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**QUESTION**

1. Describe in details the synthesis of two named neurotransmitters

**ANSWERS**

Neurotransmitters all serve a different purpose in the brain and body. Although there are several different minor and major neurotransmitters, we will focus on these major six: acetylcholine, dopamine, norepinephrine, serotonin, gamma-aminobutyric acid (more commonly referred to as GABA), and glutamate.

* **ACETYLCHOLINE**

Acetylcholine (ACh) is found throughout the nervous system. It is the only neurotransmitter that sends and receives information between the motor neurons and voluntary muscles (muscles you have conscious control over, such as the biceps). This means that every move you make depends on the release of ACh from your motor neurons to your muscles to make the move. Some examples include: walking, talking, typing, and even breathing. This neurotransmitter found throughout the body is also distributed often in the brain. In addition to motor, ACh also contributes to attention, arousal, and memory.

* **DOPAMINE**

Dopamine (DA) is one of the three most common neurotransmitters found to regulate many different aspects of behaviour, along with norepinephrine and serotonin. DA is used by neurons to make voluntary movements and movements in response to emotion. It also plays a role in the brain’s reward system to help reinforce certain behaviour that result in pleasure/reward. For example, it is due to a surge of DA that prompts us to take that second slice of pizza!

DA is also found to be a crucial factor for providing focus and memory consolidation.