

According to OpenStax College. (2013), electron plays **an important** role **to come back** up with energy within **the type** of ATP **within the organic process** by the electron transport chain. within the electron transport chain, NADH and FADH<sub>2</sub> are oxidized and release electrons, the electrons then transported through electron transporters embedded within the inner membrane of mitochondria, and **some** of the energy released which facilitate proton transport from mitochondria to the intermembrane space. This electrochemical gradient is then employed by the ATP synthase **to produce** ATP by adding a phosphate onto the ADP. So electrons play profound importance within the transfer of energy in living systems within **the design** of ATP.

Electrons also play **a big** role **to return** up with energy within the plant, in photosynthesis sunlight **is used** in photosystem II to extract an electron from a water molecule and electrons then transferred from one molecule to **a unique** molecule to photosystem I and released energy. **A variety** of this energy **is utilized** to transfer protons across the membrane. In photosystem 1, electrons get excited again by the sunshine energy which reduces NADP<sup>+</sup> to NADPH. The breakdown of a water molecule and electron transportation through this electron transport chain accumulated proton into the thylakoid lumen. This electrochemical gradient is then utilized by the ATP synthase **to produce** ATP by adding a phosphate onto the ADP. So electrons play profound importance within the generation of energy within **the design** of ATP. The ATP, NADPH, **and thus** the CO<sub>2</sub> finally produce Sugar through photosynthesis.

Plant stores glucose produced by photosynthesis. Humans, animals intake plant's store food. This food then undergoes cellular metabolism **to supply** energy. In glycolysis, one glucose molecule gives 2 molecules of pyruvate and a **pair** of molecules of ATP and a **pair** of molecules of NADH. 2 molecule of pyruvate goes into **tricarboxylic acid cycle** and produce 8 molecules of NADH, 2 molecules of ATP and a **pair** of molecules of FADH<sub>2</sub>. Then NADH, FADH<sub>2</sub> goes into the electron transport chain **and each** NADH molecule produces 3 ATPs, and FADH<sub>2</sub> gives 2 ATPs. So one molecule of Glucose gives 38 ATPs by cellular metabolism.

So, **we'll** say that electron plays the foremost important role within the transfer of energy both in plant and kingdom.

#### References

(47), G., & (46), A. (2017). Role of Electrons in the transfer of energy in the living system. Retrieved September 24, 2020, from <https://steemit.com/biology/@greentree0/role-of-electrons-in-the-transfer-of-energy-in-the-living-system>