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Aminoglycosides; 2.5.3 Guanidinoglycosides; 2.6 Conclusions; Acknowledgments; References; 3 RNA Targeting by Bleomycin; 3.1 Activation of Bleomycin for Polynucleotide Degradation; 3.2 Bleomycin-mediated Cleavage of Transfer RNAs and tRNA Precursor Transcripts 4.6 Combinatorial Library Approach in the Discovery of Small Molecule Drugs Targeting RNA4.6.1 Combinatorial Chemistry; 4.6.2 Split Synthesis; 4.6.3 Encoding; 4.6.4 On-bead Screening and Identification of Structure-specific TAR-Binding Ligands; 4.6.5 Ligand Sequence Analysis; 4.6.6 Heterochiral Small Molecules Target TAR RNA Bulge; 4.6.7 Inhibition of Tat trans-Activation in vivo; 4.7 Cyclic Structures as RNA-targeting Drugs; 4.8 Summary and Perspective; Acknowledgments; References; 5 DNA and RNA Recognition and Modification by Gly-Gly-His-Derived Metallopeptides; 5.1 Introduction 5.2.3.5 Guanine nucleobase modification/oxidation

Sommario/riassunto

The development of molecules that selectively bind to nucleic acids has provided many details about DNA and RNA recognition. The range of such substances, such as metal complexes, peptides, oligonucleotides and a wide array of synthetic organic compounds, is as manifold as the functions of nucleic acids. Nucleic acid recognition sequences are often found in the major or minor groove of a double strand, while other typical interactions include intercalation between base pairs or the formation of triple or quadruple helices. One example of a binding mode that has recently been proposed is end st