

Researchers find key mechanism to control antibody production

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A research team from IMM Lisboa led by Luís Graça has found a cellular mechanism that underlies the development of autoimmune diseases.

Provided by Instituto de Medicina Molecular

The immune system is responsible for our body's defence against infections. However, an inefficient and uncontrolled defence can lead to lesions and result in autoimmunity.

The study, published in *Nature Communications*, builds on previous observations from the same team who found that a specific type of cell regulates antibody production. They hypothesized there was probably a marked division of tasks between different cells of the immune system—those that help the production of antibodies (T follicular helper) and those that stop the production of antibodies against our own tissues (T follicular regulatory). The team developed experimental methodologies that allowed them to identify the molecular targets that lead to the formation of antibodies in both helper and [regulatory cells](#).

The development of autoantibodies is one of the key factors for the development of several [autoimmune diseases](#), such as lupus or [rheumatoid arthritis](#).

As such, to be able to identify the specific cells that regulate the production of antibodies and that suppress the actions of the immune system may lead to the development of novel forms of diagnostics or treatment, including more efficient vaccines.

More information: Ana Raquel Maceiras et al, T follicular helper and T follicular regulatory cells have different TCR specificity, *Nature Communications* (2017). [DOI: 10.1038/ncomms15067](#)

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