

### **Non-technical Abstract**

Interleukin-2 (IL-2) is an important, naturally occurring molecule that aids the body's natural defense against cancer. IL-2 has been used to treat some forms of cancer with some success, but overall development of an IL-2 therapy has not been achieved because of the severe side effects associated with treatment. Some scientists are testing a gene therapy approach using IL-2 in a cancer vaccine. This approach is safer than other forms of IL-2 treatment and has been shown to bolster the body's natural antitumor defenses. We previously used a form of IL-2 gene therapy in which we vaccinated brain tumor and colon cancer patients with a vaccine composed of cancer cells mixed with normal skin cells called fibroblasts, that we had altered so that they make IL-2. These studies showed that this form of treatment is safe and can bolster the body's natural antitumor defenses. Our group recently performed a preliminary clinical trial that looked at injections of these fibroblasts that make IL-2 directly into the tumors of two patients with colon cancer. The treatment was accomplished without any significant side effects. These preliminary studies support a larger study of intra-tumor injections of fibroblasts that make IL-2 into patients with different types of cancer. We will see if the treatment has any side effects, if it has any effect on the size of the tumor, and if it has any effect on the body's natural tumor defense system.