

New Discovery Takes Scientists Closer to Finding the Origin of Life on Earth

By [Sam Goodwin](#) | Apr 06, 2013



(Photo: Flickr) New Discovery Takes Scientists Closer to Discovering the Origin of Life on Earth

A new discovery made by a structural biologist at the Florida State University College of Medicine takes scientists closer to determining the origin of life on Earth billions of years ago.

Professor Michael Blaber and his team have made a discovery that takes scientists closer to determining the origin of life on Earth billions of years ago. According to them, 10 amino acids existed on Earth 4 billion years ago. The acids were capable of forming foldable proteins in a high-salt environment. These proteins had the capacity to provide metabolic activity for the first living organisms to materialize on Earth between 3.5 and 3.9 billion years ago.

The study took three years to complete with the help of investigative tools that took more than 17 years to develop. According to the findings of the study, the first living organisms of earth may have been microscopic, cell-like organizations capable of replicating and adapting to environmental condition.

"The current paradigm on the emergence of life is that RNA came first and in a high-temperature environment," Blaber said. "The data we are generating are much more in favor of a protein-first view in a halophile environment."

Previous scientists believed in the "RNA first" origin of life on Earth, which stated that RNA, found in all living cells, would have likely represented the first molecules of life. However, these new findings from Blaber's study suggest a "protein first" origin of life on Earth.

"There are numerous niches that life can evolve into," Blaber said. "For example, extremophiles are organisms that exist in high temperatures, high acidity, extreme cold, extreme pressure and extreme salt and so on. For life to exist in such environments it is essential that proteins are able to adapt in those conditions. In other words, they have to be able to fold."

The study was published in the journal *Proceedings of the National Academy of Sciences*.