

Abstract Submitted  
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**$^{13}\text{C}$  NMR Spectroscopic Studies of High-Fructose Corn Syrup Metabolism in Cancer**<sup>1</sup> FATEMEH KHASHAMI, CHELSEA SANCHEZ, BRIANNA ROYER, CHRISTOPHER PARISH, DAVID CLARK, QING WANG, KATHLEEN DOMALOGDOG, LLOYD LUMATA, University of Texas at Dallas — Increased dietary consumption of sugar has been implicated in a number of clinical pathologies, including obesity and other metabolic diseases. High fructose corn syrup, a sugar mixture of about 40% glucose and 60% fructose, is a ubiquitous sweetening additive used in a wide array of various soft drinks as well as food. In this study, we have closely observed how a particularly aggressive strain of glioblastoma cells, namely *SfXI*, metabolizes both fructose and glucose. The main finding of this preliminary work is that, despite equal caloric content of these two sugars, fructose and glucose metabolized quite differently in this particular cell line of *SfXI* Glioblastoma cells.  $^{13}\text{C}$  NMR spectroscopy was used in this study due to high specificity courtesy of the wide chemical shift dispersion of carbon-13. Glioblastoma multiforme (GBM), or cancer of the glial cells, is a highly aggressive and mostly chemoresistant form of brain cancer with a very dismal chance of survival. The primary objective of this study was to investigate the metabolism of fructose and glucose in glioblastoma, given the ubiquity of these two sugars in the western diet and compare our results with liver cancer cell lines *HUH7*.

1

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