

Darwin Theory - Evolution of Eukaryotes

Pavan Kumar B^{1*}, Sri Lakshmi³ and Babu V²

¹Department of Livestock Products Technology, CVSc, SVVU, Rajendranagar, Hyderabad-30, India

²Department of Biotechnology, Anna University, Chennai, Tamilnadu, India

³Independent Researcher, Chennai, Tamilnadu, India

*Corresponding author: Pavan Kumar B, Department of Livestock Products Technology, CVSc, SVVU, Rajendranagar, Hyderabad-30, India, Tel: 08676-253781; E-mail: pavan1ravy@rediffmail.com

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Opinion

Scientist estimated that first life emerged at least 3.8 billion years ago on earth. Which is approximately 750 million years after the formation of Earth. The first cell formed is supposed to have self-replicating RNA surrounding a membrane of phospholipids and then from then present day prokaryotes such as Archebacteria and eubacteria. The eukaryotes estimated to be evolved 2.7 billion years ago, behind some 1 to 1.5 billion years of prokaryotic expansion.

However, archaeobacterial genes are similar to eukaryotes than to that of eubacteria, strengthening the hypothesis that the Archaeobacteria and eukaryotes portion a common origin of evolutionary parentage and are more nearby linked to each than eubacteria.

Mainly two types of hypothesis are formulated for the evolution of Eukaryotes, Autogenous and chimeric. Chimeric model is mainly based on endosymbiosis of prokaryotes and autogenous model

hypothesis about the invaginations of cell membrane. Autogenous model proposes that in order to increase surface area for diffusion of nutrients cell membrane invaginates to form membraned structures with some DNA in the cytoplasm.

Many has misconception that 'survival of fittest' is what the Darwin theory is. The main is essence of this theory is about the adaptability to the surrounding environmental conditions for the survival. So, considering the Darwin's legacy of evolution, Autogenous hypothesis has more credits over the chimeric model. As in chimeric model one of the organism completely surrenders to the other and the life depends on the host eukaryotic cell which doesn't make much sense in benefit of survival. Moreover, some protists doesn't contain mitochondria or chloroplast further strengthening the autogenous hypothesis.

Only some of the eukaryotes are having all the cell organelles such as vacuoles, centrioles, mitochondria and chloroplasts, which makes no sense that the eukaryotes are the products of endosymbiosis.