

11. Drug Delivery

1 Unit, Magdalini Panagiotakopoulos, October 14, 2025

- Why we need drug delivery
- Basic technologies for different routes of administration (*this will describe macro-technologies*)
- Difficult cargos and how to deliver them (*this module will introduce nanotechnologies for drug delivery*):
 - o Macromolecules
 - o Nucleic acids

Discussion paper:

Mitchell MJ, Billingsley MM, Haley RM, Wechsler ME, Peppas NA, Langer R. Engineering precision nanoparticles for drug delivery. Nat Rev Drug Discov. 2021 Feb;20(2):101-124. doi: 10.1038/s41573-020-0090-8. Epub 2020 Dec 4. PMID: 33277608; PMCID: PMC7717100.

Required Reading:

Chan WCW. Principles of Nanoparticle Delivery to Solid Tumors. BME Front. 2023 Mar 31;4:0016. doi: 10.34133/bmef.0016. PMID: 37849661; PMCID: PMC10085247.