Why does blocking K⁺ channels on certain kinds of taste receptor cells cause those cells to depolarize?

a) Because it prevents K⁺ from leaking into the cell, causing the inside of the membrane to become more negative
b) Because it prevents K⁺ from leaking into the cell causing the inside of the membrane to become more positive
c) **Because it prevents positive charges from leaving the cell on K⁺ while positive charges continue to enter the cell on Na⁺ causing the inside of the membrane to become more positive**
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Which is an example of negative feedback?

a) Nursing action stimulates the hypothalamus to release oxytocin that triggers mammary gland milk production.

b) **When blood glucose becomes normal, insulin is no longer released from the pancreas.**

c) Uterine stretching sends nerve impulses to the hypothalamus that releases oxytocin that triggers uterine contraction.
d) FSH and LH stimulate the gonads to produce sperm or eggs.
e) TRH stimulates the anterior pituitary to release thyroid-stimulating hormone.
3. Which of the following does NOT happen during a fight or flight sympathetic response?
   a) Blood flow to digestive organs is restricted by alpha receptors on blood vessels binding norepinephrine
   b) Heart rate increased by beta-1 receptors in heart binding epinephrine and norepinephrine
   c) Airways in lung dilated by beta-2 receptors binding epinephrine
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4. Menstruation is triggered by
   a) A decline in estrogen that causes the corpus luteum to disintegrate which causes the endometrial lining to break down
   b) A decline in progesterone that causes the corpus luteum to disintegrate which causes the endometrial lining to break down
   c) **Disintegration of the corpus luteum which causes a decline in estrogen and progesterone levels which causes the endometrial lining to break down**
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5. Which of the graphs in Figure 2 shows the response of a fast adapting afferent receptor?
   a) A
   b) B
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   d) D
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6. Which is associated with a steroid hormone?
   a) the G protein system
   b) the second messenger system
   c) **production of new proteins**
   d) activation of proteins present in an inactive form
   e) binding of a protein to a surface receptor on the plasma membrane

7. Which of the following can only cross the blood brain barrier with the help of a carrier protein?
   a) Alcohol
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8. The steps of synaptic transmission at a neuromuscular junction are listed below, out of order. Choose the correct order.
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   a) 7-5-2-1-3-4-6
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9. In which types of taste buds receptors do the membranes depolarize because K⁺ channels get blocked?
   a) Sweet
   b) Sour
   c) Salt
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10. Which hormone(s) in Fig 1 stimulates remains of follicle to form corpus luteum?
    a) 1b
    b) 2b
    c) 3b
    d) 4b
    e) 3b and 4b

11. How do anabolic steroids ingested by a male athlete disrupt the normal male reproductive system?
    a) The steroids mimic LH and thereby shut down GnRH release
    b) The steroids mimic GnRH and thereby shut down LH release
    c) The steroids mimic inhibin and thereby stop testosterone production
    d) The steroids mimic testosterone and thereby negatively feedback on GnRH and LH production
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12. The autonomic nervous systems is part of the afferent division of the nervous system.
    a) True
    b) False
13. Which of the following can be an action potential?
   a) End plate potential
   b) Receptor potential for a sour taste bud
   c) Potential in an olfactory afferent axon
   d) All of the above can be action potentials
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14. LH stimulates sperm production by the Sertoli cells
   a) True
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15. Estrogen and testosterone are both derived from cholesterol
   a) True
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16. An enlarged thyroid gland, called a goiter, can be caused by overstimulation of the thyroid by thyroid stimulating immunoglobin.
   a) True
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17. In a reflex arc, the efferent neuron must synapse with an afferent neuron.
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18. Certain cells respond to one hormone and not to another, depending on their receptors.
   a) True
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19. Which of the following would result from a thyroidectomy (removal of the thyroid gland)?
   a) decreased TSH secretion
   b) increased T3 secretion
   c) increased T4 secretion
   d) increased TSH secretion
   e) both b and c are true

20. Which, if any, of the following parts of the brain is (are) NOT involved in controlling some aspect of muscle function?
   a) Brain stem
   b) Thalamus
   c) Cerebellum
   d) Basal nuclei
   e) All the above are involved in controlling muscle
21. Which of the following parts of the endocrine system also acts like the postganglionic neurons of the sympathetic nervous system?
   a) thyroid gland
   b) thymus gland
   c) adrenal cortex
   d) **adrenal medulla**
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22. Interneurons can be found in both the central and peripheral nervous systems.
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23. Which of the following is NOT a similarity between the male and female sexual responses?
   a) Controlled by a spinal reflex
   b) Vasodilation of spongy vascular tissue in the genitals early in the response
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25. Nicotinic receptors are found
   a) On effector organs that respond to the parasympathetic
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26. Which hormone(s) in Fig 1 contribute(s) to oogenesis and follicle development in the early follicular phase?
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27. Which of the following is true of endocrine glands?
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