



Precision Nucleic Acid Therapeutics

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Message from the Guest Editor

Oligonucleotide therapeutic approaches, including antisense oligonucleotides, siRNA, aptamers, microRNA mimics, antimiRs, and DNazymes, continue to demonstrate great potential in developing drugs for the treatment of various inherited and acquired diseases. So far, eight antisense oligonucleotide drugs (Vitravene, Kynamro, Exondys 51, Spinraza, Tegsedi, Waylivra, Milasen, and Vyondys 53), two siRNA drugs (Onpattro and Givlaari), and one aptamer drug (Macugen) have received approvals for clinical use, and notably, eight of them were approved in the last five years alone. The use of chemically modified nucleic acids are paramount towards developing successful oligonucleotide drugs, but so far only a very small number of nucleic acid chemistries have been utilised in clinical developments. Although the oligonucleotide therapeutics field has progressed significantly in the last three decades, delivery efficacy, tissue-specific targeting, and the cost of therapy still remain as major challenges. This Special Issue is initiated to further promote the advancements of the field in all aspects of functional nucleic acid therapeutic developments.





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Message from the Editor-in-Chief

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