Special Issue

The Role of Long Non-Coding RNAs in Stress and Diseases

Message from the Guest Editors

Long non-coding RNA (lncRNA) genes occupy a significant fraction of the genomes of complex organisms. They are essential for fine-tuning the cellular response to immediate and prolonged stress conditions. In response to short-term stress, lncRNAs rapidly adjust cellular activities by influencing gene transcription, protein translation, and signal transduction. They can activate stress-responsive genes, modulate inflammatory pathways, and enhance cell survival mechanisms such as autophagy and apoptosis. They regulate cells' core pathways of oxidative stress response, DNA damage and repair response, maintaining cellular homeostasis. Under prolonged stress, lncRNAs help cells adapt through sustained epigenetic changes in the gene expression of the required stress-protective pathways. By acting as molecular scaffolds, decoys, or signals, lncRNAs fine-tune cellular responses, making them potential markers of disease classification and therapeutic targets for multifactorial diseases driven by genetic and environmental stressors. We welcome the submission of manuscripts discussing the exciting and diverse processes related to lncRNA functions in homeostasis and diseases.

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The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

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