands novel microbial sources of bioactive molecules targeting multidrug-resistant (MDR) pathogens. A novel Streptomyces strain isolated from Moroccan soil demonstrates significant biosynthetic potential and broad-spectrum antibacterial activity, including efficacy against multidrug-resistant. The strain, recovered from soil samples in Morocco using selective actinobacterial media, was identified through morphological, cultural, and 16S rRNA gene sequencing, with phylogenetic analysis placing it in a distinct clade of bioactive Streptomyces species.
Ethyl acetate extracts rich in secondary metabolites, characterized by GC-MS to contain bioactive polyketides and non-ribosomal peptides, consistent with robust biosynthetic gene clusters. These extracts exhibited strong antibacterial activity against ESKAPE pathogens (Staphylococcus aureus, Klebsiella pneumoniae, Pseudomonas aeruginosa, Acinetobacter baumannii), as well as Escherichia coli, with inhibition zones reaching 22.0 ± 1.0 mm (n=3; $p<0.001$) and minimum inhibitory concentrations (MICs) as low as 0.125 mg/mL.
The results highlight this Streptomyces strain as a promising source of novel antimicrobial agents which could provide important bioactive compounds as potential antibiotic drugs.

Research topic Microbiology