

## CHARACTERIZING A NOVEL HAMSTER CHEEK POUCH XENOTRANSPLANTATION MODEL

Kevin Nguyen

*Fairmount College of Liberal Arts & Sciences  
Natural Sciences & Engineering Poster Presentation*

**Abstract:** Preclinical tumor models are an integral element in cancer biology and therapeutics research. An effective tumor model informs researchers about the progression and biological characteristics of tumors in a natural environment by emulating the disease in a practical and reproducible way. This report aims to assess the proteomic status of a hamster cheek-pouch xenograft system seeded from a spheroid/organoid culture derived from the FaDu and CAL27 Human Neck Squamous Cell Carcinoma (HNSCC) cell lines via immunohistochemistry (IHC). Comparison of the IHC results between the cultures and the transplant masses showed differential protein expression between the FaDu and CAL27 lines as well as differences between the cultures and their xenograft masses. These results indicate that the hamster pouch is a viable transplantation site that maintains readily measurable protein expression but may induce phenotypic changes that make reproducibility difficult. Development of an improved preclinical model and optimized analytical techniques will improve our understanding of tumor biology and prediction of tumor response to therapeutic approaches.

Faculty Mentor: *William Hendry*