

# Neem Biotech – the journey continues

A novel approach to minimising antimicrobial resistance by addressing persistent bacterial infections

MediWales Members Showcase

22 May 2018



A ZALUVIDA COMPANY.

# Synopsis

- A brief (re)introduction to Neem Biotech
- Developments in the last half year
  - The family grows
  - The clinical development programme broadens
- Next steps in Neem's journey



A ZALUVIDA COMPANY.

# Introducing Neem Biotech



Born as a developer of extraction processes

Pioneering a new way to combat biofilms and enhance antibiotic effectiveness

Novel, Small Molecule Compounds

Costly Human Health Conditions, medical markets of unmet need

Cystic Fibrosis

Hard-to-Heal Wounds

## Expansion Indications

Non-cystic fibrosis  
bronchiectasis

COPD

Diabetic foot ulcers

# Leadership



Dr Graham Dixon  
Chief Executive Officer

Dr Dixon is CEO of Neem Biotech and Head of R&D for the Zaluvida Group. He has spent over 25 years in Big Pharma, VC funded and publicly listed biotechnology companies. He has held CSO and COO roles in Onexo, Sensorion, Addex Therapeutics, Galapagos, Entomed and F2G where he has led over ten positive proof of concept programmes in humans and been a part of several new drug approval programmes.



Dr Felicity Gabbay  
Chief Medical Officer

Dr Gabbay is a specialist in infectious diseases, respiratory and drug safety. She founded and is currently Managing Partner at TranScrip. She has raised in excess of £10 million in VC and grant funding for Rademacher Group Ltd and Phico Therapeutics where she held a Non-Executive Director role. She has been Director of Education at the Drug Surveillance Research Unit at the University of Portsmouth and is an active member of the Faculty of Pharmaceutical Medicine Board of Examiners and ABPI AMR Working Party and contributions to All Party Parliamentary Group on AMR.



Dr Wright Nichols  
Chief Scientific Officer

Dr Nichols consults to the pharmaceutical industry. He has spent 25 years at AstraZeneca in anti-infective drug discovery and development roles. He was formerly Director of Development Microbiology for the global phase III ceftazidime-avibactam development project and previously held directorships of the Microbiology and Development Microbiology departments at AstraZeneca.



A ZALUVIDA COMPANY.



# Advisory boards

## Wound healing



Prof Keith Harding CBE  
Medical Advisor

Medical Director, Welsh Wound Innovation Centre and Dean of Clinical Innovation, Cardiff University

Clinical Professor, Cardiff University School of Medicine

Editor-in-Chief International Wound Journal

## Cystic fibrosis



Prof Stuart Elborn CBE  
Medical Advisor

Clinical Professor and Centre Director for Specialist Adult Cystic Fibrosis, Royal Brompton Hospital

Member of the UK CF Trust Scientific Advisory Board

## Biofilm and microbiology expertise



Prof Michael Givskov  
Scientific Advisor

MD of Costerton Biofilm Centre, University of Copenhagen and Research Director SCELSE



Prof Aras Kadioglu  
Scientific Advisor

Professor of Bacterial Pathogenesis, University of Liverpool



Prof Dr Rolf Müller  
Scientific Advisor

MD of Helmholtz Institute for Pharmaceutical Research Saarland (HIPS)



Prof Dr Rudolf Morgenstern  
Scientific Advisor

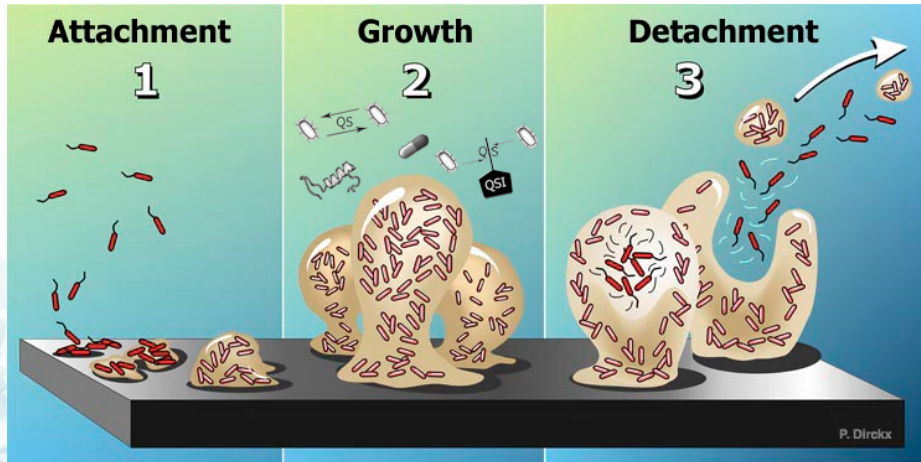
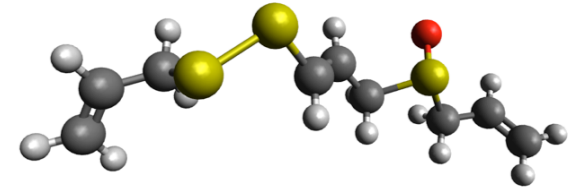
Professor Emeritus, Institute of Pharmacology, Charité Berlin



A ZALUVIDA COMPANY.

# A novel approach to managing phenotypic resistance

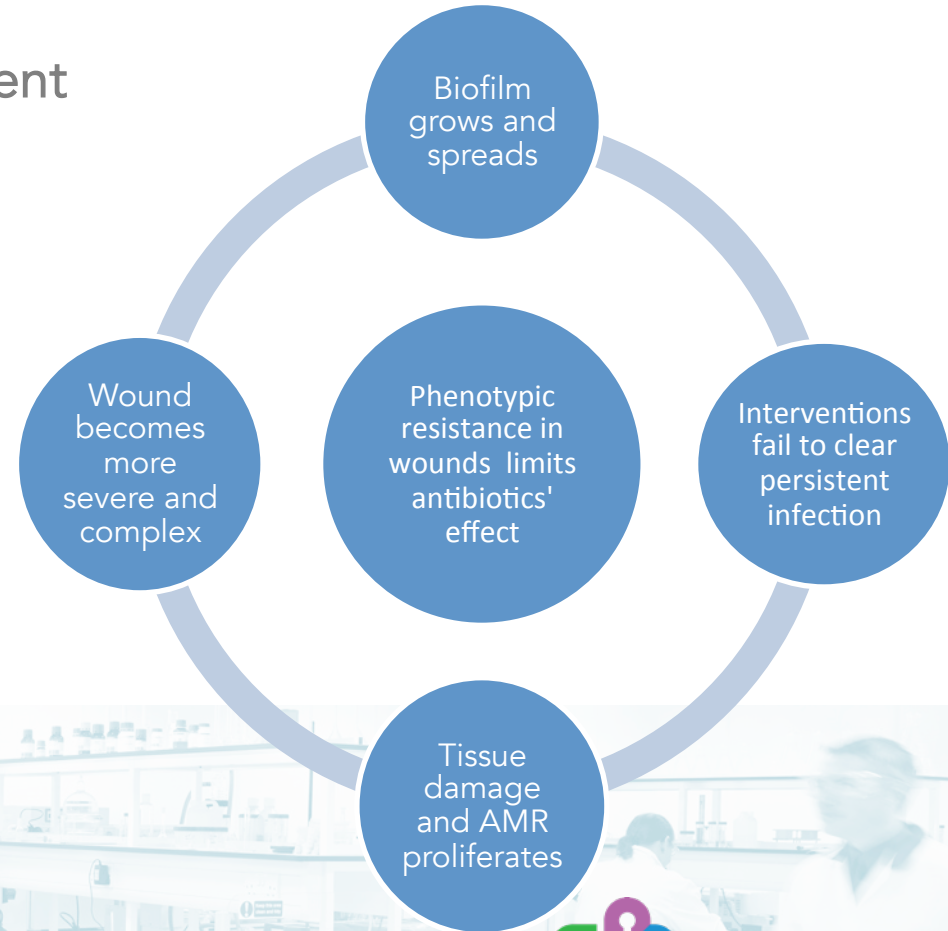
- NX-AS-401 in cystic fibrosis and NX-AS-911 in wounds
  - Novel quorum sensing inhibitors
    - Disrupt chemical signaling between bacteria
    - Disrupt biofilms throughout the life cycle of the biofilm
    - Reduce virulence of the biofilm
    - Enhance effects of antibiotics and the body's own immune system
  - No resistance developed by bacteria to this mechanism of action



# Hard-to-heal wounds

## The medical need and current treatment

- Biofilms a significant cause of non-healing and infection in hard-to-heal wounds, drastically reduce quality of life and are a risk factor for survival
- £3054 (UK) to \$10 000 (USA) to treat a single wound
- Wound recurrence in 20%<sup>1</sup> – 37%<sup>2</sup> of cases at a significant increase in cost of treatment



**WELSH WOUND  
INNOVATION**

1- SVS/AVF Joint Clinical Practice Guidelines Committee - Venous Leg Ulcer - J Vasc Surg 2014;60:3S-59S

2 - McDaniel HB, Marston WA, Farber MA, Mendes RR, Owens LV, Young ML, et al. Recurrence of chronic venous ulcers on the basis of clinical, etiologic, anatomic, and pathophysiologic criteria and air plethysmography. J Vasc Surg. 2002;35:723-8



**A ZALUVIDA COMPANY.**

# The next steps

NX-AS-911

First-in-man trial

Contribution to understanding phenotypic resistance

NX-AS-401

Ongoing preclinical development

Improving quality and length of life for people with cystic fibrosis and hard-to-heal wounds



A ZALUVIDA COMPANY.

<sup>1</sup>Alguri A, Comito N, Kashtanov D, Dicks LMT, Chikandas ML.2017.Control of biofilm formation: antibiotics and beyond. Appl Environ Microbiol 83:e02508-16.<https://doi.org/10.1128/AEM02508-16>

# In summary

- A brief (re)introduction to Neem Biotech
- Developments in the last half year
  - Growth in leadership and technical expertise
  - Expansion of clinical development programme
  - External collaboration
- Short and medium term clinical and patient-related aims and objectives



# Contact us

[heathergraz@neembitech.com](mailto:heathergraz@neembitech.com)

[www.neembitech.com](http://www.neembitech.com)

@NeemBiotech

[www.zaluvida.com](http://www.zaluvida.com)



A ZALUVIDA COMPANY.