

Inflammatory Diseases

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DESCRIPTION

The Inflammatory Diseases group is a multidisciplinary team: Our research aims are: a) to study etiopathogenic mechanisms of immune-mediated diseases to develop tools to advance toward a more personalised medicine; b) to find biomarkers of response to immunotherapy treatments in cancer and chronic inflammatory diseases to select the most suitable drugs and to identify the patient population that can benefit from them, and c) to analyse the involvement immune system in the pathogenesis of autoimmune processes, immunodeficiencies, and immunosenescence.

MAIN LINES OF RESEARCH

- The role of the immune system in the development and perpetuation of autoimmune, immune-mediated diseases and chronic inflammatory processes. (Vidal Alcorisa, Sílvia).
- The immunological response associated with the clinical course during immunomodulatory therapies. (Vidal Alcorisa, Sílvia).
- The involvement of autoantibodies, components of the adaptive immune system, in the pathogenesis of autoimmune processes. (Vidal Alcorisa, Sílvia).
- Mechanisms involved in immunodeficiency. (Vidal Alcorisa, Sílvia).
- Immunosenescence. (Vidal Alcorisa, Sílvia).

SCIENTIFIC CHALLENGES

- To understand the appearance and evolution of autoimmune events, immunodeficiencies, infections, and cardiovascular diseases to improve diagnostic tools.
- To decipher the immune response involved in the development or the control of tumors to discover new biomarkers of prognosis for immunotherapies.
- To elucidate biomarkers related to immune sense and susceptibility to infections.
- To characterise cellular immune responses in immunological disorders such as infections, hypersensitivity reactions and immunodeficiencies.
- Different strategies were applied according to the goal and pathology:
 - Characterisation of cell populations in complex human biological fluids by multiparametric flow cytometry analysis complemented with dimensionality reduction and data visualisation techniques.
 - Study the expression and dynamics of inflammatory mediators with advanced clustering analysis.
 - Identification of new specificities of autoantibodies in subgroups of patients.
 - Study of mechanisms involved in immunodeficiency caused by alterations in molecular components.

DOCTORAL THESES DEFENDED

- Alserawan de Lamo, Leticia. Monitorización inmunológica en pacientes tratados con inhibidores de puntos de control inmunitario: identificación de biomarcadores para la predicción de eventos adversos inmunomediados. 18/07/2024. Universitat Autònoma de Barcelona. Supervisors: Vidal Alcorisa, Sílvia. <https://hdl.handle.net/10803/692979>.

SCIENTIFIC PRODUCTION

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