



Dopamine Activation

Dopamine is a neurotransmitter. It is a chemical that transmits signals between brain cells (neurons). Dopamine isn't made by lots of neurons, but the area of the brain called the substantia nigra is home to some dopamine producing neurons. Another area is the ventral tegmental area.

Functions

Dopamine is involved in:

- How we behave
- How we think
- Our ability to move
- Our feelings of motivation
- Reward
- Punishment
- Working memory
- Attention
- Learning

When something good and unexpected happens, like being presented with a present or an ice cream, then dopamine neurons in a part (dorsal) of the VTA are activated. When something bad happens dopamine neurons in another part (ventral) of the VTA become very active. When you expect a reward and it doesn't occur then dopamine neurons are depressed. Dopamine is well known for its role in learning about rewards. Learning from bad things stopping is similar to learning from a normal good reward. Dopamine is also important in the frontal lobes for controlling the flow of information from other areas of the brain.