CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
DP150086

Project Title:
Therapeutic Targeting of Skp2/Ck1 to Restore Nuclear p27

Award Mechanism:
Bridging the Gap: Early Translational Research Awards

Principal Investigator:
Walker, Cheryl

Entity:
Texas A&M University System Health Science Center

Lay Summary:

Endometrial carcinoma (EndoCa) is the most common gynecologic malignancy. Over 47,000 women in the United States are diagnosed with EndoCa each year in the US, and over 8,000 women will die from this disease. Unlike other gynecological cancers, EndoCa rates are increasing, with incidence of EndoCa rising by 12% and mortality rising by 23% in the last decade. Low survival rates associated with Stage II-IV disease (69-15%) reflects the fact that current therapies are relatively ineffective, especially for high grade and/or recurrent disease, and points to the unmet medical need for new and effective therapies. Along with breast, kidney and prostate cancer, EndoCa frequently loses (or mislocalizes) a critical growth inhibitor: p27. We have designed an innovative approach to identify drugs that can restore p27 activity specifically in the nucleus of cells, where it acts as a tumor suppressor to inhibit cell growth. We have formed a collaborative team of chemists, computational and cell biologists, and experts in drug screening to accomplish this goal. Achieving our Target Product Profile will position lead compounds for therapeutics for EndoCa, and possibly other cancers where nuclear p27 function is lost.

The global endometrial cancer market is estimated to be valued at $137 million in 2010, and is expected to grow to $179 million with a Compound Annual Growth Rate (CAGR) of 3.91% by 2017. This growth is primarily attributed to the increasing prevalence of the disease due to the aging population, diabetes and obesity. CPRIT funding for the rational design of compounds that restore p27 specifically to the nucleus will lead to the approval of new drugs with greater efficacy than existing hormonal or cytotoxic therapies to address the unmet medical need of patients with EndoCa.