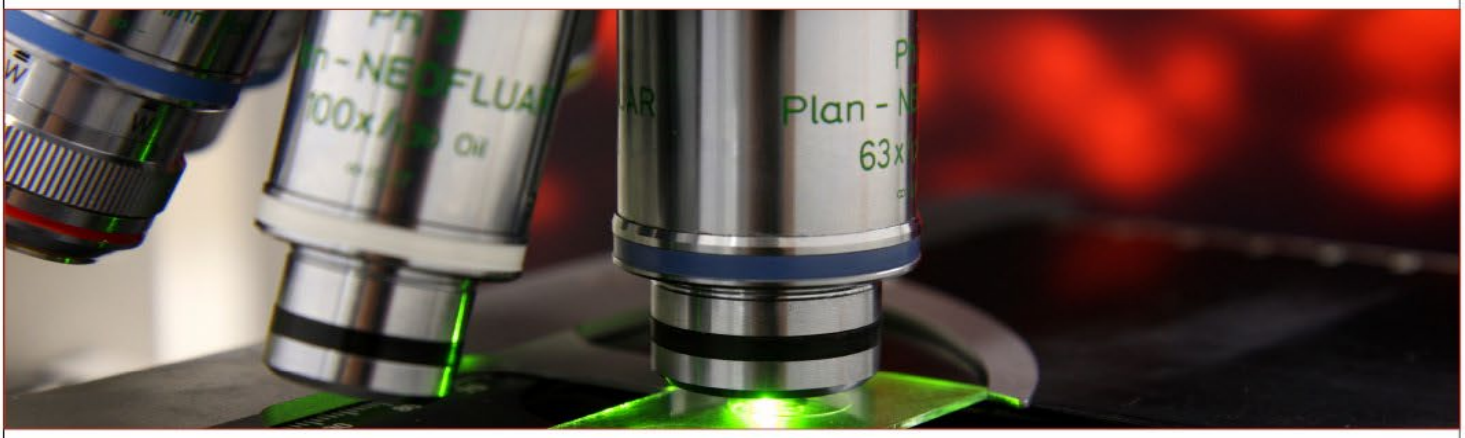
SÉMINAIRES ET CONFÉRENCES



Michael Root

Department of Microbial Infection and Immunity

THE OHIO STATE UNIVERSITY

"Conformational Transitions of HIV-1 Env That Drive Viral Membrane Fusion"

Structural rearrangements of HIV-1 glycoprotein Env promote viral entry through membrane fusion. Env is symmetric homotrimer with each protomer composed of surface subunit gp120 and transmembrane subunit gp41. CD4- and chemokine receptor-binding to gp120 coordinate conformational transformations in gp41, which ultimately collapses into a symmetric trimer-of-hairpins (TOH) critical for fusion. Here, we use inhibitors of TOH formation and engineered Env trimers to probe glycoprotein structure following receptor activation. We find that conformational transitions through intermediate states can occur either symmetrically or asymmetrically, depending on the stoichiometry of CD4 binding. The two distinct pathways vastly differ in their spatiotemporal exposure of the gp41 core. The findings have important implications for the mechanism of viral membrane fusion and the development of vaccine candidates designed to elicit neutralizing antibodies targeting gp4.

Lundi 17 mars 2025, 11h30

Pavillon Joseph-Armand-Bombardier, Salle : 1035

ET

LIEN ZOOM

Faculté de médecine
Département de biochimie et médecine moléculaire
Université de Montréal

Invité de John Pascal
john.pascal@umontreal.ca