

New target could help to reduce symptoms of asthma attacks, research shows

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An international team of researchers from the Universities of Leicester and Naples has examined the role of a receptor in the body that could help to prevent or reduce the effects of asthma attacks.

In a new paper, published in the *British Journal of Pharmacology*, the team examined the role in the body of nociceptin, a peptide that activates the nociceptin receptor, better known for its association with pain processing.

In [asthma](#) there is a constriction of the airways and an increase in immune activation - typically these are treated with a dilator (salbutamol) and a steroid (to reduce immune response).

The study identified that nociceptin has substantial activity in asthma models given before or during an asthma attack - and that a single molecule reduces both the [immune response](#) and causes dilation.

It is hoped through the observation that scientists can demonstrate effects before or during asthma that the discovery could help to prevent or reduce established asthma attacks in people suffering from the disease.

Professor David Lambert, Professor of Anaesthetic Pharmacology from the University of Leicester's Department of Cardiovascular Sciences and Leicester's Hospitals said: "I have been working on the pain related and immune modulatory actions of nociceptin for many years and it is really

exciting to see this translated into a further therapeutic arena; the devastating airways disease of asthma."

Professor Chris Brightling, NIHR Senior Investigator and Honorary Consultant from the University of Leicester's Department of Infection, Immunity and Inflammation and Leicester's Hospitals added: "In spite of good treatments for asthma many people with asthma still have ongoing symptoms and frequent attacks. This exciting research presents an entirely new approach for asthma that needs to be tested in clinical trials."

Professor Bruno D'Agostino from the University of Naples said: "For many years, my research group has been working on the role of nociceptin in the regulation of airway responsiveness in animal models, and it is very interesting translating our results into clinic area regarding asthma, a disease that is forecast to grow over the next years."

Dr Erika Kennington, Head of Research at Asthma UK, added: "There's nothing as terrifying as not being able to breathe, yet every 10 seconds someone in the UK has a potentially life threatening [asthma attack](#). This research is exciting because the protein identified here may relieve not just the symptoms, but the inflammation of the lungs and the tightening of the airways that cause asthma too. We urgently need more investment in asthma research to turn these findings into new treatments."

More information: Nociceptin/OrphaninFQ (N/OFQ) modulates immunopathology and airway hyperresponsiveness representing a novel target for the treatment of asthma, *British Journal of Pharmacology*, [DOI: 10.1111/bph.13416/abstract](https://doi.org/10.1111/bph.13416)

Provided by University of Leicester

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