1. Record Nr. UNINA9910367567503321 Autore Richter Sara N Titolo G-quadruplex and Microorganisms / Sara N. Richter Pubbl/distr/stampa MDPI - Multidisciplinary Digital Publishing Institute, 2019 Basel, Switzerland:,: MDPI,, 2019 **ISBN** 9783039212446 3039212443 Descrizione fisica 1 electronic resource (208 p.) Soggetti Medicine and Nursing Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia G-quadruplexes (G4s) are nucleic acids secondary structures that form Sommario/riassunto in DNA or RNA quanine (G)-rich strands. In recent years, the presence of G4s in microorganisms has attracted increasing interest. In prokaryotes, G4 sequences have been reported in several human pathogens. Bacterial enzymes able to process G4s have been identified. In viruses, G4s have been suggested to be involved in key steps of the viral life cycle: They have been associated with the human immunodeficiency virus (HIV), herpes simplex virus 1 (HSV-1), human papilloma virus, swine pseudorabies virus, and other viruses' genomes. New evidence shows the presence of G4s in parasitic protozoa, such as the causative agent of malaria. G4 binding proteins and mRNA G4s have been implicated in the regulation of microorganisms' genome replication and translation. G4 ligands have been developed and tested both as tools to study the complexity of G4-mediated mechanisms in the viral life cycle and as therapeutic agents. Moreover, new techniques to study G4 folding and their interactions with proteins have been developed. This Special Issue will focus on G4s present in

microorganisms, addressing all the above aspects.