1. Record Nr. UNINA9910635394703321 Autore Byun Wan Gi Titolo Discovery of Small-Molecule Modulators of Protein-RNA Interactions for Treating Cancer and COVID-19 / / by Wan Gi Byun Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2023 Pubbl/distr/stampa **ISBN** 9789811978142 9789811978135 Edizione [1st ed. 2023.] Descrizione fisica 1 online resource (156 pages) Collana Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5061 Disciplina 362.1962414 Soggetti Bioengineering Biotechnology **Biophysics** Protein folding RNA interference Biological and Physical Engineering Chemical Bioengineering Protein Folding **RNA** Interference Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia "Doctoral thesis accepted by Seoul National University, Seoul, Korea Note generali (Republic of)" Nota di contenuto 1. Introduction -- 2. Identification of Small-Molecule Inhibitors of Oncogenic Lin28-Let-7 Interaction -- 3. Discovery of Small-Molecule Modulators of Protein-RNA Interactions by Fluorescence Intensity-Based Binding Assay -- 4. Harnessing Stress Granule Formation by Small Molecules to Inhibit the Cellular Replication of SARS-CoV-2 --Appendix. This book describes the development of novel protein-RNA-binding Sommario/riassunto assays and their applications in a high-throughput manner for the identification of small-molecule modulators of protein-RNA interactions to treat cancer and COVID-19. Modulating protein-RNA

interactions with small molecules is expected to provide novel

biological insights of the interrelation of diseases with the protein-RNA

interactome. The modulations may also be exploited therapeutically. For these reasons, the development of a simple, reliable, and sensitive protein—RNA-binding assay is necessary for high-throughput screening to discover new effective chemical entities capable of acting on diverse protein—RNA interactions. This book discusses the discovery of small-molecule modulators targeting protein—RNA interactions that are potentially valuable to treat cancer and COVID-19 by constructing novel high-throughput screening methods. The results of this dissertation provide valuable insights into the regulation of protein—RNA interactions in chemical biology and drug development.