

Combination Pharmaceutical Formulations

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- Pharmaceuticals

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- Antibiotics
- Antimicrobials
- Pharmaceuticals

Lower respiratory infections (or lung infections) is one of the leading causes of death in both developing and developed countries. Traditional administrations of antibiotics happen through oral or intravenous methods. These two methods in many cases are not effective for treatment of lower respiratory infections because drugs cannot reach infection sites in the airway surfaces. Furthermore, oral or intravenous medicines have problems with synergy of more than two antibiotics because different drugs have different behaviors. This means the drugs will arrive at the infection site at different times. This leads to compromised antimicrobial activity and potential development of antimicrobial resistance. There is a need for a new technology that allows for a more efficient way to deliver these antibiotics to the infected areas in the airways for treatment of deadly lung infections.

Researchers at Purdue University have developed a new technology that solves the compromised antimicrobial efficacy with traditional oral or intravenous administrations. This new technology incorporates two or more synergistic components into a single particle which allows for simultaneous delivery with high efficiency to the infection area in the lungs. This maximizes the antimicrobial activity and minimize resistance development. There is also reduced local toxicity because of this technology. The addition of one component will improve the delivery efficiency and stabilize the other component. This new technology could open the door for much better therapies for treatment of dangerous lung infections.

Advantages:

- Maximized antimicrobial activity
- Minimized antimicrobial resistance
- Reduced local toxicity
- Improved delivery efficiency
- Stabilized other component

Potential Applications:

- Antimicrobial activity
- Antibiotics

-Respiratory infections

People:

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Intellectual Property:

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