

Washington University in St. Louis

## Washington University Open Scholarship

---

Volume 13

Washington University  
Undergraduate Research Digest

---

Spring 2018

### The Effects of Fibroblast-Co-culture on HeLa Tumor Cells

Alex Benton

*Washington University in St. Louis*

Follow this and additional works at: [https://openscholarship.wustl.edu/wuurd\\_vol13](https://openscholarship.wustl.edu/wuurd_vol13)

---

#### Recommended Citation

Benton, Alex, "The Effects of Fibroblast-Co-culture on HeLa Tumor Cells" (2018). *Volume 13*. 17.  
[https://openscholarship.wustl.edu/wuurd\\_vol13/17](https://openscholarship.wustl.edu/wuurd_vol13/17)

This Abstracts A-I is brought to you for free and open access by the Washington University Undergraduate Research Digest at Washington University Open Scholarship. It has been accepted for inclusion in Volume 13 by an authorized administrator of Washington University Open Scholarship. For more information, please contact [digital@wumail.wustl.edu](mailto:digital@wumail.wustl.edu).

---

TOWARD A BETTER UNDERSTANDING OF...

# THE EFFECTS OF FIBROBLAST CO-CULTURE ON HELa TUMOR CELLS

*Alex Benton*

*Mentor: Gary Patti*

Tumors *in vivo* interact with the surrounding tissue, which are often cancer-associated fibroblasts. *In vitro* co-culture experiments of tumor cells with these fibroblasts provide a better understanding of these cells' interactions in a physiological system. It is suspected that fibroblasts can have a significant effect on the growth of tumor cells. My studies quantified the effect of 3T3 fibroblasts on the proliferation of HeLa, a human tumor cell line, and qualitatively observed these effects. Proliferation was measured using a Cytation<sup>3</sup> imaging machine and compared in different co-culture conditions, while time-lapse video of these conditions was recorded with an Etaluma Lumiscope<sup>3</sup> prototype. Different co-culture conditions had dramatically different effects on the HeLa cells that either increased or decreased proliferation. These results aim to generally establish trends in co-culture for other investigations that will be conducted in the Patti Lab.