Record Nr. UNINA9910634040803321 Autore Vologodskii A. V (Aleksandr Vadimovich) Titolo The Basics of Molecular Biology / / by Alexander Vologodskii Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2023 9783031194047 **ISBN** 9783031194030 Edizione [1st ed. 2023.] Descrizione fisica 1 online resource (188 pages) Collana Biomedical and Life Sciences Series Disciplina 572.8 Soggetti Molecular biology Cytology Genetics Virology Cancer Enzymology Molecular Biology Cell Biology **Cancer Biology** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Introduction -- The major processes in the biological world --Nota di contenuto Enzymes, conformational changes, energy, and molecular motors --The cells -- Genome -- Regulation of gene expression and protein activity -- DNA replication, its fidelity, mutations, and repair --Transduction of signals -- Multicellular organisms and their development -- Biological defense I. Protection from foreign nucleic acids -- Biological defense II. The immune system of vertebrates --Pathogens -- Cancer -- Index. Accessible and comprehensive, this book describes the universal Sommario/riassunto cellular nature of living organisms and is an indispensable tool for anyone in the sciences who wishes to get a quick overview of molecular

biology. Individual chapters cover nucleic acids and proteins, genetic

code and protein synthesis, the fidelity of transferring genetic

information to the next generations, and the regulation of various processes inside the cells. Special attention is paid to new areas rising from modern DNA sequencing technologies which transform biology. The book also touches on developing areas, such as cures for cancer and CRISPR, which are important for medicine and the future of humankind.