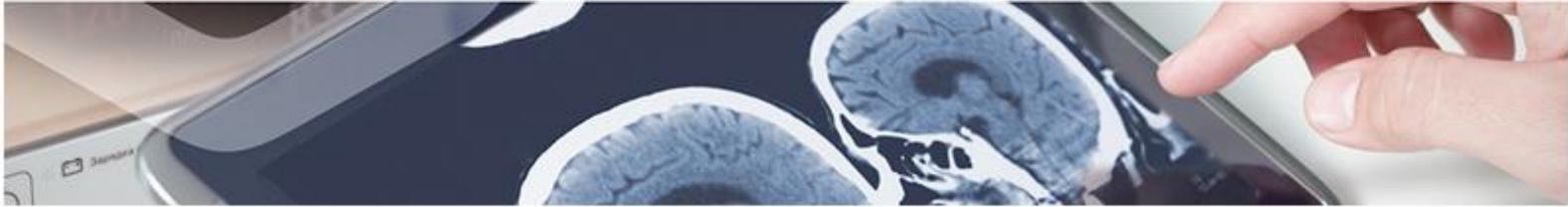


Diagnostics

Nanostructures for the diagnosis of allergies to betalactamic antibiotics

A research group from the Biomedical Research Institute of Málaga (IBIMA) has developed a new method for the diagnosis of amoxicillin-mediated allergic reactions using nanostructures.



Description

Beta-lactam antibiotics (LAB) are the most common cause of drug allergy. Approximately, 10% of the population is suspected of having this allergy, although less than 24% of suspicions in adults and 10% in children confirm the allergies. This leads to unnecessary use of alternative antibiotics with higher costs, more adverse effects and increased bacterial resistance. Therefore, these allergies have enormous public health implications, and correct diagnosis is necessary for patient safety and the sustainability of the healthcare system.

In recent decades, the prescription of amoxicillin has increased, becoming the beta-lactam that induces the most immediate allergic reactions. Its ability to be recognized by the immune system lies in the formation of conjugates with proteins that induce the allergic reaction.

Known assays for the diagnosis of amoxicillin allergy in vivo present a high risk to patients due to exposure, and tests performed in vitro have a low sensitivity. Therefore, increasing the sensitivity of in vitro tests has become a necessity.

By employing novel nanostructures that present amoxicillin epitopes to stimulate effector cells activated with patient serum, it has been possible to increase the sensitivity of in vitro diagnosis of patients with amoxicillin allergies. At the same time, this technology could be used for the diagnosis of allergies to other beta-lactams.



[ps://www.ibima.eu/grupo_investigacion/enfermedades-alergicas-farmacos-alergenos/](https://www.ibima.eu/grupo_investigacion/enfermedades-alergicas-farmacos-alergenos/)



Advantages

- **Improved diagnosis:** more reproducible tests, with greater sensitivity, safer for the patient and easier to use (they require the patient's serum, whereas current in vitro tests require blood).
- **Increased cost-effectiveness of antibiotic treatments,** by being able to correctly diagnose a patient's allergy to a given beta-lactam.
- This technology **can be adapted for the diagnosis of other beta-lactam antibiotics.**



Intellectual Property

This technology is protected by a national and international (PCT) patent application with possibility of international extension.



Aims

The researcher is looking for partnership and/or license agreement.



Classification

Area: Diagnosis
Technology: Nanostructure
Pathology: Allergy