Cancer Testing: Disco Diagnosis

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This project exemplifies the integration of regular Cancer testing panels via a comparison of detection in various tactics. My primary question is how the medical industry can identify pancreatic cancer earlier? I hypothesize if cells are tested for cancerous mutations before symptoms, detection and survival rates will increase. My project focuses on symptomatic expression as pancreatic cancer is usually diagnosed after specialty testing due to symptoms occurring post-metastasis, about two years. The project has five testing phases: proof of concept, symptomatic expression, Bare Chamber Pleatus, Next Gen Sequencing, and Flow Cytometry. The first two phases were effective. To create positive patients, I exposed strawberries to cancer causes: UV radiation (20 minutes of UVC), excessive drinking (20 minutes in a 50% ethanol dilution), smoking (2 grams), and untreated controls. In proof of concept, I extracted and examined DNA from 20 samples, finding denaturization present by hydraulic bonding. The symptomatic phase defined a baseline decay period for the wildtype and modified, emulating the lack of symptoms in pancreatic cancer. They differed little between mass, height, length, and visually, reinforcing the inefficacy of symptomatic diagnosis. The next phases are ongoing, starting with different exposure quantities to quantify significant denaturization. Then, I will extract the DNA and run electrophoresis; the treated strawberries should have shorter band lengths due to more ‘cancerous’ mutations. Finally, I’m emulating flow cytometry by analyzing strawberry slurries’ spectroscopic absorbance. This project has successfully denatured the genetic structures of strawberries, demonstrating how basic processes can aid early diagnosis and survival of pancreatic cancer.

Awards Won: