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*The Truth About Deuterium Oxide As an Anti Aging Mechanism*

Today, it is possible to purchase anti-aging serums with heavy water. However, my experiments challenge the safety of using this form of water. Some articles suggest that the decrease in the rate of diffusion might be the cause. My purpose was to dissect whether this is the fundamental mechanism behind the anti-aging mysteries of deuterium and also explore the true level of dangers that this substance might contain.

In my experiments, I used the rat basophilic leukemia (RBL-2H3) cell line as model system for human cells. My experiments investigated the effects of heavy water, also known as deuterium oxide (D<sub>2</sub>O), on the growth of these RBL-2H3 cells over a 5 day period. When 30% of light water (H<sub>2</sub>O) was replaced with D<sub>2</sub>O in the cell culture media, I observed a decrease in the cell growth rate by a factor of 7 and increase in the death rate by a factor of 4.

These initial experiments suggest that D<sub>2</sub>O can be harmful to the human body. I also examined the effect that the diffusion coefficient has on the cells. However, since the decrease in diffusion only effects the cells by a factor of 0.8, it is clear that this alone cannot explain the cell's sudden halt in growth. I have analyzed possible interpretations of these results and the importance for future studies of deuterium oxide's effect on a cell's ability to grow.