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Non-viral Gene Delivery: Hurdles and Promises

Guest Editor:

Dr. Thierry Bordet
Eyevensys

Deadline for manuscript submissions:
closed (30 June 2021)

Message from the Guest Editor

Gene-based medicines are part of the expanding new treatment options with already twenty marketed gene therapy and cell-based gene therapy products and over two thousand gene therapy clinical trials reported worldwide. While viral vectors proved to be efficient in delivering genes, non-viral gene delivery systems are considered with much interest to overcome some of the limitation encountered with viral vectors. Non-viral vectors are usually not immunogenic, have a better safety profile, a larger cargo capacity, and are more easily produced at large scale. However, the ability for nucleic acids to efficiently transduce cells is usually not effective unless complexed with other chemical molecules or physical methods applied to force its cellular entry and nuclear import.

This Special issue aims at providing the reader with most up-to-date knowledge on mechanisms involved in intracellular delivery of nucleic acid, the barriers to be overcome, and on recently developed non-viral gene delivery systems. Preclinical in vitro and in vivo proof-of-concept studies, nonclinical regulatory development studies, clinical trials and review articles as well are all welcome for consideration.

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Message from the Editor-in-Chief

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