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SÉMINAIRE

Zebrafish telomerase mutants as a new model for vertebrate ageing

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Age is the highest important risk factor for the most prevalent human diseases, including cancer. Telomere shortening is thought to play a central role in the aging process in humans. The link between telomeres and aging is highlighted by the fact that genetic diseases causing telomerase deficiency are associated with premature aging and increased risk of cancer. For the last two decades, this link has been investigated using long telomere mouse models. However, zebrafish has recently emerged as a powerful and complementary model system to study telomere biology. Zebrafish possess human-like telomeres that progressively decline with age. The extensive characterisation of its well-conserved molecular and cellular physiology makes this vertebrate an excellent model to unravel the underlying relationship between telomere shortening, tissue regeneration, aging and disease. In our work, we explore how telomere attrition contributes to cellular senescence, organ dysfunction, aging and disease.