



## Summer Research Program 2026 – Projects

### Project #12

**Title:** Investigating the role of novel gene(s) in breast cancer cell proliferation and survival

**Description:** Our analysis of patient samples have identified several genes which are overexpressed in patients who do not respond to treatment and have cancer recurrence or die from cancer. Many of those overexpressed genes we found are novel, i.e. have not been studied previously in cancer. Our hypothesis is that those genes might have a role in cancer progression, treatment resistance or spread of the disease. In this small project, one or two of those candidate genes will be silenced in breast cancer cells in the lab and the effect of this silencing will be investigated functionally using cell-based assays. Techniques in this study include mammalian cell culture, transfection of siRNA, qPCR to evaluate the efficiency of silencing, cell proliferation and killing assays (live cell imaging based or endpoint assays), colony formation assays and others.

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