Special Issue

Role of DNA Repeats in Shaping Genome Structure and Gene Regulatory Networks

Message from the Guest Editors

Repetitive sequences, including transposable elements, and simple repeats constitute at least half of the mouse and human genomes. The most abundant subclasses are the short interspersed nuclear elements (SINEs; 1.4 million copies of human Alu elements or 0,6 millions of mouse B1 repeats) and the long interspersed element-1 (LINE1 or L1; 1.0 million copies in the human and mouse genomes). Once considered as junk or "parasite" DNA, it is recognized that repetitive sequences regulate chromatin organization, the 3D structure of the genome, and transcription of specific gene subsets at both transcriptional and post-transcriptional levels. Emerging evidence suggests that their activity influences fundamental cell processes, including inflammation, senescence, genome stability and DNA damage, and is implicated in cancer development and aging. Topics of interest of the Special Issue may include:

- How repetitive sequences shape genome structure and/or gene regulatory networks within their host genome;
- Individual repeat subfamilies in gene regulation;
- Repetitive sequences in the regulation of fundamental cell processes;
- Repetitive sequence in cancer and aging.

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Cells has become a solid international scientific journal that is now indexed on SCIE and in other databases. We have successfully introduced a special issues format so that these issues serve as mini-forums in specific areas of cell science. *Cells* encourages researchers to suggest new special issues, serve as special issues editors, and volunteer to be reviewers. Our main focus will remain on cell anatomy and physiology, the structure and function of organelles, cell adhesion and motility, and the regulation of intracellular signaling, growth, differentiation, and aging. We are open to both original research papers and reviews.

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