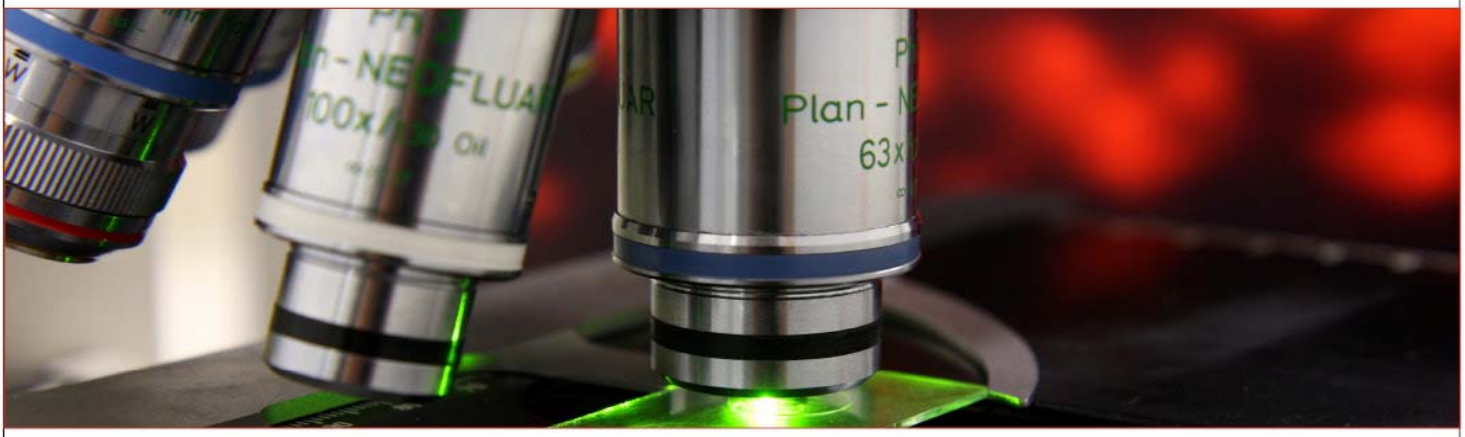
SÉMINAIRES ET CONFÉRENCES



Hua Gu

IRCM

« Immune responses controlled by CBL-mediated protein ubiquitination »

Generation of high affinity antibody producing cells is the hallmark of humoral immune responses against various pathogen infections. It occurs in the germinal center (GC), a micro lymphoid structure residing in the peripheral lymphoid organ. Initiation and exit of the germinal center (GC) reaction require cognate interaction between antigen specific B and T cells. However, it remains not fully understood how B cell intrinsic mechanisms control these processes. Our recent studies show that E3 ubiquitin ligases CBL and CBL-B (CBLs) play critical roles in the GC reaction. At the entry checkpoint of the GC reaction, CBLs dictate the cognate interaction between B cells and T cells. They exert this function by promoting BCR-mediated antigen endocytois into B cells, consequently controlling B cell antigen presentation to T cells. At the exit checkpoint of the GC reaction, CBLs are required to retain B cells in GC. Ablation of CBLs in developing GC B cells leads to premature exit of GC B cells into the antibody secreting plasma cell pool, consequently abolishes the selection of high affinity BCR-expressing GC B cells. I will discuss the molecular mechanisms underlying these regulations in details.

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