The Effects of UVB Radiation on Planaria's Cell Regeneration through Cultural and DNA Analysis

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UVB radiation has been known to cause skin cancer by destroying cellular structures and creating mutations in DNA. UVB radiation (from sun) causes repeated cell DNA damage and destroys life processes in the cell. A method was designed to test planaria's cell regeneration after planaria were exposed to UVB radiation for 30 minutes. Six planaria, three cut and three noncut, were exposed to UVB radiation. Another six planaria, three cut and three noncut, were set aside as a control group. All 12 planaria were observed for one week. After that week, the extraction of the DNA occurred from one of each set of three samples. After exposing the cut and non-cut worms to the UVB rays and letting them sit in the test tubes for a week, we observed that all of the UVB non-cut worms except for one lived after a week. None of the UVB cut worms survived. All of the worms that were cut and exposed to UVB disintegrated inside the test tubes. The control worms, which were not exposed to any UBV radiation, were unharmed and lived the whole week. After the DNA test was ran on the control worms and the exposed worms, we found that they showed no real differences. The results from the DNA analysis remain inconclusive, yet there was a significant difference in the planaria's regeneration. Future phases can include splitting the DNA differently, splitting the planaria (Dugesia Tigrina) differently, and lengthening regeneration period before UVB exposure.

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