



PneumoNP: A WHO Collaborative Research Program



Antibiotic resistance poses a serious worldwide threat to the treatment of infections such as pneumonia. A collaborative European research project is responding to the plea by the World Health Organization (WHO) for innovative solutions to control the crisis. The PneumoNP project will combine new antibiotics with inhalable nanocarriers for a more targeted treatment of respiratory infections.

Drug-Resistant Pneumonia

Pneumonia and other hospital-acquired respiratory tract infections have become increasingly resistant to antibiotics. The situation is so extreme in some countries that the powerful carbapenem antibiotics have lost their efficacy for more than half of patients being treated for pneumonia. According to the WHO, what was once a prediction is now a reality: antibiotic resistance is a global threat to public health.

At the end of April, WHO issued a plea to the scientific community to develop new antibiotics and diagnostic tools to combat the problem. The European Commission's 7th Framework Programme (FP7) is funding 15 projects that deal with antimicrobial resistance. Through interdisciplinary teamwork, 11 groups from six EU member states (Denmark, France, Germany, Italy, Spain and The Netherlands) will combine their clinical and research expertise on one such project, PneumoNP.

Targeted Treatment Through Nanotherapy

PneumoNP is a four-year project that will focus on respiratory tract infections caused by the bacterium *Klebsiella pneumoniae*, which is one of the major causes of hospital-acquired respiratory infections. By joining new antibiotics with inhalable carrier molecules, PneumoNP will generate a novel way of delivering antibiotics through aerosol technology.

The inhalable drug system combines an antimicrobial peptide or other pharmaceutical ingredient with a nanocarrier. Having the therapeutic compounds delivered by inhaler allows the drug to directly target the infection in the respiratory tract. Additionally, the PneumoNP system will include a new diagnostic test to more quickly detect antibiotic resistance, and an efficiency test for following up on the success of the treatment.

The PneumoNP project will run from 2014 to 2018.

[Source: PneumoNP](#)

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