

# The Full 9 Stepped Cycle of Proton Conductance and the Two Basic Electron, Proton Dependent Metabolic Reaction System of Obtaining of ATP

Ambaga M.<sup>1\*</sup>

<sup>1</sup> New Medicine medical institute, Ulanbator, Mongolia

\* Ambaga M., E-mail: dr.ambaga@yahoo.com

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## **Abstract**

*During last 4 billion years had been formed and developed two basic metabolic electron, proton dependent reaction system of obtaining of ATP to maintain a living processes.*

*The first reaction system of obtaining of ATP was the slow developed bioenergy accumulating system of early evolution times (2 billion years ago) as “Donator molecules as water molecules + ADP + Pi + H<sup>+</sup> + nH + memb.space = ATP + nH + O<sub>2</sub> formation and the shortage of membrane redox potentials three - state line system, lack of O<sub>2</sub> acceptor utilization regulations”.*

*The second reaction system of obtaining of ATP was a more powerful energy accumulating systems as “Donator molecules (glucose, aminoacids, fatty acids) + membrane redox potentials three - state line system + acceptor as O<sub>2</sub> + ADP + Pi + H<sup>+</sup> + nH + memb.space = (ATP + heat energy) + H<sub>2</sub>O + nH + matrix + CO<sub>2</sub>” (Ambaga & Tumen-Ulzii, 2015).*

*Without the second electron, proton dependent reaction system of obtaining of ATP as a more powerful energy accumulating systems as “Donators (glucose, aminoacids, fatty acids) + membrane redox potentials three - state line system + acceptor as O<sub>2</sub> + ADP + Pi + H<sup>+</sup> + nH + memb.space = (ATP + heat energy) + H<sub>2</sub>O + nH + matrix + CO<sub>2</sub>”, it was impossible to wait the appearance of Animal Kingdom according to taxonomy of Linnaeus.*

## **Keywords**

*full 9 stepped cycle of proton conductance, metabolic reaction system*

## **1. Introduction**

Living cells require a constant supply of energy to generate and maintain the biological order that keeps them alive.

Cells obtain energy from organic molecules, this energy is derived from the chemical bond energy in

organic molecules to produce ATP.

One is form of first reaction system of obtaining of ATP, NADPH is light reactions in oxygenic photosynthesis.

Properties of chlorophyll—based photosynthetic systems as follows: in eukaryotes the role of photosynthetic electron donors have been served a water molecules, oxygen production pattern is oxygenic, primary products of energy conversion are ATP, NADPH, in cyanobacteria—the role of photosynthetic electron donors have been served a water molecules, oxygen production pattern is oxygenic, primary products of energy conversion are ATP, NADPH.

But in case of Green bacteria, Purple bacteria, Heliobacteria, acidobacteria—photosynthetic electron donors are  $H_2$ ,  $H_2S$ , S, organic matter, oxygen production pattern is unoxigenic, primary products of energy conversion is ATP.

Photosynthetic eukaryotes and cyanobacteria carry out oxygenic photosynthesis, so named because oxygen is generated and released in to environment when light energy is converted to chemical energy.

It would be more interesting establish the relationship between the conducting of whole organism regulations in the level of Animal Kingdom, including Mammalia, Aves, Amphibia, Pisces, Insecta, Vermes according to higher taxonomy of Linnaeus and the evolution based biological requirements for the normal functioning of “Donators + membrane redox potentials three - state line system +  $O_2$  + ADP + Pi +  $H^+$  + nH + memb.space = (ATP + heat energy) +  $H_2O$  + nH + matrix +  $CO_2$ ” system.

## 2. Result

During last 4 billion years had been formed and developed two basic metabolic electron, proton dependent reaction system of obtaining of ATP to maintain a living processes.

The first electron, proton dependent reaction system of obtaining of ATP was the slow developed bioenergy accumulating system of early evolution times (2 billion years ago) as “Donator molecules as water molecules + ADP + Pi +  $H^+$  + nH + memb.space = ATP + nH +  $O_2$  formation and the shortage of membrane redox potentials three - state line system, lack of  $O_2$  acceptor utilization regulations”.

The second electron, proton dependent reaction system of obtaining of ATP was a more powerful energy accumulating systems as “Donator molecules (glucose, aminoacids, fatty acids) + membrane redox potentials three - state line system + acceptor as  $O_2$  + ADP + Pi +  $H^+$  + nH + memb.space = (ATP + heat energy) +  $H_2O$  + nH + matrix +  $CO_2$ ” (Ambaga & Tumen-Ulzii, 2015).

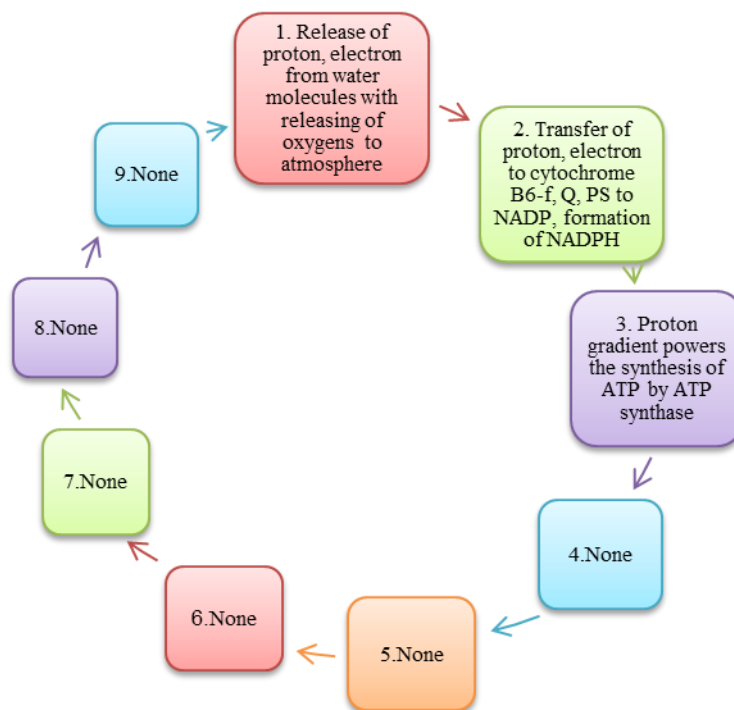
The appearance of more powerful energy accumulating systems as “Donator molecules + membrane redox potentials three - state line system +  $O_2$  + ADP + Pi +  $H^+$  + nH + memb.space = (ATP + heat energy) +  $H_2O$  + nH + matrix +  $CO_2$ ” as more improved form of first slow developed bioenergy accumulating regulations of early evolution times (2 billion years ago) in the form as “Donator molecules as water molecules + ADP + Pi +  $H^+$  + nH + memb.space= ATP + nH +  $O_2$  formation and the shortage of membrane redox potentials three - state line system, lack of  $O_2$  acceptor utilization regulations” had been played more important role to formation of Animal Kingdom, including

Mammalia, Aves, Amphibia, Pisces according to higher taxonomy of Linnaeus.

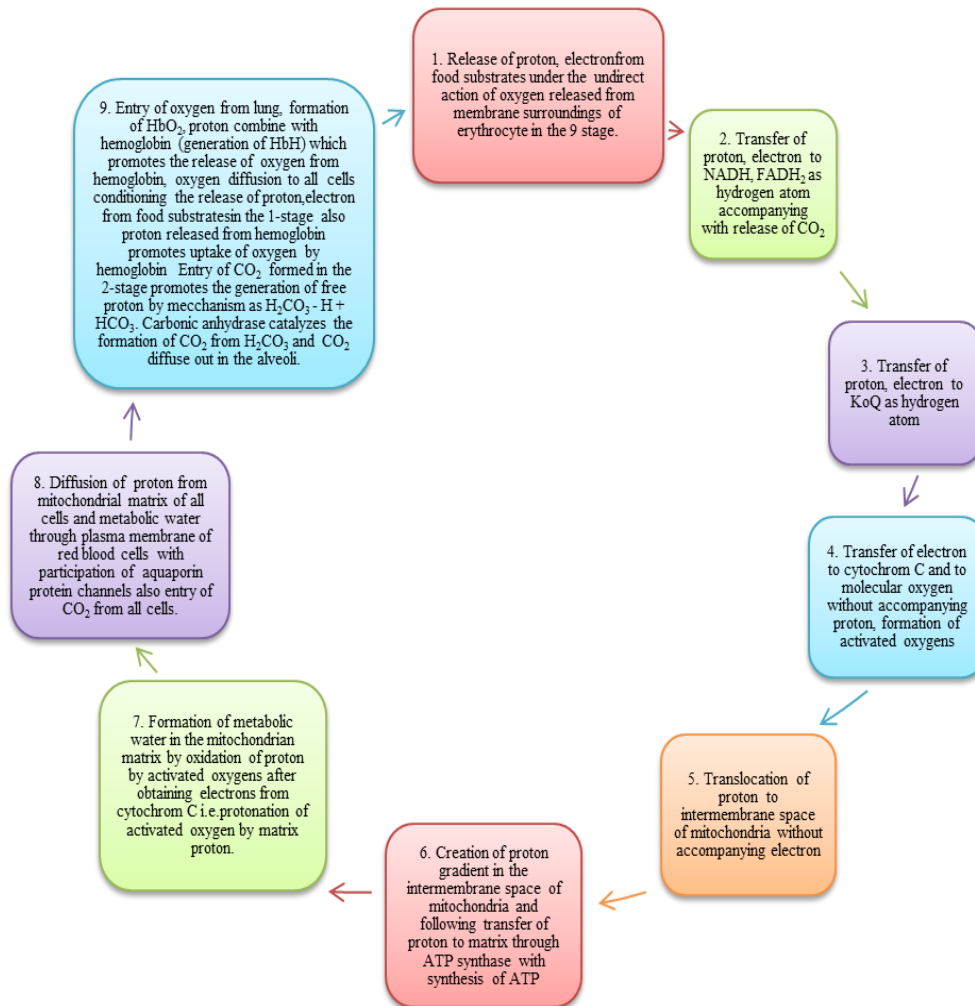
Without the second electron, proton dependent reaction system of obtaining of ATP as a more powerful energy accumulating systems as “Donators (glucose, aminoacids, fatty acids) + membrane redox potentials three - state line system + acceptor as  $O_2 + ADP + Pi + H^+ + nH + memb.space = (ATP + heat energy) + H_2O + nH + matrix + CO_2$ ” (Ambaga & Tumen-Ulzii, 2015) it was impossible to wait the appearance of Animal Kingdom, including Mammalia, Aves, Amphibia, Pisces according to higher taxonomy of Linnaeus.

It should be said that owing to this second electron, proton dependent bioenergy system had been appeared and developed Animal Kingdom, including Mammalia, Aves, Amphibia, Pisces according to higher taxonomy of Linnaeus during last 1 billion year.

By us postulated that evolution based biological mechanism of developing of Animal Kingdom had been connected with these processes as shift from the slow developed electron, proton dependent bioenergy accumulating regulations of early evolution times in the form as  $ADP + Pi + H^+ + nH + memb.space$ , and the shortage of membrane redox potentials three - state line system, lack of  $O_2$  acceptor to more powerful electron, proton dependent energy accumulating systems as “Donators + membrane redox potentials three - state line system +  $O_2 + ADP + Pi + H^+ + nH + memb.space = (ATP + heat energy) + H_2O + nH + matrix + CO_2$ ” and formation of 4 compartments of body (Ambaga & Tumen-Ulzii, 2015).



**Figure 1. Electron, Proton Dependent First Reaction System of Obtaining of ATP**



**Figure 2. Electron, Proton Dependent Second Reaction System of Obtaining of ATP**

### 3. Discussion

The formation of food taking system as gastrointestinal organs in the Animal Kingdom, including Mammalia, Aves, Amphibia, Pisces, according to higher taxonomy of Linnaeus had been conditioned by biological requirements for constant delivery of donators-food molecules to medium of “Donators + membrane redox potentials three - state line system + O<sub>2</sub> + ADP + Pi + H<sup>+</sup> + nH + memb.space = (ATP + heat energy) + H<sub>2</sub>O + nH + matrix + CO<sub>2</sub>”.

Also constant delivery of O<sub>2</sub> molecules to reaction medium of “Donators + membrane redox potentials three - state line system + O<sub>2</sub> + ADP + Pi + H<sup>+</sup> + nH + memb.space = (ATP + heat energy) + H<sub>2</sub>O + nH + matrix + CO<sub>2</sub>” system had been the results of evolution based developing of oxygen taking system as respiratory organs formed in the Animal Kingdom, including Mammalia, Aves, Amphibia, Pisces, according to higher taxonomy of Linnaeus.

Beside constant delivery of donators-food molecules and O<sub>2</sub> molecules to reaction medium of “Donators + membrane redox potentials three - state line system + O<sub>2</sub> + ADP + Pi + H<sup>+</sup> + nH +

memb.space = (ATP + heat energy) + H<sub>2</sub>O + nH + matrix + CO<sub>2</sub>” systems existed in 14 trillion cells had been conditioned the foundation of Donators and O<sub>2</sub> molecules transporting system as cardiovascular organs in the Animal Kingdom, including Mammalia, Aves, Amphibia, Pisces according to higher taxonomy of Linnaeus.

Formation of free protons and nitrogen toxic products in membrane redox potentials three - state line system, included to “Donators + membrane redox potentials three - state line system + O<sub>2</sub> + ADP + Pi + H<sup>+</sup> + nH + memb.space = (ATP + heat energy) + H<sub>2</sub>O + nH + matrix + CO<sub>2</sub>” systems existed in 14 trillion cells had been led to the formation of acid-base regulation system and toxic nitrogen compounds eliminating renal system—organs in the Animal Kingdom, including Mammalia, Aves, Amphibia, Pisces according to higher taxonomy of Linnaeus.

The formation of endocrine system, organs in the Animal Kingdom, including Mammalia, Aves, Amphibia, Pisces, according to higher taxonomy of Linnaeus had been conditioned by biological requirements for the regulation of normal intensity of proton and electron conductance within “Donators + membrane redox potentials three - state line system + O<sub>2</sub> + ADP + Pi + H<sup>+</sup> + nH + memb.space = (ATP + heat energy) + H<sub>2</sub>O + nH + matrix + CO<sub>2</sub>” systems existed in 14 trillion cells.

The biological need to find of Donator molecules as foods from outside environment, their transporting to “Donators + membrane redox potentials three - state line system + O<sub>2</sub> + ADP + Pi + H<sup>+</sup> + nH + memb.space = (ATP + heat energy) + H<sub>2</sub>O + nH + matrix + CO<sub>2</sub>” systems existed in 14 trillion cells had been conditioned the formation of sense organs and musculoskeletal system in the Animal Kingdom, including Mammalia, Aves, Amphibia, Pisces, Insecta, Vermes according to higher taxonomy of Linnaeus.

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