

Special Issue on
**Cell-Free DNA as an Object of the Fundamental Research
and Its Application for the Diagnostic in the Pathology**

CALL FOR PAPERS

An interest in circulating cell-free DNA (cfDNA) is increasing every year. On the one hand, it is due to the development of the new technologies for circulating cfDNA detection and analysis of the cfDNA pool characteristics for the diagnostic of diseases and the treatment outcomes prediction in patients with various diseases. Noninvasive prenatal screening that uses cfDNA from the plasma of pregnant women offers tremendous potential as a screening method for fetal aneuploidy. In patients with cancer structural, sequence, and epigenetic changes in cfDNA can be observed through the disease process and during the therapy. Furthermore, cfDNA released by the tumors contain the same variants as in the tumor cells. Therefore, cfDNA allows noninvasive assessment of cancer in the real time. A new theory of genomestasis is proposed that attributes a biologic role of cfDNA in the tumor progression by oncogenesis in the host cells. On the other hand, a new data appeared about the role of cfDNA in the regulation of gene expression in cells in vitro and in inflammation initiation. The cfDNA receptors are actively studied.

The purpose of this special issue is to attract the attention of the researchers to cfDNA as a diagnostic marker and as the regulator of many processes in the organism. We also welcome the submissions considering the cfDNA as the object of genomic research. In addition, we welcome the manuscripts that study the cfDNA origin in the body, suggesting the new hypotheses about the cfDNA role in the development of pathological processes and also we encourage the review articles about cfDNA.

Potential topics include but are not limited to the following:

- ▶ Circulating cell-free DNA as a prognostic marker in pathology
- ▶ Mutations in circulating tumour DNA as diagnostic biomarkers
- ▶ Cell-free fetal DNA from maternal plasma as a marker of fetal pathology during pregnancy
- ▶ The origin of circulating DNA: hypotheses and experimental data
- ▶ Changes in the content of different sequences of the genome in cfDNA as compared to cellular DNA
- ▶ Cell-free DNA as a damage associated molecular pattern (DAMP) and its role in inflammation
- ▶ Epigenetically modified circulating cell-free DNA, methylation of cfDNA
- ▶ Cell-free DNA as a gene expression regulator in human cells

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/ijg/cfdo/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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