DRNANODALL
Nanodiagnosis for Betalactam Hypersensitivity

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Allergy to betalactam antibiotics is the most common allergy to an antibiotic drug. This has significant implications for patients’ safety and Health Systems’ costs, since prescribing alternative antibiotics could induce bacterial resistance, be more expensive, and be potentially more toxic. IgE-mediated allergy tends to change over time and differs among European countries, depending on betalactam consumption.

Betalactam allergy diagnosis is challenging as it relies on patient clinical history, in which previous reaction evidence is often inaccurately reported; and on drug provocation and/or skin tests, which are not risk-exempt and require specialized healthcare professionals. In vitro tests stand out as the more rational alternative diagnostic method, showing however various limitations, hampering the fulfillment of the clinician’s needs.

DrNanoDAll proposes the development of dendrimeric antigen-nanoparticles, innovative solutions to surpass the current in vitro diagnostics limitations. In this proposal, nanotechnological and immunological approaches will be combined with clinical expertise, implementing a multi-omics workflow and involving the industry for scaling up nanomaterials and clinical test validation steps.