

*This presentation will be streamed live at 11:30 am on Wednesday, April 22nd, 2020, at:
<https://zoom.us/j/93349730283> (Meeting ID: 933 4973 0283)*

Title

Characterization of cellular targets and derivatization of a lipogenic Pt anticancer therapeutic

Abstract

Platinum-based compounds have been a centerpiece of anticancer chemotherapies since the 1970s. Despite their widespread use, a seemingly endless challenge with these drugs is their toxicity, stemming from non-specific binding of Pt to cellular targets in healthy cells. Within the last few decades only a small number of new platinum-based drugs have demonstrated improved efficacy in any clinical trials, and none have received regulatory approval in the USA. Most of these efforts have focused on either developing improved methods of drug delivery, or on developing non-classical Pt complexes with alternative binding modes. We have begun to explore tethering Pt compounds to small-molecule phospholipid metabolite precursors. Cancer cells are characterized by numerous metabolic re-programming events, and many of these phenotypes, such as increased reliance on the external uptake of metabolic precursors, have increasingly been utilized as avenues for enhanced, targeted drug uptake. We are investigating the cellular reactivity of Pt compounds conjugated to lipogenic derivatives, with the aim of “hijacking” lipogenic pathways for enhanced cancer targeting of Pt. Currently, we are investigating the synthesis of various derivatives, and are investigating target binding to DNA and proteins in vitro.