

Title: Ex vivo microtissues from PDX to predict in vivo drug response of MPNST

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Malignant Peripheral Nerve Sheath Tumors (MPNST) is a rare yet incredibly serious and aggressive sarcoma developing along the peripheral nerve sheaths. Generally, MPNST metastasizes quickly, leaving patients to face a daunting 5-year survival rate of 23-69%. Despite the severity of MPNST, there is a notable scarcity of models exploring the complex landscape of MPNST. To address the significant need for therapeutics in this space, we aim to create an ex vivo platform utilizing 3D microtissues to accurately capture genomic diversities in MPNST. With the use of genetically matched vivo and ex vivo cells, we aim to provide a model that accurately reflects the disease while remaining relevant, offering a superior platform for studying MPNST and advancing drug development. Through, this process we can discover the distinctive qualities of MPNST and what makes them incredibly difficult to treat in a clinic.