

## **Abstract (lay version) of project**

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### **Reactivation of apoptosis: a potential therapeutic target for desmoid tumors with CTNNB1 S45F mutation**

Desmoid tumors are a locally aggressive tumor type that can cause remarkable debility and even mortality in afflicted patients. While several studies have shown that the beta-catenin S45F mutation correlates to a poor prognosis when compared to the T41A mutation in desmoid patients, the underlying biological forces driving these differences are not defined. Supported by DTRF, we have been able to acquire multiple, much needed patient derived samples and culture primary desmoid tumor cells enabling us to conduct comprehensive desmoid tumor investigations. In the second year of our funded grant, we propose to continue establishing and characterizing human desmoid cell strains and tissue. Furthermore, we propose to continue studying the differences between the beta-catenin S45F and T41A mutation, and we hope to identify the molecular forces driving these differences. Finally, as a new line of investigation, we will study the potential of therapies such as Sorafenib and Imatinib of desmoids with the beta-catenin S45F mutation. We hope that this study plan will result in important findings that can positively impact the management of patients burdened by desmoid tumors.