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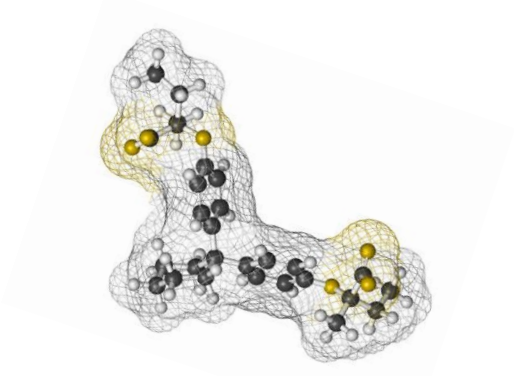
Breaking barriers in ARDS Treatment: The innovative approach of Lipigon Pharmaceuticals

ARDS is a serious and often fatal condition affecting millions of people worldwide. At Lipigon Pharmaceuticals, we are dedicated to pioneering a groundbreaking approach to treating this life-threatening disease. In this interview, Masoumeh Motamedi, Senior Research Scientist at Lipigon and the project leader of our ARDS drug development project provides valuable insights into the current status of the project. She also discusses the latest research in the field and highlights the potential advantages of targeting the protein ANGPTL4 in our innovative therapy.



Tvistevägen 48 C, SE-90736 Umeå, Sweden
Tel: +46(0)705781768, info@lipigon.se
Org.nr: 556810-9077
lipigon.se

In addition to Lipigon's lipid-lowering drug project Lipisense, the company is developing drug therapy for Acute Respiratory Distress Syndrome (ARDS), a serious condition that can be life-threatening.

Dr. Masoumeh Motamedi is the Senior Research Scientist at Lipigon Pharmaceuticals and the project leader of the ARDS drug development project. She holds a Ph.D. in physiology and has extensive expertise in the biology and function of ANGPTL4, a protein that plays a critical role in regulating inflammation and lipid metabolism.

"Some studies have found that the amount of ANGPTL4 in the blood plasma and lungs of patients with ARDS is linked to the severity of the disease and the chance of survival. In animal studies, blocking ANGPTL4 has shown promise in improving lung function and reducing inflammation and tissue damage caused by infections or injuries. ANGPTL4 is an area of expertise for us, and we have a deep understanding of its properties and how to work with it," says Dr. Masoumeh Motamedi.

ARDS – a serious and often fatal condition
Acute Respiratory Distress Syndrome (ARDS) is a serious medical condition that can be life-threatening. It occurs when the lungs become injured, often due to conditions such as pneumonia, sepsis, aspiration, pancreatitis, or trauma. This injury can lead to respiratory failure, which means the lungs cannot transfer enough oxygen to the body's tissues. It affects approximately ten percent of patients admitted to intensive care units (ICU) internationally, with high mortality rates ranging from 38% to 50% in severe cases.

Promising results in preclinical studies
The ARDS project is one of Lipigon's four active projects and shares ANGPTL4 as the target protein with Lipisense, the company's most advanced project currently in clinical trials. Lipigon has gained a deep understanding of ANGPTL4 through their work on Lipisense and is utilizing this knowledge to develop a potential therapy for ARDS.

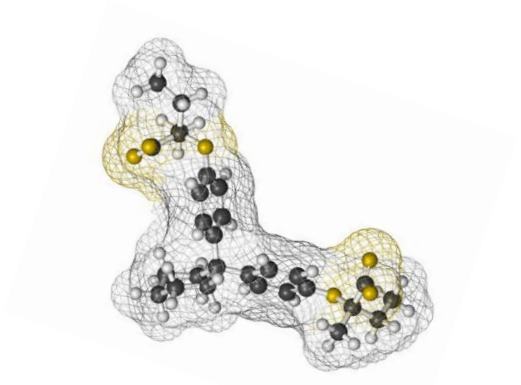
According to Dr. Masoumeh Motamedi, the ARDS project has yielded promising results in preclinical studies.

"In preclinical disease models, we have discovered that targeting ANGPTL4 in the lung with a specific type of treatment, called an ANGPTL4-specific ASO, has shown promising results in reducing lung injury caused by chemical damage, bacterial and viral pneumonia in mice. These treatments were given after the damage had already started, suggesting that it may have a therapeutic effect rather than just a preventative effect," she explains.

An ASO (antisense oligonucleotide) is a short DNA/RNA sequence that binds complementary to a specific mRNA sequence in a gene, thereby preventing the cells from producing a protein. In this case, the ASO prevents the production of the ANGPTL4 protein.

"Our next focus will be to prove that we can deliver the ASO treatment directly to the lung. Additionally, we will investigate the mechanism of action and any possible side effects it may have. These are important steps before moving forward with clinical trials and bringing this potential therapy to patients who could benefit from it," Dr. Motamedi says.

The challenges of developing a successful ARDS therapy



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The search for effective drug treatments for ARDS has been ongoing for over 50 years, and despite many well-designed studies, significant improvements in outcomes still need to be achieved. Dr. Motamedi explains that this may be due to the variety of causes and mechanisms of lung damage, as well as the different approaches to treatment that exist for ARDS.

"ARDS is not a simple syndrome with a single cause and treatment, but rather a complex condition that requires subcategorization and personalized approaches to treatment. Some medication therapies that were previously unsuccessful in treating all ARDS patients have been found to have positive effects when applied to specific subgroups," she says.

In 2021, there were over 1 million cases of Acute Respiratory Distress Syndrome (ARDS) in the seven major markets (7MM), and this number is increasing every year. In the United States alone, about 190,000 cases of ARDS are diagnosed each year, but there are currently no FDA-approved pharmacotherapies available to treat ARDS. As a result, any promising treatment target for this disease could have a significant impact on the lives of ARDS patients.

Targeting ANGPTL4: A promising approach to treating ARDS
Dr. Masoumeh Motamedi suggests that targeting the protein ANGPTL4 may be a promising approach to treating ARDS. There is good evidence that it can be an effective treatment and that the approach could potentially benefit a wide range of ARDS patients, regardless of the disease's origin or cause.

"By targeting this protein, we aim to reduce vascular leakiness and improve lung function, which could be helpful even in severe cases regardless of the etiology of the disease. We are collaborating with academic groups in China and Singapore that are elucidating the mechanism for ANGPTL4 in acute respiratory indications. We are excited about the progress we have made so far and the potential of this area of research," Dr. Masoumeh Motamedi concludes.

For more information, please contact:
Stefan K. Nilsson, CEO, Lipigon
Email: stefan@lipigon.se
Phone: +46 705 78 17 68

About Lipigon
Lipigon Pharmaceuticals AB is a clinical-stage pharmaceutical company developing drugs with new, unique mechanisms of action (first-in-class) for diseases caused by disorders in the body's handling of fats. The company's operations are based on over 50 years of lipid research at Umeå University, Sweden. Lipigons initial focus is on orphan drugs and niche indications, but in the long term, the company has the possibility to target broader indications, such as diabetes and cardiovascular disease. Lipigons pipeline includes four active projects: the RNA-drug Lipisense for the treatment of hypertriglyceridemia, an RNA drug for the treatment of acute respiratory distress syndrome, a gene therapy treatment for the rare disease lipodystrophy in collaboration with Combigene AB (publ), and a small molecule program for the treatment of dyslipidemia in collaboration with HitGen (Inc). Read more at www.lipigon.se.

The company's share (LPGO) is traded on the Nasdaq First North Growth Market. Certified Adviser is G&W Fondkommission.