

Monoclonal antibodies have the potential to treat severe asthma bouts, scientists find

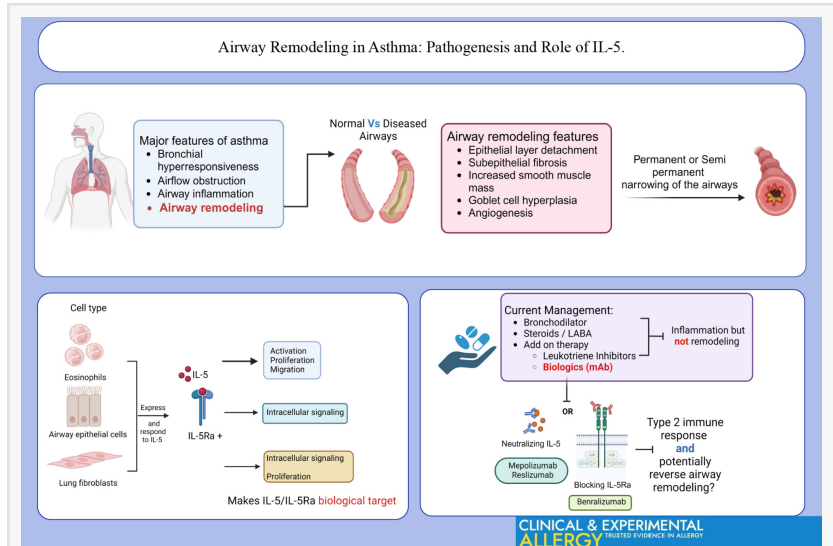
Research finds monoclonal antibodies to be a far better treatment for asthma exacerbations than conventional therapies like steroids.

SHARJAH, EMIRATE OF SHARJAH, UNITED ARAB EMIRATES, October 22, 2024 /EINPresswire.com/ -- Scientists from the University of Sharjah think monoclonal antibodies hold the potential to be a far better treatment for asthma exacerbations than conventional therapies like steroids.

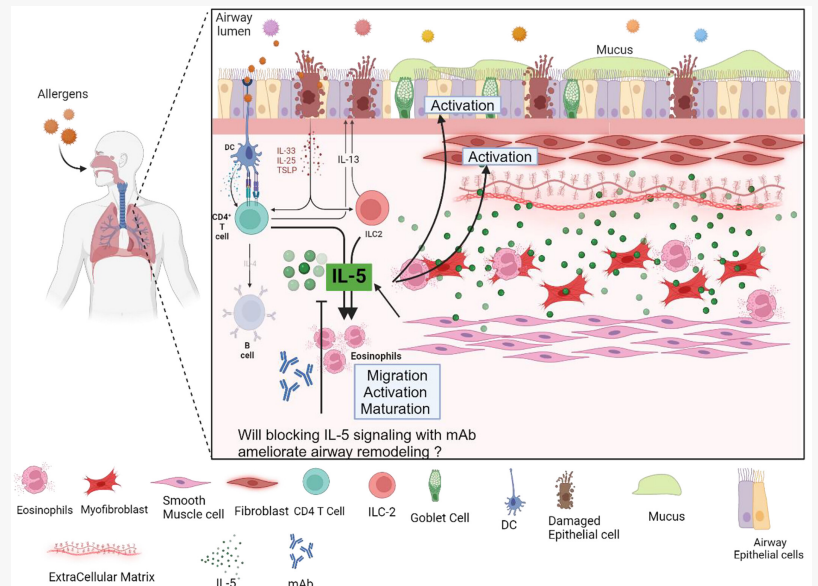
In a recent study, published in the journal *Clinical and Experimental Allergy*, the scientists find that when the antibodies are administered to patients with severe asthma, they prevent the symptoms from aggravating. (Original Source URL: <https://onlinelibrary.wiley.com/doi/full/10.1111/cea.14489>)

They also maintain that the antibodies help balance the production of white blood cells and lower asthma-related structural changes like thickened airway walls.

Current treatment of asthma, a chronic lung disease with significant social and economic burden, rely on steroid and muscle relaxants, the scientist note.



Airway remodeling in asthma refers to the structural changes that happen in airway passage to the lungs, increased muscle mass and gland enlargement.



Monoclonal antibodies fall under the category of biological therapies, and unlike corticosteroids, they are not likely to become less effective over time and are with lower side effect risks.

The scientists add, “Conventional treatments like steroids primarily target inflammation not remodeling” while “emerging therapies focusing on specific receptors or cytokines could be promising” in alleviating the severity of the chronic disease.

Airway remodeling in asthma refers to the structural changes that happen in airway passage to the lungs, increased muscle mass and gland enlargement.

Most people with troublesome asthma are currently treated with inhaled corticosteroids.

“These therapeutic options ... have limitations in addressing severe cases, particularly those with steroid hyporesponsiveness and irreversible airway narrowing,” the scientists write.

Hyporesponsiveness is a medical condition in which the body’s response to treatment diminishes, disrupting therapy and promoting inflammation in the case of asthma.

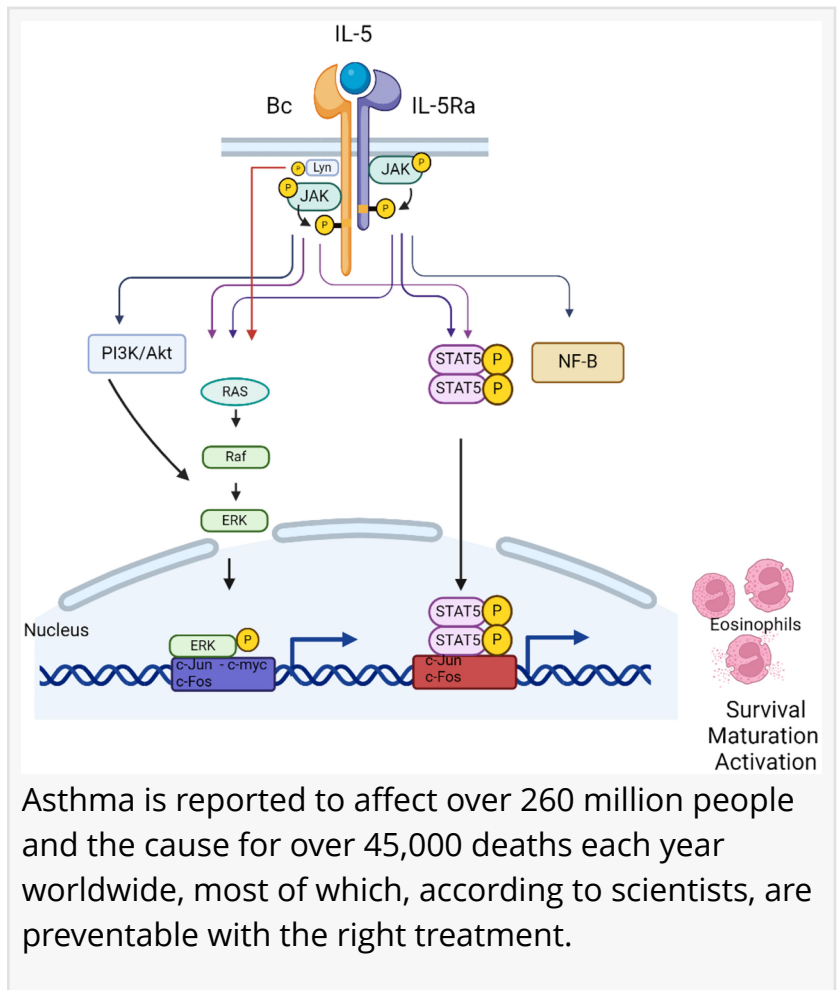
However, the scientists say, the development of steroid resistance is a commonly encountered issue, necessitating other treatment options for asthma patients.

Though corticosteroid medicines have hitherto been the most effective in treating asthma, the scientists report that “using monoclonal antibodies has shown promising results in recent studies. Administering these antibodies (has) led to reduced asthma exacerbations, lower eosinophilia, and decreased airway remodeling.”

Monoclonal antibodies are proteins or molecules produced in laboratories and serve as substitute anti-bodies that can fight off germs by enhancing or mimicking the immune system.

They fall under the category of biological therapies, and unlike corticosteroids, they are not likely to become less effective over time and are with lower side effect risks.

The authors write, “Biological therapies are a promising therapeutic approach for people with steroid-resistant asthma,” citing biological medicines like Interleukin 5, which “is recently gaining



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a lot of attention as a biological target relevant to the tissue remodeling process.”

The scientists describe asthma as “a common and burdensome chronic inflammatory airway disease that affects both children and adults. One of the main concerns with asthma is the manifestation of irreversible tissue remodeling of the airways due to the chronic inflammatory environment that eventually disrupts the whole structure of the airways.”

Despite their therapeutic value, monoclonal antibodies are still some of the most expensive treatments and out of reach for many patients, while asthma is reported to affect over 260 million people and the cause for over 45,000 deaths each year worldwide, most of which, according to scientists, are preventable with the right treatment.

It is one of the most common chronic non-communicable diseases that affects the airways in the lungs, causing repeated episodes of chest tightness, breathlessness, wheezing and night or early morning coughing.

Still, the scientists emphasize that there is no definitive cure for asthma, and patients are clinically managed in accordance with the Global Initiative for Asthma (GINA) guidelines based on the severity of the onset and the disease state.

More advanced research is needed before asthma patients can have a definitive cure, the scientists remark. Further research, in their opinion, should target “transcriptomics, proteomics and second harmonic analysis of patient samples analyzed pre- and post-anti-IL5 therapy” to elucidate “the underlying molecular pathways impacted by IL-5 and to identify it as a potential biomarker for improved targeted therapies.”

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