Public Abstract

First Name:Jenniffer

Middle Name:Lee Michael

Last Name:Stetler

Adviser's First Name:Brenda

Adviser's Last Name:Peculis

Co-Adviser's First Name:

Co-Adviser's Last Name:

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Title:COMPARISON OF STANDARD TREATMENTS OF BREAST CANCER WITH NEW EXPERIMENTAL TREATMENTS TARGETING CAVEOLIN-1

Breast cancer is a complex disease at both an anatomical and molecular levels. The complexity of the disease is a source of difficulty in identifying and treating the cancer, since varying subtypes of cancer respond differently to current treatments. The first chapter will present an overview of breast cancer and explain in more detail the subtypes of breast cancer, current treatments, and development of resistance. The more aggressive breast cancer subtypes are tamoxifen (TAM)-resistant and triple negative (TN) breast cancer. The current therapies and treatments are proving ineffective at treating these cancer subtypes. So the question becomes what is effective against TN and TAM-resistant breast cancer? Chapter two presents a discussion of caveolin proteins as a possible therapeutic target. Caveolin proteins are unique therapeutic targets that are located in the cell membrane and endoplasmic reticulum (ER). Also, the caveolin proteins act as platforms for several signaling pathways to control cellular signaling. Chapter three explores the use of compounds and antibody-drug complexes (ADC) to target caveolin proteins as potential treatments for TN and TAM-resistant breast cancer. This thesis describes potential therapies for TAM-resistant and TN breast cancer that use the caveolin proteins and caveolae lipid rafts in tumor cells.