CAR T Cells Gene Expression Post Cancer Cell Contact
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Chimeric Antigen Receptor T Cells or CAR T Cell Therapy is a method used to treat patients with advanced blood cancers. This new path of treating this disease allows an increase in patient’s survival rates. It provides the tools to help these patients have a higher chance of battling cancer. Even though, it was approved by the FDA in 2017 for acute lymphoblastic leukemia and advanced lymphoma, there are still many aspects to be investigated and expanded in CAR T Cell Therapy. It is an alternative option that has many challenges due to its lack of standardization and manufacturing obstacles. CAR T Cells are very expensive, and its individual targeted production makes it hard to impact larger populations. Nevertheless, this is a promising technique that can help fight cancer in a deeper level, this could be approved to attack other types of cancer and become a safe and surely effective treatment for patients.

It is necessary to find a way to standardize and assure the efficiency of the manufacturing process of these cells. The objective of this project is the molecular characterization of CAR T Cells based on their gene expression after being in contact with cancer cells. These will be compared with a control, GFP, in order to obtain information related to the behavior and what factors may affect gene expression. It is expected that strains of CAR T cells have similar gene expression in contrast to GFP. The data could also be analyzed comparing time frames and strains.