Strategies for Treatment or Prevention of Diabetes using Exercise
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The purpose of this experimental research is to identify a few objectives or aims that could potentially develop strategies for treatment or prevention of diabetes, with exercise being one of the centerpieces to treatment. The aims will be treating muscle tissues with chemicals that mimic the effects of exercise, measuring glucose uptake in muscle cells, and examining the role of P70 protein, AKT, SGK1, and AS160. Studying these proteins will help to understand if they have a connection to diabetes. Conducting this experiment will assist in distinguishing whether the activation of mTOR (activator of the following proteins) is caused by exercise or if the cause is from downstream glucose transport which cause insulin sensitivity to increase. After this is completed, I will study the activation of p70 protein to see if stopping the activation could potentially prevent the causes of diabetes. This experimental study will be conducted to test the hypothesis that a drug mimicking exercise could be used to potentially lessen the effects diabetes; Overall goal is to identify how well NOX is working with the help of ALCAR (exercise) to make Glucose.