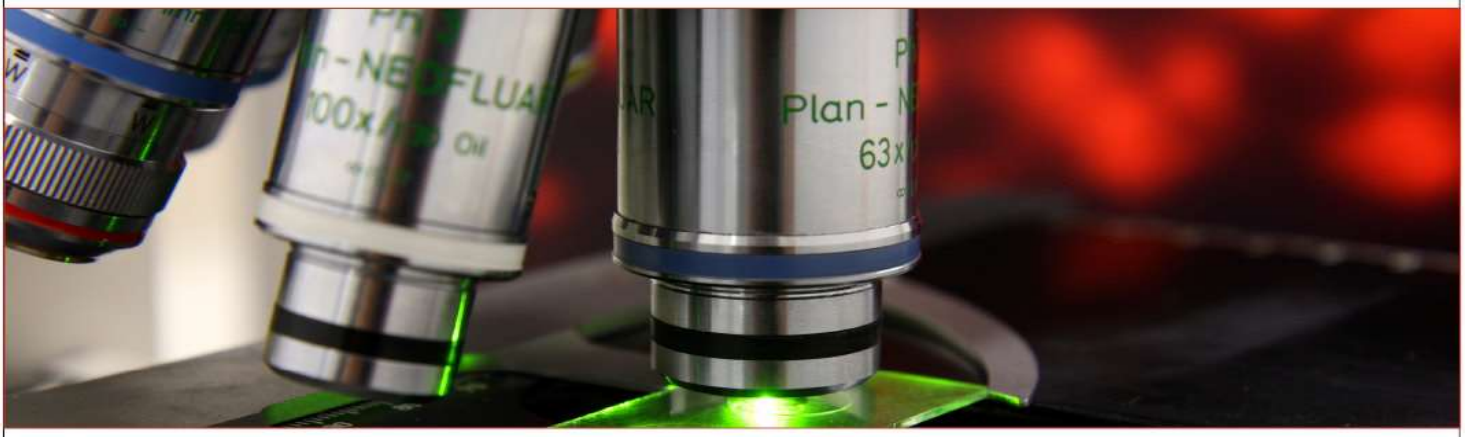
SÉMINAIRES ET CONFÉRENCES



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« A new direction for RNA polymerases: 3'-5' polymerases in RNA editing and repair»

All DNA and RNA polymerases were believed to synthesize nucleic acids in the 5'-3' direction until the discovery of a family of 3'-5' RNA polymerases related to the essential tRNAHis guanylyltransferase (Thg1) enzyme. While the biological function for Thg1 homologs in tRNAHis processing has been established in many eukaryotes, the physiological roles for many related enzymes known as Thg1-like proteins (TLPs) remain largely unknown. TLP homologs are found in all three domains of life, and we recently demonstrated the first biological role for members of this enzyme family in the eukaryotic slime mold Dictyostelium discoideum. Here, these enzymes use their template 3'-5' polymerase activities to catalyze RNA repair during a process known as mitochondrial tRNA 5'-editing, which is widespread throughout protozoan species. Our investigations into the mechanisms and functions of these unusual and fascinating enzymes have led us to a deeper understanding of 5'-end processing and repair of RNA, with many remaining to[illegible]d [illegible]lymerases in biology.

Faculté de médecine
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Le lundi 28 octobre 2019, 11h30

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