## Impact of PTP4A3 Expression on Ovarian Cancer Cell Migration

(Technical Report)

## Cause-Marketing and Breast Cancer: The Efficacy of Pinkwashing in the United States

(STS Research Paper)

An Undergraduate Thesis Portfolio
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## **Preface**

How can the incidence of cancer in women be reduced? Ovarian and breast cancers occur primarily in women. Diminishing their toll will require both medical and social effort.

Ovarian cancer is prone to metastasis through a variety of cellular mechanisms. One speculated factor is the overexpression of protein tyrosine phosphatase 4A3 for which the direct substrate is unknown. The genetic expression can be linked to phenotypic migration response using genomics and mRNA data from cBioPortal and CellMinerCDB. Results indicate that PTP4A3 may influence FBLN1 and CNNM3 to degrade the extracellular matrix. A better understanding of how PTP4A3 influences cancer progression would help researchers develop PTP4A3 inhibitors for therapies to treat ovarian and other cancers.

Breast cancer awareness has been associated with the pink ribbon symbol since the 1990s. Over the last 30 years, the movement has been controversial. Campaigns have been accused of misleading consumers. For instance, many "pink products" contain carcinogens. Companies and charities seldom disclose how much money they raise or how it is spent on. Misinformation about breast cancer risk and screenings has also persisted even with medical standards of care. The pink ribbon has been misused as a marketing tool for profiting from public support for a vulnerable group. Its use should be regulated.

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