

This abstract was presented at the 2023 DTRF Int'l Desmoid Tumor Research Workshop.

Microbiome of desmoid tumor and its impact on the clinical course of disease

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Background. Solid tumors may possess a specific microbiome. Analysis of 1526 solid tumor types, including breast, lung, ovary, pancreas, melanoma, bone, and brain tumors have shown that each tumor has a specific, related microbiome. This microbiome was further shown to have an impact on tumor response to chemotherapy. We hypothesize that desmoid tumors share a distinct microbiome which may have a role in tumor formation, pace of progression, and response to treatment. Targeting these bacteria may alter the clinical course of disease.

Materials and Methods. We are currently conducting a multicenter study in which paraffin blocks of > 1500 patients who were diagnosed with extra-abdominal desmoid are evaluated for the presence of intra-tumoral bacteria. 5R 16S-seq Profiling is used to characterize the load and identity of intra-tumoral bacteria in all of the tumors in the cohorts. PICRUST 2.0 is additionally used to predict bacterial functions that are present in the tumors based upon the 16S-Seq data. This data is evaluated in relation with the medical records of the study patients which include data related to demographic characteristics, anatomical location and size of the lesion, response to surgery and drugs given and current status of disease.

To accomplish this task, we recruit patients who were diagnosed with extra-abdominal desmoid tumor and require:

1. Five thin slices (10 μ m) from the paraffin block
2. Summary of medical records