

Husky Compact Reflection: Think Creatively and Critically
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In connection with the Best Poster Presentation, "An African Herbal Extract Affects Immune Response in Type 1 Diabetic Mouse Model"
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The most relevant dimension selected from Our Husky Compact was to Think Critically and Creatively. We exercised critical and creative thinking often throughout the course of our research. It requires both creative and critical thinking to draft an experiment that effectively tests the question at hand. How would the African herbal extract affect immune response in type 1 diabetic (T1D) mouse model? To approach the issue at hand and the leading question to guide the research, we needed to critically decide what immune response functions should be monitored to determine direct effects by the Garcinia Kola extract (GKE). T cells are a type of lymphocyte directly involved in cellular immunity. T1D is an autoimmune disease that results from insulin producing beta-cell destruction mediated by auto-reactive T cells. Thus, the focus was established: post experiment, the cell count, cell viability, T cell proliferation, and immunophenotyping was assessed. By determining a relationship between GKE and T cell activity, we could understand its overall effect on T1D. When cell counts were outside of acceptable ranges, we had to decide whether to keep or omit individuals from the data to establish credible and fair data. When T cells had low proliferation rates, we had to critically assess what occurred with that particular group of mice and why their immune response took that course of action. Another incredibly relevant dimension of Our Husky Compact is to Seek and Apply Knowledge. Due to the project's research having a heavy role in immunology, it was crucial to apply knowledge gleaned from immunology courses here on campus as well as other courses that built the foundation for our inquiry as well as foundation to be able to effectively establish and proceed with the project. It is important to establish knowledge about T cell function, T cell types and their functions, and the sub T cells that may have a response in immune response in the autoimmune disorder, T1D. Courses establish theory and in smaller terms, technical application. Our research goes deeper than scientific knowledge. It has required us to draw on knowledge and experience gained in other areas. Working as a part of a team is something we utilize every day in the lab, and that is a skill that we have taken from being members of sports teams, working on group projects in other classes, and holding leadership roles in student organizations. Communication is another skill we rely on heavily to establish smooth and effective methodology for efficient research. We have both taken communication classes here at St. Cloud State University, which provided us with the ability to clearly articulate ideas and findings to individuals both involved and not involved in our research. As undergraduate researchers in Dr. Cetkovic's Immunology Laboratory, we have learned valuable laboratory techniques and have also learned to use JMP, a statistical software provided by SCSU. Lastly, we exercised skills in group to group communication. Experiences from previous labs and classes here provided us with the knowledge to communicate with not only other individuals, but with other teams, to reach a common goal. We came into this research with an arsenal of useful skills obtained through our time spent here at SCSU that made us feel well prepared. Through this research however, we were able to learn new skills and enhance existing ones. There are many resources here at SCSU, both research based, and non-research based that provide a skill set and a way to think through problems - something that cannot be taught in a classroom. This project does present information from relevant sources from various points of views. There is a cultural significance of Garcinia kola (GK) among the communities of West Africans that consume it. It was the primary literature that allowed us to glean inspiration and design a new methodology to approach our own specific question which was does this African herbal extract affect the immune cells of the immune response in type 1 diabetes?