

Synergistic Interactions of Ketones and Temperature in HeLa and A431 Cells

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Cellular growth rates are exponentially affected by temperature and ketone bodies. These two metabolic manipulations alter the rate of proliferation positively or negatively, depending on the type of cell, or temperature of incubation. The application of these two types of cellular metabolic manipulators in concert, are proposed to produce a synergistic effect boosting the overall potency of the effect. This was assessed by multiple assays of HeLa and A431 cells and on ketone supplemented media, at varying temperature incubation increments. These tests were statistically evaluated for significant interactions and synergies. Trials at 32 °C showed decreased growth in HeLa cells, and Cells at 39 °C were also decreased in growth. Due to a computer malfunction, the actual values were lost, and as such were unable to ascertain exact significance compared to existing literature. The decreased growth was consistent with existing models of cellular metabolism lowering, but the significance was not ascertained, nor if it was more or less than the literature values. Trials are ongoing to restore the data and will result in updated results pending. Such synergistic applications could have therapy potential in higher mammal models of therapeutic hypothermia as a potential alternative food source compared with glucose-based food supplements.