

1. Record Nr.	UNINA9910576881503321
Autore	Kopecka Joanna
Titolo	Mitochondria-targeted drug delivery
Pubbl/distr/stampa	Basel, : MDPI - Multidisciplinary Digital Publishing Institute, 2022
Descrizione fisica	1 online resource (290 p.)
Soggetti	Biology, life sciences Research & information: general
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	Mitochondria, organelles surrounded by a double membrane and with their own small genome, are the cells' energy centers. Besides the production of ATP through cellular respiration, mitochondria play a pivotal role in other aspects of the life and death of a cell: heat production, programmed cell death, the regulation of metabolic activity, immunity, and calcium homeostasis. A number of diseases are associated with mitochondrial dysfunction, including cardiovascular, neurological, inflammatory, and metabolic disorders as well as cancer. Mitochondria therefore represent an important therapy target, and it is not surprising that a number of different treatment strategies have emerged. Approaches targeting mitochondria can be split into two opposite categories: drugs that restore mitochondrial function and drugs that trigger mitochondria-mediated cell death. Targeted drug delivery to achieve the selective accumulation of drug molecules in mitochondria is complex and involves methods such as direct drug modification or encapsulation into nanocarriers.