

Abstract Submitted  
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**Probing aspartate metabolism in lymphoblastic lymphoma T-cells using nuclear magnetic resonance**<sup>1</sup> CAROLINE CROCKER, FATEMEH KHASHAMI, LLOYD LUMATA, University of Texas at Dallas — Leukemia is the most common childhood cancer, and while survival rates are steadily improving, there is currently no cure. In order to better understand leukemia, it is crucial to investigate the nutrients that feed through its rapid cellular proliferation. In order to elucidate this, <sup>13</sup>C-aspartic acid, which feeds through the crucial tricarboxylic acid (TCA) cycle, was added to the media in separate flasks containing cultured SUP-T1 lymphoblastic T-cells and then harvested at intervals of 1 hour and 48 hours. The cells were processed by perchloric acid extraction method, lyophilized, and then resuspended in deuterium oxide for carbon-13 NMR analyses. Both cell and media extracts were analyzed to investigate the intracellular and extracellular metabolite production from aspartate, respectively. Our preliminary results indicate the detection of the TCA cycle metabolites malate and isocitrate. These preliminary NMR data and other relevant results will be presented in this talk. 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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Caroline Crocker  
University of Texas at Dallas

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