Superbugs & Superdrugs 2019

18th - 19th March 2019
Holiday Inn Kensington Forum, London, United Kingdom

This year's event will gather leaders from pharmaceutical companies, academia and the wider scientific community together with regulatory agencies and public-private partnerships, to discuss the growing threat of antibiotic resistance.

Join us to learn about various strategies in place to support antimicrobial resistance research & development, evaluate the latest scientific advancements for tackling antimicrobial resistance and consider potential novel candidates and alternatives to anti-microbials.

The event will also focus on the strategies pharmaceutical companies use to assist the development of new therapeutics & drugs, how to obtain funding for new projects and address why there is a current lack of incentives for researchers working in antimicrobial resistance research and development.

Day One - 18th March 2019

8.30 Registration & Coffee

9.00 Co-chairmen's Opening Remarks

Richard Bax, Senior Partner, **TranScrip Partners**

9.10 Improving the RoI on Antibiotic Research and Development

• Present on the progress underway to improve the RoI on investing into R&D for new antibiotics.
• Discuss an overview of what is needed and the range of push funding available
• Focus on the pull (market) funding opportunities and challenges to make progress. Highlight the UK develop and test pilot announced in January 2019.

James Anderson, European Partnerships Director, **GSK**

9.50 The drugs don't work: WHO's role in advancing new antibiotics

- Assessing the clinical and pre-clinical antibiotic development pipeline
- Developing target product profiles for priority pathogens
- The Global Antibiotic R&D Partnership (GARDP)
- How to mobilize private investors for antibiotic drug development?

Peter Beyer, Senior Advisor , **WHO**

10.30 Strategies to combat ß-lactamases

• The β-lactams remain the most important antibiotics
• The most important mechanism of resistance to them involves serine- and metallo-β-lactamase mediated hydrolysis
• Successes and challenges in inhibiting β-lactamases will be described, highlighting the need for investment in technically demanding chemistry

Christopher Schofield, Head of Organic Chemistry, **Oxford University**

11.10 Morning Coffee

11.40 SASPject: a novel first-in-class antibacterial technology

Heather Fairhead, CEO, **Phico Therapeutics**

12.00 A unique combination antibiotic therapy at Helperby

- The combination of azidothymidine (AZT) and low-dose colistin shows synergistic antibiotic activity against carbapenem and colistin-resistant Enterobacteriaceae (CRE) infections.
- This was shown to be active against all three of the WHO Critical Priority Carbapenem resistant bacterial pathogens
- Combining antimicrobial resistance breakers such as azidothymidine with existing antibiotics has the potential to reach the market with a new class of effective antibiotic therapy in 3 to 5 years

Anthony Coates, Chief Scientific Officer, **St George's, University of London**

12.40 Networking Lunch

1.40 The development of precision antibiotics: agents designed to meet the demands of stewardship

Summit's development strategy exemplifies good antibiotic stewardship and I will focus on two programmes from our antibiotic pipeline:

- Ridinilazole is a narrow spectrum, new mechanism of action antibiotic for the treatment of C. difficile infection and the reduction of disease recurrence. Ridinilazole's narrow spectrum of activity is important: it both treats the infection whilst preserving the microbiome from further perturbation and thus reducing recurrences. Summit's Phase 3 development programme is designed to show ridinilazole has superiority over vancomycin and support its use as a new first line therapy.

- SMT-571 a novel first-in-class oral antibiotic with activity effective against the Gram-negative bacterial pathogen, Neisseria gonorrhoeae, the causative agent of the sexually transmitted infection gonorrhoea. SMT-571 has the potential to satisfy the Target Product Profile (TPP), recommended by the World Health Organization (WHO) and Drugs for Neglected Disease initiative (DNDi) for an oral agent to treat multi-drug resistant gonorrhoea.

David Roblin, President of R&D, Chief Operating Officer and Chief Medical Officer, **Summit Theraputics**

2.20 Next generation antimicrobial therapies for lethal drug resistant bacterial infections

- Insight into the development of a pipeline of lysins for infections caused by multidrug-resistant Gram-Negative bacteria
- Demonstration of effectiveness in Gram-Negative bacteria such as Acinetobacter baumannii, Klebsiella pneumoniae, E.coli and Pseudomonas aeruginosa.
- Extreme importance due to high unmet medical need and the declining number of effective antibiotics

Chandrabali Ghose, CEO, **Bioharmony Therapeutics**

3.00 ME1111: a Novel Antifungal Agent for Topical Treatment of Onychomycosis

- Novel class of antifungal agent under clinical development as a topical onychomycosis treatment
- Novel selective inhibitor of succinate dehydrogenase of dermatophyte species
- Potent in vitro activity for dermatophyte species and in vivo efficacy in the topical treatment of experimental dermatophytosis
- Analyzing in vitro human onychopharmacokinetic and pharmacodynamic

Kazunori Maebashi, Senior Project Manager, **Meiji Seika Pharma Co. Ltd.**

3.40 Afternoon Tea

4.10 Activity of Ibrexafungerp in murine models of pneumocystis pneumonia

- Background on pneumocystis pneumonia.
- Introduction to Ibrexafungerp, the first example of the fungerps, a new class of anti-fungal agents.
- Evaluations in prophylaxis and treatment murine models of pneumocystis pneumonia.
- Potential clinical applications.

Stephen Barat, Head of Pre-Clinical and Early Clinical Development, **SCYNEXIS Inc**

4.50 Developing new therapies for fungal infection

- Fungal disease is a major public health issue that gets very little attention. Dermal fungal infections are amongst the most common but often considered “trivial”. In contrast, serious fungal infections, particularly in immune-compromised patients, have extremely high mortality rates and limited treatment options.
- Exploring efforts in the development of new treatments for common fungal infections
- Needs and challenges in developing new anti-fungals

David Cook, Chief Scientific Officer, **Blueberry Therapeutics Ltd**

5.30 Co-chairmen's Closing Remarks and Close of Day One

Richard Bax, Senior Partner, **TranScrip Partners**

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Day Two - 19th March 2019

8.30 Registration & Coffee

9.00 Co-chairmen's Opening Remarks

Lloyd Czaplewski, Director, **Chemical Biology Ventures**

9.10 Regulatory considerations for the registration of new antibacterial agents

- Revised guidance on antibacterial drug clinical development in the EU
- Programmes for candidate antibacterial agents with potential to address an unmet need
- Considerations for beta-lactams paired with beta-lactamase inhibitors
- Other types of programmes
- Importance of understanding the pharmacokinetic-pharmacodynamic relationship

Mair Powell, Senior Medical Officer, **HPRA**

9.50 Anti-infective research: funding, filing and finance

- Update on funding initiatives
- Recent changes in the regulatory landscape
- Payer models: evolving global discussions

John Rex, Chief Medical Officer , **F2G Ltd**

10.30 Wellcome Trust: funding opportunities for anti-infective research

- Introducing Wellcome Trust Innovations - What is our mission?
- How we are seeking innovative therapeutics and diagnostics to transform the treatment of infectious diseases
- Examples of success
- The selection process and a view of the investment selection criteria

Timothy Jinks, Senior Business Analyst, **Wellcome Trust**

11.10 Morning Coffee

11.40 New TRICs for novel antimicrobial therapies

- TRICs: Transcription Regulators Inhibitory Compounds
- TRIC TB: making an old drug new
- TRIC Gram-positive: disarming bacteria
- TRIC Gram-negative: blocking pathogenesis

Sergio Lociuro, Chief Scientific Officer, **BioVersys AG**

12.20 Novel immunotherapeutics to target Gram-negative bacterial infections

- A summary of novel approaches to target Gram-negative bacterial infections
- Emerging immunotherapeutics
- The opportunities and challenges involved in pre-clinical development of novel immunotherapies
- Specific targeting of Gram-negative bacteria with Centauri Therapeutics AlphamersTM

Chris Pickford, Head of Drug Discovery, **Centauri Therapeutics**

1.00 Networking Lunch

2.00 The role of plasmids in the evolution of antimicrobial resistance

• How have plasmids impacted the spread of antimicrobial resistance?
• What impact do plasmids have on the host bacteria?
• What novel strategies to reduce the burden of resistance plasmids are currently being explored?

Michelle Buckner, Research Fellow, **University of Birmingham**

2.40 Novel methods for treating infections — Inducing antimicrobial peptides

• Akthelia has identified several small molecules that induce the production of AMPs in cells, thus leading to elimination of bacteria.
• Several peptides are induced thereby reducing the risk of the bacteria acquiring resistance against a single peptide.
• Thus, Akthelia's solution treats infections by inducing the body's own antibiotic arsenal. This mechanism has been shown to be active against most microbial pathogens, including resistant microorganisms.
• Akthelia´s actives facilitate anti-infective stewardship as they reduce the usage of classical antibiotics with minimal risk of the development of resistance.
• Importantly, they should leave the microbiota intact.

Eirikur Steingrimsson, Co-founder, **Akthelia Pharmaceuticals**

3.20 Immunotherapeutics to treat life-threatening fungal infections

- New therapies are urgently required to treat life-threatening fungal infections
- Development of novel single B cell-derived human monoclonal antibody therapeutics from patients
- Demonstration of in vitro and in vivo effectiveness against susceptible and drug-resistant Candida species
- Immunotherapeutics as an approach for treating life-threatening fungal infections

Fiona Rudkin, Principal Investigator/CEO, **MycoBiologics at University of Aberdeen**

4.00 Afternoon Tea

4.30 Pharmacodynamics to accelerate antimicrobial drug development for AMR

• Identification of the drug's antimicrobial pharmacodynamic effects (eg, rate and extent of bactericidal action and post-antibiotic effect)
• It provides a more rational basis for determination of optimal dosing regimens in terms of the dose and the dosing interval
• Why it is preferred compared to minimal inhibitory concentrations (MICs) and minimal bactericidal concentrations (MBCs) determined in vitro

William Hope , Professor of Therapeutics and Infectious Diseases, **University Of Liverpool**

5.10 Optimized arylomycins represent a new class of Gram-negative antibiotics

• Chemical optimization of the arylomycins-a class of natural products with weak activity and limited spectrum-to obtain G0775, a molecule with potent, broad-spectrum activity against Gram-negative bacteria
• G0775 inhibits the essential bacterial type I signal peptidase, a new antibiotic target, through an unprecedented molecular mechanism
• It circumvents existing antibiotic resistance mechanisms and retains activity against contemporary multidrug-resistant Gram-negative clinical isolates in vitro and in several in vivo infection models

• Optimized arylomycin analogues such as G0775 could translate into new therapies to address the growing threat of multidrug-resistant Gram-negative infections

Michael Koehler, Senior Scientist, **Genentech**

5.50 Co-chairmen's Closing Remarks and Close of Day Two

Lloyd Czaplewski, Director, **Chemical Biology Ventures**