Special Issue

Novel Expansions and Trends in Gene Diagnostics and Gene Therapy

Message from the Guest Editors

The era for high-throughput, single-cell resolution, reliable and highly customizable gene diagnostics platform development is of the utmost importance to advance the success rate of the diagnosis of inheritable diseases, as well to serve as early tools for cancer diagnostics. Once the molecular alterations standing behind a certain phenotype are identified, the reversion and/or prevention of irreversible organ damage are the main targets in these conditions. Currently, one of the biggest challenge of gene therapy is the delivery system. Efficiency, delivery rate, targeting, and safety are the main concerns, for which extracellular vesicles are particularly of high interest. The main relevant topics for this Special Issue are:

- Long-read sequencing-based gene diagnostics assays
- Flow cytometry-based screening/ diagnostics of inherited diseases
- Extracellular vesicles engineering and molecular characterization for potential gene therapy applications
- Extracellular vesicles as shuttle vehicles for gene delivery
- Targeting of extracellular vesicles for gene delivery enhancement

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Editor-in-Chief

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