Lohmann & Rauscher

Press release

‘Biofilm’ centre of excellence established by L&R

New microbiology laboratory enables effective development of antimicrobial wound dressings

Rengsdorf/Vienna, 13 November 2017 – Lohmann & Rauscher (L&R) expands its laboratory capacity at its development facilities in Schönau a. d. Triesting and invests in an in-house centre of excellence with a focus on biofilms and the development of antimicrobial wound dressings. Expansion of the microbiology laboratory, which is now almost twice its previous size, will enable not only internal optimisation of development processes but also comparative testing and analysis of new product solutions using standardised methods. The focus is on research into biofilms, which are a critical element in almost all chronic wounds, and the consequent development of effective antimicrobial wound dressings.

This year, the existing L&R laboratory was extended to almost double its previous size. The new capacities will focus in particular on research into the subject of biofilms and the consequent development of antimicrobial products. New equipment has been purchased for the laboratory, and new jobs have been created.

A team of researchers and developers from a wide range of disciplines are employed in the laboratory, including microbiologists, chemists, biologists and textile engineers. The interdisciplinary collaboration ensures an efficient exchange of knowledge and scientific discussions that encourage new ideas partly because they involve participants from very different disciplines.

The expansion of the laboratory offers many benefits for Research & Development, in particular the focussed development of antimicrobially active wound dressings. Prior to the expansion, tests on antimicrobial agents or products had to be outsourced to external laboratories. Now the knowledge is directly available on site, which means savings in terms of development time and costs. The fundamental insights into the extremely diverse interconnections in this area of research now available can be used to optimal effect within

the team to develop new scientific approaches. The expansion of the laboratory provides the necessary conditions for the development of methods that incorporate the latest findings from biofilm research in the field of chronic wounds.[1, 2, 8]

Biofilms are found in 60–80% of chronic wounds and represent the main factor that prevents these wounds from healing. In biofilms, bacteria are able to become more tolerant/less susceptible to antibiotics and other antimicrobial agents by means of various mechanisms (e.g. matrix formation, changes in metabolic activity, quorum sensing). Targeted debridement of the biofilm with subsequent antimicrobial treatment, e.g. with antiseptic agents, can avoid the potential development of resistance and allow effective treatment to be carried out.[1, 2, 8]

At the L&R event ‘One step closer to managing biofilm in chronic wounds – L&R biofilm research facility drives antimicrobial product technologies’, Prof. Thomas Bjarnsholt and Prof. Tom Coenye presented the latest findings and joint results that are already being incorporated into Development at L&R. This is leading to improved processes and more efficient and sustainable product development. In the new laboratory, it is now possible, for example, to cultivate clinically relevant bacterial strains. This enables very realistic replication of biofilms in different model systems. Special in-house cultivation methods can be designed and implemented. These advantages are a huge benefit for research into biofilms and could lead to new insights into the care of chronic wounds and the elimination of biofilms.[1, 2]

L&R already offers various solutions for the treatment of biofilms: Debrisoft allows rapid, safe and simple debridement of superficial wounds and the skin surrounding the wound, and Debrisoft Lolly is used to treat deep wounds, such as diabetic ulcers, arterial and venous ulcers, decubital ulcers or post-operative, secondary healing wounds. Exudate, debris, fibrin and skin keratoses are removed during the debridement, with a minimum of pain for the patient.[3, 4]

Suprasorb X + PHMB is an antimicrobial wound dressing that is effective against a wide range of pathogens and biofilms as well as resistant pathogens such as MRSA.[5, 6, 7] Very rapid and almost complete release of the polyhexanide (PHMB) from the wound dressing is evident within 24 hours in vitro. This means pathogens are killed very quickly.

These two products represent an extremely good combination for removing the biofilm and promoting wound healing: disruption of the biofilm with Debrisoft and subsequent antimicrobial treatment with Suprasorb X + PHMB to prevent the biofilm from re-forming (remanent effect of polyhexanide [PHMB]).[7, 8]

The focus at the new centre of excellence is on the continuous improvement of the antimicrobial product portfolio. In order to achieve this, methods will be developed that simulate as closely as possible the clinical problem of biofilms in wounds. L&R is striving to solve problems for patients and users. Investment in the new microbiology laboratory has laid the foundations for this endeavour.

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Lohmann & Rauscher (L&R) is a leading international supplier of high quality, future-oriented medical devices and hygiene products – ranging from conventional bandages to modern treatment and nursing systems. Created in 1998 from the merger of the two companies Lohmann (founded in 1851) and Rauscher (founded in 1899), L&R has more than 160 years expertise as a dependable partner and solution provider for its customers. With 4,600 employees, 44 subsidiaries and shareholdings, as well as more than 130 selected partners, L&R is represented in all important markets around the world and was able to realize a sales of 589,7 million euros in 2016. The company's headquarters are located at the Rengsdorf (Germany) and Vienna (Austria) sites. The entrepreneurial spirt of L&R reflects in the corporate claim: People.Health.Care. – the human, the health and the care for both.

Further information on Lohmann & Rauscher (L&R) can be found at:

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Caption: This year, the existing L&R laboratory was extended to almost double its previous size.

Caption: New equipment has been purchased for the laboratory, including, for example, a fluorescence microscope.

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Caption: Expansion of the microbiology laboratory will enable not only internal optimisation of development processes but also comparative testing and analysis of new product solutions using standardised methods.

Caption: The new capacities will focus in particular on research into the subject of biofilms and the consequent development of antimicrobial products.