

# MICROBIOLOGIE, INFECTIOLOGIE ET IMMUNOLOGIE

Université   
de Montréal

## CONFÉRENCE

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### **MHC Class II Subsets in B-Cell Immunology**

MHC class II-restricted antigen processing and presentation by antigen-specific B cells results in interactions between B cells and CD4 helper T cells. Antigen-specific B cells are unique among antigen presenting cells (APC) in that they express an antigen-specific receptor, the B cell receptor (BCR). We have established that B cells and other APC express two distinct MHC class II conformers, formation of which is based on differential pairing of transmembrane domain GxxxG dimerization motifs (M1 vs. M2 paired MHC class II), and shown that these conformers differ in their ability to drive T cell activation and B cell signaling. We have also recently shown that internalized antigen-BCR (Ag-BCR) complexes physically associate with intracellular class II molecules in a putative MHC class II peptide-loading complex. Interestingly, Ag-BCR complexes selectively associate with the M1 class II conformer, which then receives both antigen-derived peptide and the CD79 BCR signaling module. These results reveal that the function of the BCR is *not* simply to facilitate antigen uptake at low concentrations, but rather to guide loading of peptides derived from the processing of cognate antigen onto the subset of class II molecules, which have unique B cell and T cell activation properties.

**Jeudi 10 décembre 2015 à 11h30**  
**Pavillon Claire-McNicoll, salle Z-255**

Invité par Dr Jacques Thibodeau

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