

In-Vitro Tests show increased utilization of oxygen. Read Excerpts from FutureCeuticals® Report.

SUMMARY

FutureCeuticals®, a bio-technology company that specializes in the discovery, development and manufacturing of scientifically innovative nutraceuticals, conducted initial tests in 2008 to measure the effect of “Health2o” (Archaea Active™ formula) on oxygen utilization by cells cultivated in vitro.

Following are excerpts from their research report. Please note that FutureCeuticals® does not endorse, back or recommend any Archaea Active™ products.

INTRODUCTION

Our opinion at this time based upon observations is that activity of concentrated Health2o described above is likely due to chemical entities present in the water rather than the water itself. In other words, the chemical compositions generated by the processes of production of Health2o determine stimulatory effect of this product on oxygen utilization by treated cells in vitro.

RESEARCH OBJECTIVE:

To measure effect of Health2o on oxygen utilization by cell cultivated in vitro.

MATERIAL:

Health2o is a novel, proprietary technology used to generate unique quality water.

METHOD:

MitoXpress kit allows measurement of changes in amount of oxygen available in liquid environment. This kit is based on oxygen-sensitive fluorescent probe. This probe is water soluble and its fluorescence is quenched proportionally to increasing concentration of oxygen. This probe

was used to measure cellular respiration/oxygen consumption by cells exposed to Health2o and control conditions.

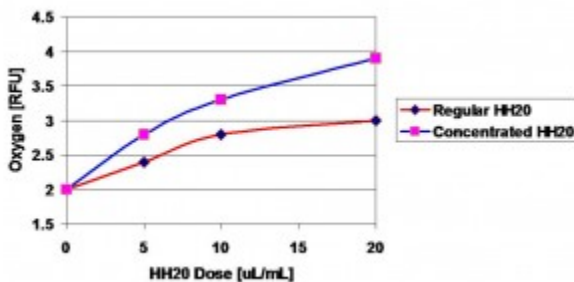
EXPERIMENTAL SET UP:

Selected cells were cultivated in 96-well plate for 24 hrs. Next, cells were washed and exposed to fresh medium (control) or medium supplemented with Health2o at dilution 1:10. Health2o was used during this work as well as Health2o concentrated by 70%. The latter was prepared by limited liophilization resulting in reducing volume of Health2o by 70%.

RESULTS:

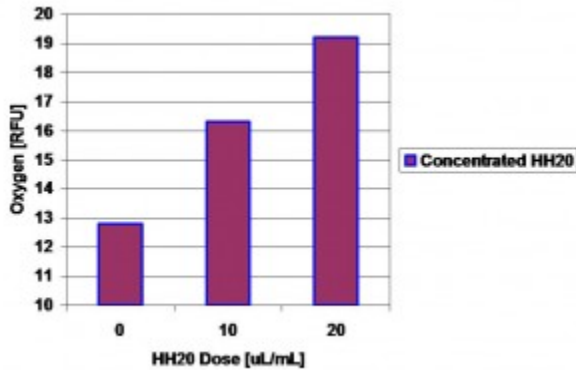
Presented data are based on selected experiments. A large number of experiments were required to be performed in order to achieve optimized experimental conditions. In addition, several types of cells were tested due to the fact that fibroblasts were found to respire slowly and at low levels. Other cells, for example Hepa, or fresh peripheral blood cells were found more suitable for sensitivity of these tests to measure oxygen utilization. As presented on Fig 1, Hepa cells treated for 3 hrs with regular or concentrated water utilize more oxygen than untreated cells. As presented, concentrated Health2o significantly increased oxygen utilization over untreated control (value 2RFU) compare to 5 RFU achieved when cells were treated with 10uL/100uL of concentrated Health2o. Based on these and other results, next experiments were performed with concentrated Health2o in comparison to untreated control.

FIG 1. EFFECT OF HH20 ON HEPA 1C LIVER CELLS IN VITRO



In order to generate data more relevant to human physiology, next experiments were performed on freshly isolated peripheral blood cells collected from healthy donors. These cells were isolated using BD vacutainers, and exposed to concentrated Health2o in vitro for 3 hrs. As presented on Fig 2, treatment of freshly isolated blood cells from healthy donors with Health2o resulted in increased utilization of oxygen by the treated cells.

Fig 2. Effect of Health2o on oxygen utilization by freshly isolated human blood cells



Conclusion:

Data collected thus far from all experiments performed on cells treated with Health2o show that this product indeed stimulated utilization of oxygen by the treated cells. The most dramatic observation is that Health2o represents a rather unique chemical composition above and beyond basic water, or even water with an altered structure.

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