

Special Issue

Plasmid DNA for Gene Therapy and DNA Vaccine Applications

Message from the Guest Editor

Dear Colleagues, In recent years there has been an increased interest in plasmid DNA as a vector for gene therapies and DNA vaccines against infectious, acquired, and genetic diseases, including cancer and COVID-19. Additionally, plasmids are used for the production of viral particles intended for viral gene and oncolytic therapy. With the recent event of artificial gene synthesis methods, the assembly of new plasmids has become easier than ever. Plasmids can be designed to encode for various therapeutic targets, vaccine antigens, therapeutic antibodies, shRNA molecules, elements of CRISPR/Cas9 systems, viral vector elements, etc. Additionally, expression cassettes can now be easily tweaked and codon-optimized for higher and more targeted expression, and bacterial backbones minimized for more efficient and safer plasmid production. However, there are still some challenges that need to be overcome to achieve the widespread application of plasmid DNA therapeutics. This Special Issue welcomes research papers dealing with all aspects of gene therapy and DNA vaccine applications of plasmid DNA. Review articles on the related topics are also welcomed.

Guest Editor

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