

## PMBL directly reinforce the airways epithelial barrier and protect against pathogens

**April 12, 2018 - Massagno, Switzerland** — On date February 3rd, Professor Guido Ferlazzo, University of Messina, Italy, unveiled a new mechanism of action for polyvalent mechanical bacterial lysates during the XII World Congress on COPD, Asthma & Respiratory Allergy, February 2-5, 2018, Dubai, UAE, organized by the World Immunopathology Organization (WIPO). In a study conducted by the Laboratory of Immunology and Biotherapy, Department of Human Pathology, from University of Messina, looked into the mechanisms of action behind PMBL protective role in the reduction of the exacerbation episodes of both COPD and paediatric asthma<sup>1</sup>.

The team of researchers showed that PMBL exerted a double effect on airways epithelial cells, enabling to both reinforce the epithelial barrier and also protect the airways against pathogens. They showed that these epithelial cells are able to recognize the polyvalent mechanical bacterial lysates. This leads to their activation, resulting in cell proliferation and the sealing of tight junctions, which can be seen as a reinforcement of the epithelial barrier. In addition, the epithelial cells also produce some antimicrobial peptides, a second line of defenses against potential pathogens.

Professor Ferlazzo commented: *“These data indicate a novel protective mechanism of action for mechanical bacterial lysates by which epithelial cells can directly counteract pathogen invasion upon activation by bacterial lysates. Proliferation of damaged epithelial cells and expression of molecules involved in tight junction formation can locally contribute to provide a more efficient physical barrier but also to regenerate damaged airway tissues, which can be an issue in asthma and COPD. On the other hand, conditional pathogen killing by mucosal epithelium-derived antimicrobial peptides is an important aspect of innate resistance to infection that calls for further studies.”*

1) Giacomo Sidoti Migliore, Stefania Campana, Claudia De pasquale, Paolo Carrega and Guido Ferlazzo. Human airway epithelial cells directly recognize mechanical bacterial lysates eliciting tight junction sealing, antimicrobial peptides production and epithelial cell proliferation. XII World Congress on COPD, Asthma & Respiratory Allergy, February 2-5, 2018, Dubai, UAE.

\*\*\*\*\*

### About Lallemand Pharma

Based in Massagno (Switzerland), Lallemand Pharma AG is a pharmaceutical subsidiary of Lallemand group. Lallemand Pharma is in charge of the business and possesses the intellectual property rights of an immunostimulant drug indicated in the prevention of respiratory infections known as PMBL<sup>®</sup> sublingual tablets. The company is dedicated to clinical studies, registrations, marketing and sales of the PMBL<sup>®</sup> drug. The original PMBL<sup>®</sup> active pharmaceutical ingredient is produced by the Lallemand GMP Pharma facility.

Thanks to its important distributor's network consisting of leading international pharmaceutical companies, Lallemand Pharma markets all around the world drugs containing PMBL<sup>®</sup> under different brands: Ismigen<sup>®</sup>, Immubron<sup>®</sup>, Respibron<sup>®</sup>, PIR-05<sup>®</sup>, and Pulmigen<sup>®</sup>.

For more information, visit <http://www.lallemandpharma.com/> or follow us on LinkedIn



For more information on respiratory health, subscribe to our Newsletter **Respire Inspire**:

<http://www.lallemandpharma.com/newsletter/>

#### CONTACTS

Maxence de Villemeur, Marketing & Sales Manager  
Tel.: +33 562 745 555  
E-mail: [mdevillemeur@lallemand.com](mailto:mdevillemeur@lallemand.com)

Sylvie Roquefeuil, Press Officer  
Tel.: +33 684 727 610  
E-mail: [sroquefeuil@lallemand.com](mailto:sroquefeuil@lallemand.com)