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Title:	STUDYING THE EFFECTS OF HIGH SUGAR DIET ON THE MIDGUT OF DROSOPHILAMELANOGASTER
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Abstract:	A healthy diet is very important for a person's well being. Many chronic diseases like diabetes and obesity are considered as diet-related diseases because of their association with altered food habit of individuals. Considering this fact, we are trying to study the effects of high sugar diet on the midgut using Drosophila melanogaster as the model organism. We chose Drosophila as our model organism because it has been extensively used as a genetic model to study various metabolic disorders and diseases for the past few years, primarily because of significant conservation of genes and signaling pathways between Drosophila and mammals. In this study, the experimental flies were reared on a diet supplemented with 1M sugar in contrast to the control flies that were reared on food supplemented with 0.1 M sugar. Our results demonstrate that high sugar diet does impact the size of individual gut cells, and also affects their proliferation. Furthermore, our analyses of the effects of high sugar diet on the carbohydrate metabolic pathways revealed that while the genes associated with pentose phosphate pathway are upregulated, the expression of key glycolytic genes are either unchanged or downregulated.
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