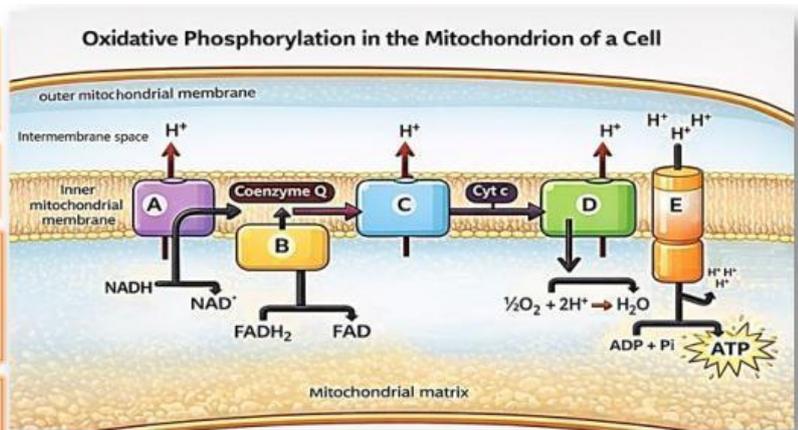


- 1 **NADH** (from glycolysis, pyruvate oxidation & Krebs cycle) transfer their electrons to **NADH dehydrogenase** and **NADH** is **oxidized** to **NAD⁺**
- 2 **FADH₂** (from Krebs cycle) transfer their electrons to **succinate dehydrogenase** and **FADH₂** is **oxidized** to **FAD**
- 3 These electrons are transferred to **coenzyme Q** and then to a series of ETC which consist of **cytochrome c reductase**, **cytochrome c** and **cytochrome c oxidase** through a **redox reaction**
- 4 Electrons are then transferred to **O₂** which act as **final electron acceptor** in aerobic respiration
- 5 **Oxygen atom** combine with **2 electrons** and **2H⁺** forming a **water molecule**
- 6 Movement of electrons along the electron transport chain releases **energy**
- 7 The energy is used to **pump H⁺** from matrix of mitochondria into intermembrane space via **proton pumps** which are **NADH dehydrogenase**, **cytochrome c reductase** and **cytochrome c oxidase**



- 8 causes accumulation of H⁺ in the intermembrane space that leads to production of **proton gradient** and generates **proton-motive force**
- 9 H⁺ from intermembrane space diffuse back into **matrix of mitochondria** down its concentration gradient through **ATP synthase**
- 10 **ATP synthase** catalyze the **phosphorylation** of **ADP** to **ATP** by oxidative phosphorylation
- 11 One molecule of **NADH** produces **three ATP** and one molecule of **FADH₂** produces **two ATP**