

## Importantly, ASMA, RINITE, ALERGIA ALIMENTER.

Published date: Oct. 25, 2018

### Technology description

The prevalence of allergies and asthma has been rising around the world, leading to high levels of premature death each year due to lack of appropriate treatment. Allergic asthma is characterized by chronic pulmonary inflammatory disease mediated by type 2 helper T cells (Th2), which can organize pulmonary inflammation. The most common treatment for asthma at present is pharmacological, but this is not a therapeutic effect and may not be effective in all patients. On the other hand, Specific-Immunotherapy (SIT) in English is considered to be a potentially effective immune intervention, consisting of a classic model of SIT, which is repeated subcutaneously for a long period of time with increasing doses of allergens. (English). This, in turn, does not cause any inconvenience, such as the difficulty of maintaining treatment due to the need to take various doses of SIT over a long period of time; The effectiveness of the framework for reversing asthma was low. It is mainly the possibility of anaphylactic shock with the increase of the dose of allergen, which may lead to the death of the patient.

With this concern, an experimental model of asthma immunotherapy consisting of a cationic liposome (DOTAP or N-methylmethoxy)-embedded Toll-type receptor antigen (CpG-ODN) and an agonist (DATAP or N-2, 1-methylmethoxy-methylpropyl) was developed. Verification of this technique showed that the treatment of previously sensitized animals with antigen-containing preparations and cationic liposomes encapsulated with TLR agonists (CpG-ODN) was more effective than other experimental immunotherapies in reversing the established pulmonary allergic framework. (English). Local or systemic allergic reactions were further alleviated by liposomal encapsulation of allergens (FIG. A), and three doses of the preparation were sufficient to significantly suppress lung allergies within a two-week interval (FIG. B).

Different results from previous sensitized animal control trials (shown above) have demonstrated that DOTAP wrapping reduces skin allergic reactions and that OVA-CpG/DOTAP immunotherapy is highly effective in attenuating OVA-induced allergic reactions.

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### Application area

The preparation can be used for the prevention, treatment or cure of allergic processes such as asthma, rhinitis and food allergy. The risk of inducing allergy is reduced, the duration of treatment is shortened, and the efficiency is higher than that of classical SIT.

Health and care (human and animal)

## Advantages

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