JORDAN SMITH, JAMES WALTERS, Dept. of Applied Science and Mathematics, Bluefield State College, Bluefield, WV 24701. Sequencing of a *npc1L1* mutation in larval zebrafish

NPC1L1 transport protein is located in the lumen of the intestines and is critical for cholesterol absorption. The reason why we study NPC1L1 is because cholesterol absorption in the intestines affect obesity and diabetes which is still under investigation. Our goal is to investigate the mechanism by which the protein NPC1L1 absorbs cholesterol we are creating an npc1l1 -/- (knockout) line of zebrafish. We hypothesize that the *npc1l1 -/-* larval zebrafish will show reduced intestinal cholesterol absorption when feed a high fat diet compared to wild type zebrafish larvae. We are screening two zebrafish lines that carry mutations within the *NPC1L1* sequence. These zebrafish lines were obtained from the Zebrafish International Resource Center. Parent fish carrying the mutation are identified by fin clipping, DNA extraction, and DNA sequencing of the potential mutant locus within NPC1L1.After identifying the mutation we will amplify the DNA fragments. The DNA fragments will then be sent off to Marshall Genomics Core for sequencing. The mutation sequence will be compared to a wild type sequence. Then the zebrafish that has been confirmed a carrier will be outcrossed with a wild type to eliminate background mutations and then intercrossed to make a homozygous carrier.
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