

Special Issue

Advances in Telomeres and Interstitial Telomeric Sequences

Message from the Guest Editor

Telomeres are nucleoprotein structures protecting ends of chromosomes from degradation and end-to-end fusions. The length of telomeres can be maintained via telomerase, or via mechanisms independent of the action of telomerase, which are called alternative lengthening of telomeres (ALT). The activation of telomerase, or ALT, is a prerequisite for cancer development. Microsatellite TTAGGG repeats are the building blocks of telomeres in vertebrates. They are present in multiple internal sites of chromosomes in many species, including humans. Such sequences are called interstitial telomeric sequences (ITSs). The functions of ITSs in the genome are still enigmatic. Such sequences are unstable and may stimulate mutagenesis, provoke chromosomal rearrangements, and undergo spontaneous length alterations (contractions and expansions).

This Special Issue focuses on (i) the role that telomeres and ITSs play in the organization, stability, and evolution of the genome in normal and pathological conditions, as well as (ii) various aspects of the maintenance and dynamics of telomeric sequences (at both telomeres and internal chromosomal sites).

Guest Editor

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