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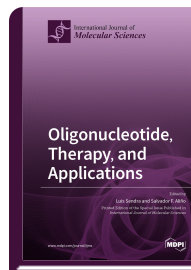
Oligonucleotide, Therapy, and Applications

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Edited by
Salvador Aliño
Luis Sendra

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Oligonucleotides (ON) constitute a new group of molecular agents, the object of significant interest due to their potential value as drugs for diagnostic and therapeutic applications. Their special interest derives from the intrinsic characteristics of ONs: a) ONs are informative agents, a property that derives from the order in which the nucleotides of each particular ON are arranged; b) ONs can act as ligands (ASO, TFO, aptamers, G-quadruplex, etc.) of complementary nucleic acid sequences (DNA or RNA) due to their high capacity to hybridize (by means of Watson and Crick or Hoogsteen links) with other nucleotide sequences, resulting in specific gene modulatory effects. However, nonspecific sequences may also be of interest, as is the case with repetitive nucleotide sequences (CpG) with adjuvant effects of vaccines; c) ONs can also rapidly evolve to achieve specific advantages of utility (targeting, stability, efficacy, toxicity, etc.) or high-sensitivity diagnostic technology (markers, analyzes, biosensors, FISH, microarrays, etc.), by chemical modification of nucleotides in any of their atoms. These properties show that ONs are first-order molecules due to their potential usefulness in practice.

In this collection of research articles and review papers, we aim to highlight their therapeutic, but also diagnostic and technological utility as drugs.



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