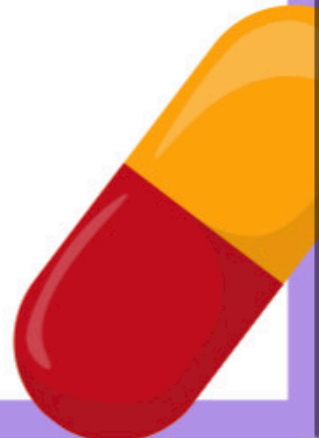




# Quiz

What is the main goal of antineoplastic chemotherapy?

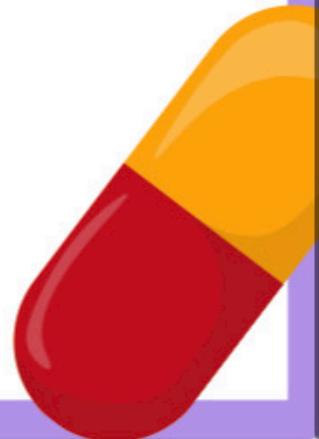
- a. Induce cell proliferation
  - b. Inhibit apoptosis
  - c. Induce cell death or growth arrest in tumor cells
  - d. Promote metastasis
2. In the log-kill phenomenon, a given dose of drug destroys a constant fraction of:
- a. Normal cells
  - b. Host cells
  - c. Cancer cells
  - d. Immune cells
3. Neoplasms with a high percentage of proliferation are most susceptible to which type of therapy?
- a. Cycle-specific
  - b. Non-cycle-specific
  - c. Targeted therapy
  - d. Immunotherapy
4. Combination chemotherapy is often more successful because it:
- a. Targets only specific cell lines
  - b. Causes fewer adverse effects
  - c. Provides additive/synergistic effects and delays resistance
  - d. Requires lower doses of drugs





# Quiz

- Which resistance mechanism involves the P-glycoprotein efflux pump?
- Inherent resistance
  - Acquired resistance
  - Specific resistance
  - Targeted resistance
6. Chemotherapy's selective toxicity is based on:
- Identical metabolic processes in cancer and normal cells
  - Differences in DNA structure between cancer and normal cells
  - Altered metabolic processes in cancer cells
  - Similar immune responses in cancer and normal cells
7. Leucovorin is used to rescue normal cells from the effects of which chemotherapy drug?
- Paclitaxel
  - Methotrexate
  - Cisplatin
  - 5-Fluorouracil
8. What is the mechanism of action of paclitaxel and docetaxel?
- Inhibit DNA synthesis
  - Inhibit microtubule disassembly
  - Promote apoptosis





# Quiz

Cisplatin, carboplatin, and oxaliplatin work as alkylating agents by forming:

- a. Phosphodiester bonds
- b. Peptide bonds
- c. Inter- and intrastrand cross-links in DNA
- d. Hydrogen bonds

10. Camptothecins, such as irinotecan, primarily inhibit which enzyme?

- a. Thymidylate synthase
- b. Topoisomerase I
- c. Topoisomerase II
- d. DNA polymerase

11. Which drug is a selective inhibitor of cyclin-dependent kinases CDK4 and CDK6?

- a. Nivolumab
- b. Bevacizumab
- c. Palbociclib
- d. Methotrexate

12. Immunotherapy involving Nivolumab primarily targets which receptor?

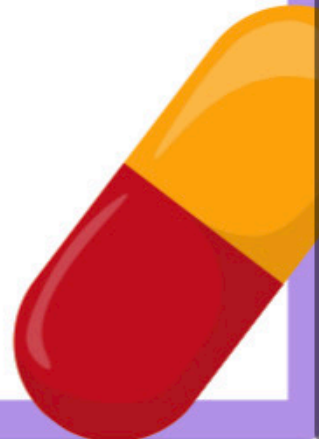
- a. PD-1
- b. VEGFR2
- c. CDK4
- d. PARP





# Quiz

13. The 2018 Nobel Prize in Medicine for Cancer Immunotherapy highlighted advancements in:
- Antimetabolite drugs
  - Microtubule inhibitors
  - Platinum coordination complexes
  - Immunotherapy
14. Bevacizumab functions by inhibiting:
- Cyclin-dependent kinases
  - Angiogenesis
  - Topoisomerase II
  - DNA synthesis
15. Which drug is used for the treatment of HR-positive and HER2-negative breast cancer?
- Pembrolizumab
  - Palbociclib
  - Idelalisib
  - Ramucirumab
16. What is the mechanism of action of topoisomerase I inhibitors like irinotecan?
- Forming inter- and intrastrand cross-links
  - Inhibiting microtubule disassembly
  - Causing single-stranded breaks in DNA
  - Inhibiting thymidylate synthase





# Quiz

17. What term is used to describe the situation where a given drug dose destroys a constant fraction of cancer cells?
- First-order kinetics
  - Log-kill phenomenon
  - Cycle-specific therapy
  - Targeted toxicity
18. How does leucovorin rescue normal cells from the effects of methotrexate?
- By inhibiting DHFR
  - By promoting apoptosis
  - By enhancing drug penetration
  - By providing additional folate
19. What is the primary adverse effect associated with microtubule inhibitors like paclitaxel?
- Nephrotoxicity
  - Peripheral neuropathy
  - Myelosuppression
  - Ototoxicity
20. Which category of drugs primarily functions by causing single-stranded breaks in DNA?
- Platinum coordination complexes
  - Camptothecins
  - Topoisomerase II inhibitors
  - Antimetabolites





# Quiz

Answers key:

1. c. Induce cell death or growth arrest in tumor cells
2. c. Cancer cells
3. a. Cycle-specific
4. c. Provides additive/synergistic effects and delays resistance
5. a. Inherent resistance
6. c. Altered metabolic processes in cancer cells
7. b. Methotrexate
8. b. Inhibit microtubule disassembly
9. c. Inter- and intrastrand cross-links in DNA
10. b. Topoisomerase I
11. c. Palbociclib
12. a. PD-1
13. d. Immunotherapy
14. b. Angiogenesis
15. b. Palbociclib
16. c. Causing single-stranded breaks in DNA
17. b. Log-kill phenomenon
18. a. By inhibiting DHFR
19. b. Peripheral neuropathy
20. b. Camptothecins

