University of New Hampshire

University of New Hampshire Scholars' Repository

Spring 2022

Targeting the BCL6 Transcription Factor in Ovarian Cancer

Harrison H. Parent
University of New Hampshire, Durham

Follow this and additional works at: https://scholars.unh.edu/honors

Part of the Cancer Biology Commons

Ovarian cancer is one of the most common reproductive malignancies for women in the United States, as well as one of the deadliest. Many deaths attributed to ovarian cancer, as well as cancer generally, are due to metastasis of the original tumor to different tissues throughout the body. The BCL6 transcription factor has been identified to play a key role in the metastasis of these tumors, as well as the invasion of these cancer cells through mesothelial cell layers, which contributes to ovarian cancer's unique metastatic behavior. In an attempt to target these metastases and prevent mesothelial penetration, drugs were identified as efficacious for BCL6 targeting through a mRNA transcript pattern screen from ovarian cancer cells treated with a BCL6 siRNA. Following identification of a small number of these compounds, 3-D cultured ovarian cancer cells were treated with these drugs to observe their effect on cell viability, spheroid formation, and mesothelial clearance through fluorescence microscopy. These data, coupled with intracellular protein expression and mRNA levels via qPCR and Western Blotting, provided both quantitative and qualitative methods of observing cancer cell response to novel and repurposed pharmaceutical treatments. The response of these cells, along with changes in the expression of BCL6 and its target genes, opens the door for future research into these compounds and treatment combinations that may be currently overlooked or unexplored.