TECHNOLOGY OFFER

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Modified allergens for non-invasive prevention and therapy of allergies

A chemical protein modification was found to be associated with an allergen-specific immunomodulatory response when applied via the non-invasive, oral route enabling the definition of a novel prevention and treatment strategy for allergies.

BACKGROUND

IgE-medicated allergies represent a major health concern and currently affect up to 30% of the total population. Current prediction models estimate that in 2025 half of the European population will be affected by allergic diseases. Despite the availability of specific treatment options in the form of allergen-specific immunotherapy for inhalant allergies, the main treatment options are still mainly symptomatic, due to undesired side-effects and the long course of treatment. For food allergy there is currently no causative treatment option available.

TECHNOLOGY

Nitration is a physiologically occurring chemical protein modification found environmentally but also in the human body during inflammation and ageing. Allergen nitration was associated with a reduced capacity of the respective allergen to induce an allergic immune response when applied via the oral route. In vivo data indicated not only an allergy preventive, but also a therapeutic potential due to this allergen modification. This was reflected by a modulatory cellular immune response, as also human dendritic cells showed a more regulatory immune response when incubated with these modified proteins. Taken together, this technology offers a promising novel approach to treat allergies.

ADVANTAGES

- New therapeutic approach
- None-invasive as applied via the oral route
- Low costs for allergen modification
- Potential application in food industry
- Large and growing global market

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REFERENCE:
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DEVELOPMENT STATUS:
In vivo proof of concept

IPR:
EP18201031.4

AVAILABLE FOR:
- R&D collaboration
- License Agreement
- Development partnership

KEYWORDS:
Allergy prevention,
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