

James & Esther King Biomedical Research Program

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*Department of Risk Assessment, Detection &
Intervention*

2007 Program

H. Lee Moffitt Cancer Center & Research Institute

New Investigator (3-year project)

Project Title: Gender-based Prognosis in Lung Cancer

Project Summary: The lung cancer death rate in women has doubled over the past 25 years. This cancer is projected to kill approximately 73,020 U.S. women—more than breast and ovarian cancer combined. Although several lines of evidence suggest that women may be more susceptible to tobacco-induced lung cancer than men, definitive results related to disparity in lung cancer survival are lacking. The indication in Dr. Zhukov's previous study of the association between actively functioning estrogen receptor pathways and impaired DNA repair mechanisms that may underlie a more malignant behavior of female lung tumors and lead to a worse prognosis in female patients required further research for confirmation in a much larger sample of patients. There are two major objectives in this grant. The first is to demonstrate gender-based lung cancer survival by analysis of the data that are available through the Florida Cancer Data System. The second is to validate if biomarkers characterizing estrogen receptors' status and DNA damage/repair signaling pathways are indicative of differential prognosis and if they may be used as a markers of the effectiveness of therapy. Potentially this study may lead to novel estrogen receptor-specific drug development and intervention in the treatment of early stages of lung cancer to improve female patients' survival.