

- a. presence of high-affinity receptors on the target cell.
- b. presence of soluble cytokine receptors.
- c. proximity of the producing and target cells.
- d. rate of transport of cytokine-receptor complexes into the cytoplasm.
- e. simultaneous production of another cytokine whose receptor uses the same signal transducing subunit.

20. IL-1 is produced by macrophages and acts on the hypothalamus to induce fever. This is an example of \_\_\_\_\_ cytokine action.

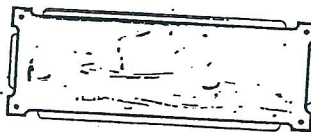
- a. autocrine.
- b. endocrine.
- c. paracrine.
- d. pleiotropic.
- e. synergistic.

21. CD40 on macrophages binding to CD40L on Th1 cells signals the macrophages to \_\_\_\_\_.

- a. die.
- b. kill cytoplasmic viruses.
- c. phagocytose the Th1 cells.
- d. respond to IFN by expressing more membrane MHC.
- e. secrete IL-2.

22. Activated CTL can regulate immune responses by signaling activated lymphocytes to undergo \_\_\_\_\_.

- a. apoptosis.
- b. clonal deletion.
- c. clonal proliferation.
- d. cytotoxicity.
- e. somatic hypermutation.



23. Cellular immunity includes all of the following except \_\_\_\_\_.

- a. activated macrophages killing phagocytosed bacteria.
- b. CD8 T cells inducing apoptosis using Fas-FasL binding.
- c. complement-mediated lysis of bacterial cells.
- d. MHC-restricted cytotoxic T cells killing virus-infected cells.
- e. NK cells performing natural killing of tumor cells.

24. CTL binding and destruction of target cells depends on \_\_\_\_\_.

- a. a co-stimulatory signal from the target cell.
- b. antigen presentation on the surface of the target cell.
- c. lack of a negative signal from MHC to prevent cytotoxicity.
- d. presence of virus proteins in the membrane of the target cell.
- e. secretion of cytokines by the infected cell to attract CTL.

Quizzes

1. ideal G.A has the following features except

- ① rapid emergence
- ✓ ② slow induction
- ③ administered easily.
- ④ minimal toxicity on vital tissues.
- ⑤ operating room safety

2. all the following cases & indications in use morphine except:

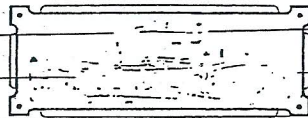
- ① coronary thrombosis.
- ✓ ② toothache
- ③ premedication
- ④ postoperative (pain).
- ⑤ terminal cancer.

3. the most lethal effect of morphine is -

- ✓ ① respiratory depression
- ② shock
- ③ convulsions

4. which one is an antihistaminic drug & use in young & children.  
propofol  
propofol

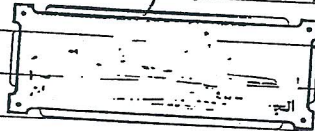
5. use in treatment of performance anxiety (stage fright).  
β-adrenergic blockers.



Ex antagonist of baroreceptors:-  
flumazenil

Ex morphine is contraindicated in  
head injury.

Ex Cause Hepatitis, doesn't cause renal failure &  
Cause hypertension...  
Halothane



Ex good analgesic & weak anesthetic:-  
Nitrous oxide

Ex not effective inhibition of reflexes but MAE  
0.16

Ex opioids develop tolerance to all the  
following except:-  
constipation.

Ex which of the following don't occur due to  
the morphine:-  
diarrhea

Ex diazepam don't use in treatment of  
head pain

Ex all of the following are the properties of  
Nitrous oxide except:-  
potent anesthetic