Investigating the Biomarkers of Bladder Cancer

Calo, Rejina Marie

The purpose of investigating the biomarker of bladder cancer is to see if there's mutation in the biomarkers' regions since the same biomarker region of angiogenin from ALS was found to be mutated too. From this, hypothesized that I will find mutation in the promoter and exonic regions of the biomarkers because there really is a relationship between the mortality risk of ALS and specific cancer diagnoses. To conduct the experiment, I performed Polymerase Chain Reaction, which amplifies copies of DNA, and Gel electrophoresis, which separate mixtures of DNA fragments. These procedures are necessary so that we can see and observe if there are mutation in the biomarkers. The PCR materials were sent to Macrogen to read the sequencing, and returned the sequences to my mentor. From there, the gels were visualized using the fuorechem machine. The sequences returened by Macrogen were blasted in GenBank, where the sizes of the the biomarker regions were inputted. The DNA sequences were then showed. For example, if ANG exon 1 was blasted in GenBank, it will show whether it was mutated or not using the DNA sequences that it produced. The biomarker regions that are mutated are angiogenin exon 1 and exon 3, and plasminogen activator inhibitor-1 exon 2 and exon 9.

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