CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
DP150087

Project Title:
Pre-IND Development of OxaliTex

Award Mechanism:
Bridging the Gap: Early Translational Research Awards

Principal Investigator:
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Entity:
The University of Texas at Austin

Lay Summary:

Platinum chemotherapy is the go-to therapy for many cancers including NSCLC and ovarian cancer. Unfortunately, cisplatin and the two other FDA-approved platinum drugs oxaliplatin and carboplatin are highly non-selective, meaning they attack healthy tissue in addition to the tumor. This dose-limiting problem is compounded when the patient has developed platinum resistant cancer. Platinum resistance is considered responsible in large measure for the low (5-20%) 5-year survival rates seen in these cancers. The PI's research group at The Univ. of Texas at Austin (UTA) has specialized in developing cancer-specific anticancer agents (called texaphyrins) for the last 20 years. An recent collaboration with Dr. Zahid Siddik, a platinum biology/pharmacology expert at the MD Anderson Cancer Center (Subcontractor), has led to a texaphyrin-platinum hybrid, termed oxaliTEX, which overcomes the two dominant modes of platinum resistance seen in ovarian cancer. Animal studies (mice) carried out at the UTA animal testing facility confirmed that mice are capable of tolerating over 8x the amount of oxaliTEX on a per mole Pt basis than in the case of oxaliplatin. Tumor growth was also slowed to a greater extent with the conjugate than with conventional platinum drugs.

We now propose to 1) prepare large quantities of oxaliTEX, 2) carry out drug distribution and pharmacokinetic studies to determine oxaliTEX localization and clearance, and 3) and develop a complete efficacy and toxicity profile in higher animals. To achieve these goals, Dr. Rick Finch at The University of Texas MD Anderson Cancer Center - Michale E. Keeling Center for Comparative Medicine and Research has been enlisted as a subcontractor. Dr. Finch and his team have experience with IND-enabling animal studies and, like the PI, is familiar with the regulatory requirements required for an IND filing to the FDA. By project end we expect to be in a position to start a Phase I clinical trial for oxaliTEX in ovarian cancer.