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Role of RNA Transcription and Processing in Genome Stability

Guest Editor:

Dr. Gianluca Tell

Laboratory of Molecular Biology and DNA repair, Department of Medicine, University of Udine, 33100 Udine, Italy

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Message from the Guest Editor

Emerging evidence in cell biology is that RNA processing pathways may participate in DNA Damage Response (DDR), and that defects in these regulatory connections are associated with genomic instability of cancers and neurodegenerative diseases. In fact, many DNA repair proteins are associated with those involved in transcriptional regulation, ncRNA processing and RNA metabolism, in the cytoplasm, nuclei and nucleoli, proving the substantial role of the interactome network in determining their non-canonical functions in human cells. Perhaps, these new insights of DNA repair enzymes, along with their emerging function in RNA-decay, may explain their essential role in tumor development and chemoresistance, as well as in the development of neurodegenerative diseases. The intent of this Special Issue is to summarize the different roles of DNA repair pathways in human cells. The emerging new roles of several DNA repair enzymes in controlling gene expression and RNA metabolism will be highlighted. Although recent works have provided tremendous amount of data in this field, there are still many open questions.

Prof. Dr. Gianluca Tell Guest Editor









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