Bio 112 Handout for Physiology 5

This handout contains:
- Today's iClicker Questions

iClicker Question #25A - before lecture

Which of the following are true?

A. Nerve cells communicate to one another electrically.
B. Neurotransmitters are destroyed by the receiving channels after they cause the channels to open or close.
C. Neurotransmitters "self-destruct" after they have interacted with their receptors.
D. All of the above.
E. None of the above.

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iClicker Question #25B - after lecture

Consider the imaginary neurotransmitter, neurotransmitter X (NT-X). Suppose that there is a NT-X-gated Na^+ channel that has the following behavior:

- with no NT-X around the channel is OPEN.
- with NT-X around, the NT-X binds to this channel and CLOSES it.

Suppose further that these NT-X-gated Na^+ channels are located on the dendrite of a neuron - neuron Y. Which of the following statements is true:

A. If another neuron sprays NT-X on these NT-X-gated Na^+ channels on the dendrite of neuron Y, an action potential will be MORE likely in neuron Y (a stimulatory synapse).
B. If another neuron sprays NT-X on these NT-X-gated Na^+ channels on the dendrite of neuron Y, an action potential will be LESS likely in neuron Y (an inhibitory synapse).
C. If another neuron sprays NT-X on these NT-X-gated Na^+ channels on the dendrite of neuron Y, there will be NO EFFECT on neuron Y.
D. I don't know.

Beaming in your answers

1. Figure out your answer and select the appropriate letter (A-E).
2. Turn on your iCliker by pressing the "ON/OFF" button; the blue "POWER" light should come on. If the red "LOW BATTERY" light comes on, you should replace your batteries soon.
3. Transmit your answer as follows:
   a. Press the button corresponding to the answer you've selected (A thru E).
   b. The "STATUS" light will flash green to indicate that your answer has been received. If the "STATUS" light flashed red, your answer was not received; you should re-send it until you get a green "STATUS" light.

For further reading, if you are interested in the history of these discoveries, you might want to read *The War of the Soups and the Sparks : The Discovery of Neurotransmitters and the Dispute Over How Nerves Communicate* by Elliot S. Valenstein.