

Active agent for regeneration of the lung

Medical agent for prophylaxis and/or treatment of chronic lung diseases

DESCRIPTION OF TECHNOLOGY

Medicamentous regeneration of forms of lung damage as a result of chronic lung diseases such as COPD, pulmonary fibrosis, asthma etc. is possible for the first time thanks to the new active agent.

The novel active agent may remove the necessity of having to undergo a risky lung transplantation and could cure the disease, making it of interest to a broad patient population.



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By applying a known substance in a new manner it is possible to treat severe lung damage resulting from chronic lung diseases medicamentously for the first time, thereby potentially preventing the need for a lung transplantation or even the death of the patient. The lung structure can be rebuilt and its function can therefore be restored.

L-NIL is a relatively selective inhibitor of iNOS. It exhibits IC50 values of 0.4-3.3 μM for iNOS as opposed to 8-38 and 17-92 μM for eNOS and nNOS, respectively. L-NIL effectively inhibits iNOS both in vitro and in vivo.

APPLICATION FIELDS

The novel active agent is of interest to pharmaceutical companies which develop and synthesize drugs and perform clinical studies for patients with lung diseases such as chronic obstructive pulmonary disease (COPD), tuberculosis, pulmonary emphysema, lung and bronchial carcinoma, and pulmonary fibrosis.

AT A GLANCE ...

Application fields

- Lung diseases
- COPD, pulmonary fibrosis, asthma

Business

- Pharmaceuticals
- Medicine

USP

- Regeneration of lung structure and restoration of the lung function
- Curative therapy for the first time

Development status

- ✓ Invention was tested in vivo with mice
- ✓ Mice showed regeneration of the lung, including reconstruction of structure and restoration of function

➔ Clinical study in human is in preparation

Patent status

European Patent EP 2591777 B1 is granted.

ADVANTAGES OVER THE PRIOR ART

To date, severe lung damage as a result of diseases such as COPD can neither be cured, nor can the progression of the disease be completely delayed. The current treatment only tends to slow down the deterioration of the disease and/or decrease discomfort. As such, medicaments such as bronchodilator drugs, inhaled corticosteroids, supply of oxygen, and other medicamentous drugs including antibiotics for bacterial infections of the respiratory tract, mucolytics, and antioxidants are applied.

The new application of the known substance is beneficial for the regeneration of lung structure and restoration of the lung function, thereby ensuring that a curative therapy for lung diseases that cause lung damage is available for the first time.

STATE OF THE PRODUCT DEVELOPMENT

The invention was tested in vivo in experiments with mice. After exposure to smoke, these mice showed regeneration of the lung, including reconstruction of structure and restoration of function, when the novel active agent was applied. The results suggest that the active substance is applicable as an agent for prophylaxis and/or treatment of chronic lung diseases or for regeneration of the lung.

MARKET POTENTIAL

In Germany, it is estimated that more than 15 million people suffer from chronic lung diseases such as bronchial asthma, chronic obstructive pulmonary disease (COPD). Chronic lung diseases are often accompanied by a significant reduction in the quality of life for those affected. They suffer from shortness of breath, coughing, and hospitalisation and accompany patients for decades.

COOPERATION OPPORTUNITIES

On behalf of its shareholder, the Justus Liebig University of Giessen, TransMIT GmbH is looking for cooperation partners or licensees for the production / distribution / further development in Germany, Europe, the USA and Asia.

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