

# Summary

## Establishment of patient-derived xenograft (PDX) and cell line of soft tissue sarcoma.

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Soft tissue sarcoma (STS) is a type of malignant tumors arise from the mesenchymal tissue such as connective, adipose and vascular tissues. The characteristics of STS are highly diverse and heterogeneous with more than 80 histological subtypes depending on the origin of the tumor, while clinical behavior of STS also depends on the stage and mutation of each tumor from an individual patient. Despite of the heterogeneity of STS, the standard therapy still remained as classical chemotherapy which has serious side effects. In order to overcome the limitations in the heterogeneous of STS tumor, we tried to established STS patient-derived xenograft (PDX). We received patients' STS tissues from Department of Orthopaedic Surgery, Kumamoto University and xenograft into highly immunocompromised Balb/C *Rag-2* null/*Jak3* null (BRJ) mice. Since, the patient-derived xenograft (PDX) conserve morphological structure and microenvironment comparable to tumor from patient, the established PDX may be used for drug screening to find the candidate of effective drugs or used as a model to develop the therapy regimen. We also established PDX-derived STS cell lines from the STS PDX tissues and STS cell lines from patient's tissue. The cell lines characteristics and morphology were evaluate. STS has the limited numbers of available cell line collection of specific STS subtypes, our STS cell lines may serve as a model for primary screening prior the *in vivo* drug evaluation using PDX.

### 【Reference】

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