



RESEARCH ARTICLE

THE FULL 9 STEPPED CYCLE OF PROTON CONDUCTANCE AND ANTISPIRAL - LIKE  
EVOLUTIONARY BACK STEPS FROM SECOND LATE EVOLUTION TIME EQUATION TO FIRST  
EARLY EVOLUTION TIME EQUATION DURING SOME PATHOLOGY

\*Ambaga, M. and Tumen-Ulzii, A.

New Medicine Medical University, Ulanbator, Mongolia

ARTICLE INFO

Article History:

Received 15<sup>th</sup> April, 2017  
Received in revised form  
11<sup>th</sup> May, 2017  
Accepted 24<sup>th</sup> June, 2017  
Published online 31<sup>st</sup> July, 2017

Key words:

Spiral – like evolution steps,  
Clockwise normal flow of protons,  
Temporarily stop of clockwise normal  
flow.

ABSTRACT

The reaction medium of “Donators + membrane - redox potentials three - state line system + O<sub>2</sub> + ADP + Pi + H<sup>+</sup> + nH + membrane space = (ATP + heat energy) + H<sub>2</sub>O + nH + matrix + CO<sub>2</sub>” are the places, where have been occurred the following four more important processes as :

- Maintaining of clockwise normal flow of electrons and protons with duration of 4-5 second of every cycle
- Temporarily stop of clockwise normal flow of electrons and protons
- Complete stop of clockwise normal flow of electrons and protons
- Antispiral-like evolutionary back steps from second evolution late time equation of flow of electrons and protons to early evolution first time equation with provocation of pathological process as cancer.

According to philosophical principle, all biological process in our planet during last 4 billion years had been developed by the spiral – like evolution steps by transition from simple regulation to more complex regulation as from glycolysis related ATP synthesis, based in the flow of electrons and protons without participation of membrane - redox potentials three - state line system and oxygen to Krebs cycle, proton gradient related ATP synthesis, based in the flow of electrons and protons with oxygen participation using membrane - redox potentials three - state line system. But the notion relating to antispiral-like evolutionary back steps from second late evolution time equation to early evolution time first equation of flow of electrons and protons with provocation of cancer process have been connected with the transition of regulations from more complex regulation to simple regulation based equation as from Krebs cycle dependent, proton gradient based ATP synthesis functioned owing to the flow of electrons and protons with oxygen participation, using membrane - redox potentials three - state line system to early form of glycolysis related ATP synthesis, based in the flow of electrons and protons without participation of membrane - redox potentials three - state line system and oxygen. Temporarily stop of clockwise normal flow of electrons and protons with duration of 4 - 5 second of every cycle means that under influence of many pathological factors have been caused the partial blockage of electron and proton conductance within the full 9 stepped cycle of proton conductance inside human body proposed by M.Ambaga, which have included such well known metabolic pathways as glycolysis, Krebs cycle, beta oxidation of fatty acids, aminoacid oxidation.

Copyright©2017, Ambaga and Tumen-Ulzii. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Ambaga, M. and Tumen-Ulzii, A. 2017. “The full 9 stepped cycle of proton conductance and antispiral - like evolutionary back steps from second late evolution time equation to first early evolution time equation during some pathology”, *International Journal of Current Research*, 9, (07), 54969-54972.

INTRODUCTION

Untill now the recent findings of literature could not give the appropriate answer to such principally important questions as what bioevolution link have been existed between the disturbance of normal flow of electrons and protons and cell death processes leading to pathological cirrhotic and cancer irreversible processes.

\*Corresponding author: Ambaga, M.  
New Medicine Medical University, Ulanbator, Mongolia.

We are proposing that the reaction medium of “Donators + membrane - redox potentials three - state line system + O<sub>2</sub> + ADP + Pi + H<sup>+</sup> + nH + membrane space = (ATP + heat energy) + H<sub>2</sub>O + nH + matrix + CO<sub>2</sub>” is the places, where have been existed the places of conducting of following four more important processes as maintaining of clockwise normal flow of electrons and protons with duration of 4-5 second of every cycle, also the process of temporarily stop of flow of electrons and protons and the process of complete stop of clockwise normal flow of electrons and protons, and the process of antispiral - like evolutionary back steps from second late evolution time equation of flow of electrons and protons to

early evolution time first equation with provocation of cancer process. It would be interesting if can establish the relationship between the temporarily and complete stop of clockwise normal flow of electrons and protons with duration of 4-5 second of every cycle and cell death related cirrhotic processes leading to antispiral-like evolutionary back steps from second late evolution equation of flow of electrons and protons to early evolution first equation. It can be say that the process of complete stop of clockwise normal flow of electrons and protons and the provocation of the antispiral-like evolutionary back steps from second late evolution equation to early evolution first equation with provocation of cancer process have been occurred within “Donators + membrane - redox potentials three - state line system +  $O_2 + ADP + Pi + H^+ + nH +$  membrane space = (ATP + heat energy) +  $H_2O + nH +$  matrix +  $CO_2$ ” metabolic reaction, where may be occurred the two processes as cell death and cirrhosis related cancer processes.

## RESULTS AND CONCLUSION

The reaction mediums of “Donators + membrane - redox potentials three - state line system +  $O_2 + ADP + Pi + H^+ + nH +$  membrane space = (ATP + heat energy) +  $H_2O + nH +$  matrix +  $CO_2$ ” are the places, where have been occurred the following four more important processes as:

- Maintaining of clockwise normal flow of electrons and protons with duration of 4-5 second of every cycle
- Temporarily stop of clockwise normal flow of electrons and protons
- Complete stop of clockwise normal flow of electrons and protons
- Antispiral - like evolutionary back steps from second evolution late time equation of flow of electrons and protons to early evolution first time equation with provocation of pathological process as cancer.

According to philosophical principle, all biological processes in our planet during last 4 billion years had been developed by the spiral – like evolution steps by transition from simple regulation to more complex regulation as from glycolysis related ATP synthesis, based in the flow of electrons and protons without participation of membrane - redox potentials three - state line system and oxygen to Krebs cycle, proton gradient related ATP synthesis, based in the flow of electrons and protons with oxygen participation using membrane - redox potentials three - state line system. But the notion relating to antispiral-like evolutionary back steps from second late evolution time equation to early evolution time first equation of flow of electrons and protons with provocation of cancer process have been connected with the transition of regulations from more complex regulation (Figure 2) to simple regulation based equation as from Krebs cycle dependent, proton gradient based ATP synthesis functioned owing to the flow of electrons and protons with oxygen participation, using membrane - redox potentials three - state line system to early form of glycolysis related ATP synthesis based (Figure 1) in the flow of electrons and protons without participation of membrane - redox potentials three - state line system and oxygens . The essence of our new idea in relating to provocation of cancer cell growth by antispiral – like evolutionary back steps of electrons and protons flow in connection with transition of second late evolution time equation of flow to early evolution

time first equation with provocation of cancer process have been associated with a prevailing of glycolysis process and the provoking of change of proton, electron conductance in the membrane - redox potentials three - state line system dependent - full 9 stepped cycle with disturbance of mitochondria dependent oxygen utilization is follows:

Change of normal relationship between glycolysis and process of the proton, electron conductance in the 2-th stage of the full 9 stepped cycle of proton conductance inside human body in the level of isocitrate dehydrogenase, alpha ketoglutarate dehydrogenase and succinate dehydrogenase within Krebs cycle .

Disturbance of normal relationship between glycolysis and process of the formation of oxaloacetate from malate under action of malate dehydrogenase in the 2-th stage of the full 9 stepped cycle of proton conductance inside human body in the level of isocitrate dehydrogenase, alpha ketoglutarate dehydrogenase and succinate dehydrogenase.

In such way we proposed that the biochemical characteristics of cancer cells more similar to Archea (prokaryotic) as if cancer cells acquired the some feature of Archea, remembering that normal cells made the evolutionary back steps to direction of the early evolution cells (as if Eukarya cells turn to Archaea- prokaryotic cells) with whom could be meet 4,4 billion years ago. The Warburg effect is the observation that most cancer cells predominantly produce energy by a high rate of glycolysis. Otto Warburg postulated this change in metabolism as glycolysis, is the fundamental cause of cancer.

Temporarily stop of clockwise normal flow of electrons and protons with duration of 4-5 second of every cycle means that the influence of many pathological factors have been caused the partial blockage of electron and proton conductance within the full 9 stepped cycle of proton conductance inside human body proposed by M.Ambaga, which have included such well known metabolic pathways as glycolysis, Krebs cycle, beta oxidation of fatty acids, aminoacid oxidation.

Maintaining of clockwise normal flow of electrons and protons with duration of 4-5 second of every cycle means that under normal conditions have been created the normal level of releasing of proton, electron from food substrates (carbohydrate, aminoacids, fatty acids), also the normal precondition of transferring of proton, electron to NADH as hydrogen atom and formation of  $CO_2$  in Krebs cycle, the normal condition of transferring of proton, electron to KoQ as hydrogen atom, the normal condition of transferring of electron to cytochrom C without accompanying proton, the normal tendency of translocating of proton to intermembrane space of mitochondria without accompanying electron, the normal level of creating of proton gradient in the intermembrane space of mitochondria and following transfer of proton to matrix through ATP synthase and the normal tendency of forming of metabolic water in the mitochondria matrix by oxidation of proton by molecular oxygens i.e, by protonation of molecular oxygen by matrix proton, the normal precondition of diffusing of proton, diffusion of metabolic water through plasma membrane of red blood cells with participation of aquaporin protein channels and entry of oxygen from lung to erythrocyte, entry of carbon dioxide from cells to erythrocyte, the normal parameters of forming of free protons from metabolic water again by reaction as  $H_2CO_3 = H + HCO_3$  ( $H_2CO_3$  formed from metabolic water), proton

combine with hemoglobin (generation of HbH) which promotes the release of oxygen from hemoglobin, oxygen diffusion to cells and proton released from hemoglobin promotes uptake of oxygen by hemoglobin and carbonic anhydrase catalyzes the formation of CO<sub>2</sub> from H<sub>2</sub>CO<sub>3</sub> and CO<sub>2</sub> diffuse out in the alveoli are existed between donators and acceptors in general equation of cell metabolism as C<sub>6</sub>H<sub>12</sub>O<sub>6</sub> + 6O<sub>2</sub> = energy + 6H<sub>2</sub>O + 6CO<sub>2</sub> under constant influence of membrane - redox potentials three - state line system.

Complete stop of clockwise normal flow of electrons and protons with duration of 4-5 second of every cycle have been connected with this process as the influence of many pathological factors have been caused the irreversible stop electron and proton conductance at first :in the stage of release of proton, electron from food substrates (carbohydrate, aminoacids, fatty acids), at second :in the stage of transferring of proton, electron to NADH as hydrogen atom and formation of CO<sub>2</sub> in Krebs cycle, at third : in the stage of transferring of

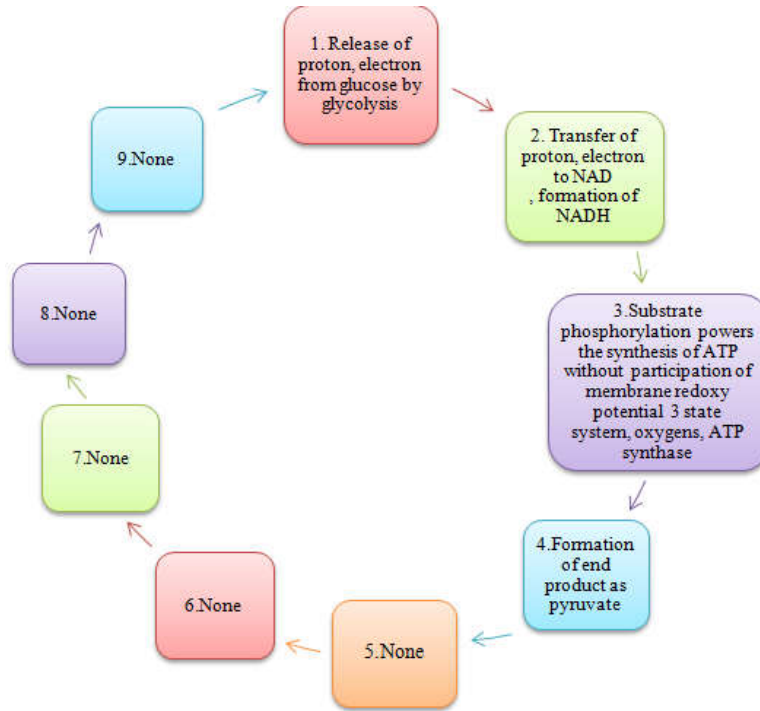


Figure 1. First early evolution time equation of flow of electrons and protons



Figure 2. Second late evolution time equation of flow of electrons and protons

proton, electron to KoQ as hydrogen atom, at fourth : in the stage of transferring of electron to cytochrom C without accompanying proton, at fifth : in the stage translocating of proton to intermembrane space of mitochondria without accompanying electron, at sixth : in the stage of creating of proton gradient in the intermembrane space of mitochondria and following transfer of proton to matrix through ATP synthase, at seventh : in the stage of forming of metabolic water in the mitochondria matrix by oxidation of proton by molecular oxygens i.e, by protonation of molecular oxygen by matrix proton, at eighth : in the stage of diffusing of proton, diffusion of metabolic water through plasma membrane of red blood cells with participation of aquaporin protein channels and entry of oxygen from lung to erythrocyte ,entry of carbon dioxide from cells to erythrocyte, also at ninth : in the stage of forming of free protons from metabolic water again by reaction as  $H_2CO_3 = H + HCO_3$  ( $H_2CO_3$  formed from metabolic water), proton combine with hemoglobin (generation of HbH) which promotes the release of oxygen from hemoglobin, oxygen diffusion to cells and proton released from hemoglobin promotes uptake of oxygen by hemoglobin and carbonic anhydrase catalyzes the formation of  $CO_2$  from  $H_2CO_3$  and  $CO_2$  diffuse out in the alveoli are existed between donors and acceptors in general equation of cell metabolism as  $C_6H_{12}O_6 + 6O_2 = \text{energy} + 6H_2O + 6CO_2$  under constant influence of membrane-redox potentials three-state line system.

Complete stop of clockwise normal flow of electrons and protons with duration of 4-5 second of every cycle within the full 9 stepped cycle of proton conductance inside human body proposed by M.Ambaga, A.Tumen-Ulzii have been preceded by damage of membrane structures, which belong to membrane - redox potentials three - state line system of "Donators + membrane - redox potentials three - state line system +  $O_2 + ADP + Pi + H^+ + nH + \text{matrix} + CO_2$ " metabolic reaction followed by leakage of enzyme-substrate complexes to outside cell resulting to decrease of aminoacid, fatty acid, glucose molecules oxidation and synthesis. In such way, complete stop of clockwise normal flow of electrons and protons with duration of 4-5 second of every cycle have been resulted to the cell death followed by pathological cirrhotic and cancer irreversible processes.

## REFERENCES

- Ambaga M. 2016. The possibility to drive the membrane - redox potential, a three state line system dependent - full 9 stepped cycle of proton conductance inside human body to favorable direction during pathological situations., *International Journal of Current Research*, Vol, Issue, 11, pp 42456-42459, November.
- Ambaga M. 2016. A new suggestion about existing of membrane - redox potential three state line system between donors and acceptors inside the living cells, *Asian Journal of Science and technology*, Vol.07, Issue, 07, pp.3157-3161.
- Ambaga M. 2016. The buffering capacity of erythrocyte membrane surroundings in relation to free protons, formed in the Full Cycle of Proton and Electron Conductance

- inside the Human Body. *International Journal of Development Research*, Vol 06, Issue, 07, pp. 8458-8461.
- Ambaga M. 2016. The full 9 stepped cycle of proton, electron conductance inside human body and triple lung, mkhris, badgan theory of Tibetan Traditional medicine, *International Journal of Current Research*, Vol 8, Issue 08, p.36391-36393.
- Ambaga M. 2016. The Full Cycle of Proton and Electron Conductance inside the Human Body, Consisting of 9 Linked Stages. *Acad. J. Sci. Res.* 4(6): 127-131.
- Ambaga M. 2017. The full 9 stepped cycle of proton conductance and the two basic electron, proton dependent metabolic reaction system of obtaining of ATP, *Applied Science and innovative Research*, vol.1, No 1, 2017, pp 63-68.
- Ambaga M. 2017. The bioevolution link between the two basic electron, proton dependent metabolic reaction systems of obtaining of ATP, *International Journal of Current Research*, 2017, vol 9, issue 06, pp.52182-52185.
- Ambaga, M, Tumen-Ulzii, A. 2015. The life become dependent from the presence of electrons and protons, which were formed during events called big bang 15 billion years ago, electrons and protons sets the stage for formation of life in the universe
- Ambaga, M. 2017. The membrane - redox potentials three - state line system dependent - full 9 stepped cycle of proton conductance and the evolution based biological mechanism of oxygen utilization – ATP making bioenergy systems, *World Journal of Scientific Research and Review*, 2017.vol.5, № 3, march, pp.8-13.
- Ambaga, M. 2017. The membrane - redox potentials three - state line system dependent - full 9 stepped cycle of proton conductance and the evolution based biological mechanism of organ formation, *World Journal of Scientific Research and Review*, 2017.vol.5, № 3, march, pp.1-7.
- Ambaga, M. 2017. The membrane - redox potentials three - state line system dependent - full 9 stepped cycle of proton conductance as the universal metabolic formula and the development of all medical thinking during last 3000 years, *Asian Journal of Science and technology*,vol.08, Issue, 03, pp.4485-4488, March, 2017
- Ambaga, M. 2017. The genome size and the two basic electron, proton dependent metabolic reaction systems of obtaining of ATP, *International Journal of Current Research*, 2017, vol 9, issue 06, pp.
- Ambaga, M., Tumen-Ulzii, A. 2016. Integrated NCM medicine with s-NCM new knowledge, Lambert Academic Publishing
- Filipa L. Sousa, Thorsten Thiergart, Giddy Landan, Shijulal Nelson-Sathi, Inês A. C. Pereira, John F. Allen, Nick Lane, William F. Martin 2013. Early bioenergetic evolution, Published 10 June 2013.DOI: 10.1098/rstb.2013.0088
- Nick Lane, and William F. Martin 2012. The origin of membrane bioenergetics J.cell, <http://dx.doi.org/10.1016/j.cell.2012.11.050>.
- Victor Sojo, Andrew Pomiankowski, Nick Lane (2014), A Bioenergetic Basis for Membrane Divergence in Archaea and Bacteria, Published: August 12, 2014,