

Abstract Submitted  
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**Probing the metabolic anomalies in the urea cycle in renal and hepatic cancer cells**<sup>1</sup> ASIYE ASAADZADE, LLOYD LUMATA, University of Texas at Dallas — The urea cycle (UC) is a biochemical pathway that is crucial to the body's nitrogen regulation, and is thus essential to overall mammalian health. This specialized metabolic cycle, which primarily occurs in the liver and to a lesser extent the kidneys, is responsible for sequestering the toxic cellular waste product ammonia and convert it to less toxic urea to be excreted out of the body. In renal and hepatic cancers however, this biochemical pathway is dysregulated. In this study, nuclear magnetic resonance (NMR) spectroscopy was used to investigate the metabolic anomalies in the urea cycle by using <sup>13</sup>C-labeled UC metabolites. Preliminary results will be presented here in light of the health implications of the UC biochemical anomalies. This study is supported by the Welch Foundation grant AT-1877, DOD grants W81XWH-21-1-0176 and W81XWH-19-1-0741, CPRIT grant RP180716, and the UTD CoBRA and SPIRE grants.

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