Two experiments in Biological Transmutation

Request for Proposals

It is foundational to our understanding of life that life works via chemistry. Energy per electron is a fraction of a volt. Nuclear reactions require millions of volts, hence they are beyond the reach of living organisms. This is why nuclear physics is studied with large, expensive machines capable of accelerating particles close to the speed of light.

It is more than surprising that some laboratories in Eastern Europe and Russia have reported that living systems are able to transmute chemical elements into different elements. The claim is made more credible by laboratories from around the world that claim to perform low-energy nuclear reactions (LENR), a generalized category including cold fusion.

A **library** of research articles and books about LENR is available at LENR-CANR.org. A volume summarizing research in biological transmutation is

Book: *Nuclear Transmutation of Stable and Radioactive Isotopes in Biological Systems*, by Vladimir I Vysotskii and Alla A Kornilova, Pentagon Press (2010) ISBN 978-81-8274-430-1

Article: Biological Transmutation by V. I Vysotskii in J Condensed Matter Nuclear Phys

Institute for Frontier Experimental Science seeks to either replicate or to refute two of the most prominent results. Proposals for other experiments in biological transmutation will also be considered.

I. Change in elemental composition on germination of seeds.

Choose a plant species. Kervran (1982, ISBN 2-224-00831-7) used soy.
Start with seeds selected to be as close as possible to the same mass. Choose 5 to germinate and 5 to analyze ungerminated. (Match their weights, as close as possible.) Sprout in distilled water.

Incinerate in an autoclave. Collect the ash in 5 vials. Send to Avomeen Analytics in Ann Arbor, MI. They will dissolve the ash in HCl and perform mass spectroscopy to send quantitative analysis results. Na, Mg, K, Ca, S, P, Mn, Fe. Particular attention to Ca which is reported to increase at the expense of K. There are cheaper alternatives to mass spec using chemical analysis or emission spectroscopy that might be explored. Mossbauer spectroscopy has been used in the past.

For the remaining 5 seeds, germinate and sprout them in distilled water. Then repeat the incineration and send to Avomeen for quantitative analysis.

Results: Statistical tests to see if the germinated sprouts have significantly different compositions from the ungerminated seeds for any of the 8 elements.

Lab services (Avomeen): ~ $12,000 - 15,000 USD

II. Effect of bacterial culture on rate of radioactive decay.

Choose a bacterial culture of *Micrococcus lacrolyticus* or *Rhodocoruta* glutinis, or obtain live cultures from Vysotskii.

Add a trace of Cs137. Grow in a test tube. Monitor continuously with a radiation detector.

Prepare an identical test tube and kill the bacteria with heat. Use this for control. Also monitor radiation continuously.

Plot the decline in radioactivity for the two test tubes over 3 months.