Special Issue

Antisense Oligonucleotide Chemistry and Applications

Message from the Guest Editor

Synthetic antisense oligonucleotide (AO)-based therapy has attracted significant interests in the last decade, and offers enormous potential as therapeutics to various diseases. To date, five AO drugs have been approved by the US Food and Drug Administration (FDA) for clinical use including Vitravene for cytomegalovirus retinitis; Kynamro for familial hypercholesterolemia, Exondys51 for the treatment of Duchenne muscular dystrophy, Spinraza for the treatment of spinal muscular atrophy and very recently Tegsedi for Hereditary Transthyretin Amyloidosis. As you all know from these clinical translations that the use of chemically-modified nucleotide monomers in constructing AOs is absolutely essential in developing successful drugs. This special issue covers various aspects of antisense oligonucleotide synthesis chemistries, and their applications in molecular medicine in the form of authentic research and review articles.

Guest Editor

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Message from the Editor-in-Chief

As the premier open access journal dedicated to molecular chemistry, now in its 30th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts, and novel materials. Pushing the boundaries of the discipline, we invite papers on all major fields of molecular chemistry and multidisciplinary topics bridging chemistry with biology, physics, and materials science, as well as timely reviews and topical issues on cutting-edge fields in all of these areas.

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