Antimicrobial drug pipelines presented at ECCMID

Novel antibiotics to overcome antibacterial resistance

12 April 2016, Amsterdam: Small and innovative pharmaceutical companies, with products in early stages of development, presented some of their novel approaches and antimicrobial therapies under development during a dedicated session at the annual congress (ECCMID) of the European Society of Clinical Microbiology and Infectious Diseases (ESCMID) in Amsterdam.

Dr Ursula Theuretzbacher, the founder of the Centre for Anti-Infective Agents in Vienna, led the session, which gave an overview of the research and development programmes that are driving innovation in this critical space.

At a time of transition with big pharma continuing to move away from the development of antibacterial treatments, these small biotechnology companies and start-ups are rising to the challenge and filling the gap through the discovery and development of novel therapies.

Dr Ursula Theuretzbacher remarked: “we are pleased to see a number of highly promising antibacterial drugs of a new class and or a new mode of action now in the research or close to the preclinical phase. To aid the development of more drug candidates, crucial to increasing the chances of a sufficient number reaching the clinical stage, innovative researchers in small companies or universities are pursuing a range of non-traditional approaches in addition to classical ones.

New approaches highlighted at pipeline corner fall into three key categories: targeted therapies, adjunctive therapies and potentiators.

- Targeted therapies - traditional antibiotics and antibodies that are active against a single pathogen, especially *Staphylococcus aureus* or *Pseudomonas aeruginosa*
- Adjunctive therapies – including drugs that target virulence factors, biofilm formation, immune system stimulation, modifying the microbiome, and phages. All such approaches require an active antibiotic
- Potentiators – an adjuvant drug, such as beta-lactamase-inhibitors or efflux pump inhibitors, improve the activity of an antibiotic by inhibiting resistance determinants, either facilitating the penetration or changing the sensitivity of the bacterial cell

Spero, Cidara and Melinta Therapeutics attend from the USA and Vitas Pharma from India. European biotechnology companies making presentations included Discuva, Bioversys and Morphochem. In addition, a publicly funded research institution, the German Centre for Infection Research, was also a key feature at the 2016 pipeline corner.

Discuva, Bioversys and Spero Therapeutics utilised the event to highlight their drug discovery approaches and compounds against multidrug resistant bacteria, and, in the case of Morphochem, the company’s MCB 368 drug against *Clostridium difficile*, which is now in phase II clinical trials. Moreover, Melinta’s new antibiotic, a fluoroquinolone, is currently in phase III clinical studies, whilst its drug discovery platform includes compounds against the most resistant pathogens. Cidara Therapeutics’ CD101 IV antifungal therapy for the treatment of *Candida* infections is currently in a phase I trial. Additionally, they design immunomodulating approaches to support the activity of antibiotics in the therapy of infections.

Vitas Pharma is developing a number of targeted therapies including one that is currently undergoing toxicology studies for MRSA treatment.
Equally significant is the German Centre of Infection Research’s targeted therapies with the optimisation of the cystobactamides novel class of broad-spectrum antibiotics and vaccination against *Staphylococcus aureus* bacteraemia and related complications. The European small companies active in antibiotics research and development formed a group - BEAM Alliance – that was introduced at last year’s Pipeline Corner and presented an e-poster this year.

Prof. Winfried V. Kern, ECCMID Programme Director: “A total of 8 companies presented their products in research and development at this year’s pipeline corner and pipeline talk. This gave companies with products in the early stages of research and development a platform to provide an overview of their pipelines and to present recent advances in their early-stage programmes – through a combination of oral presentations and the display of electronic posters.”

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Notes to editors

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